

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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ภาคผนวก ก

ผลการทดสอบคุณสมบัติการแจกแจงแบบปกติของค่าเฉลี่ยและสัดส่วนตัวอย่าง

การตรวจสอบข้อมูลเบื้องต้นจาก Normal Q-Q plot และการทดสอบคุณสมบัติการแจกแจงแบบปกติของค่าเฉลี่ยและสัดส่วนตัวอย่าง โดยใช้สถิติทดสอบของ Kolmogorov-Smirnov จำแนกตามการแจกแจงของประชากร ขนาดประชากร และขนาดตัวอย่างในรูปร้อยละของประชากร โดยที่ประชากรมีการแจกแจง 4 แบบ คือ การแจกแจงแบบปกติ การแจกแจงแบบปัวซอง การแจกแจงแบบเอกซ์โพเนนเชียล และการแจกแจงแบบเบอร์นูลลี

ขนาดประชากรเท่ากับ 100, 500, 1,000, 2,000 และ 3,000

ขนาดตัวอย่างเป็นร้อยละ 1, 3, 5 และ 10 ของประชากร

หมายเหตุ: เพื่อความสะดวกในการนำเสนอจึงกำหนดสัญลักษณ์ซึ่งมีความหมายดังตัวอย่างต่อไปนี้

N100_3 หมายถึง ประชากรมีการแจกแจงแบบปกติ ขนาดประชากรเท่ากับ 100 และ

ขนาดตัวอย่างเป็นร้อยละ 3 ของประชากร

สำหรับกรณีอื่นๆ ความหมายจะอยู่ในรูปแบบเดียวกันนี้

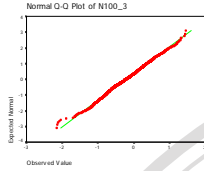
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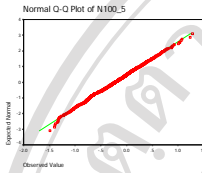
กรณี สุ่มตัวอย่างแบบใส่คืน

Tests of Normality



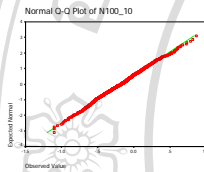
	Kolmogorov-Smirnov(a)		
	Statistic	df	Sig.
N100_3	.025	1000	.126

Tests of Normality
Tests of Normality



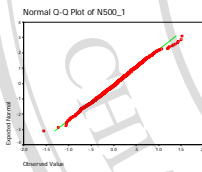
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N100_5	.030	1000	.037	.998	1000	.271

Tests of Normality



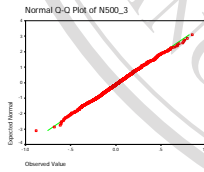
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N100_10	.019	1000	.200(*)	.998	1000	.272

Tests of Normality
Tests of Normality



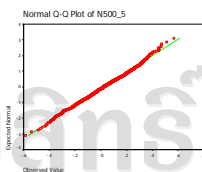
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N500_1	.023	1000	.200(*)	.997	1000	.115

Tests of Normality



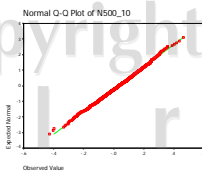
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N500_3	.016	1000	.200(*)	.999	1000	.832

Tests of Normality



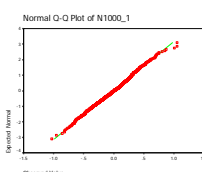
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N500_5	.023	1000	.200(*)	.997	1000	.065

Tests of Normality



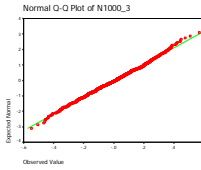
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N500_10	.019	1000	.200(*)	.998	1000	.552

Tests of Normality



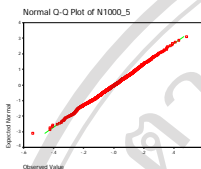
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N1000_1	.033	1000	.013	.998	1000	.131

Tests of Normality



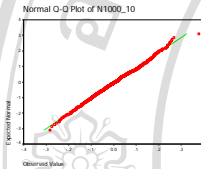
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N1000_3	.025	1000	.136	.997	1000	.106

Tests of Normality



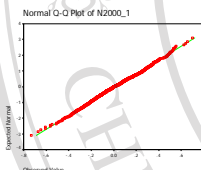
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N1000_5	.014	1000	.200(*)	.999	1000	.857

Tests of Normality



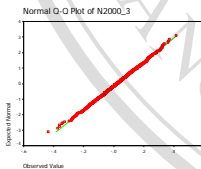
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N1000_10	.024	1000	.145	.997	1000	.127

Tests of Normality



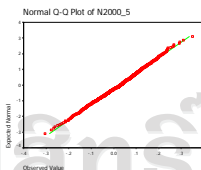
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N2000_1	.027	1000	.081	.998	1000	.249

Tests of Normality



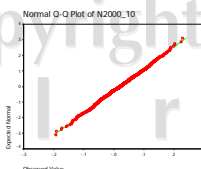
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N2000_3	.012	1000	.200(*)	.999	1000	.913

Tests of Normality



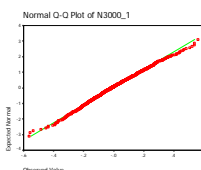
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N2000_5	.031	1000	.056	.998	1000	.458

Tests of Normality



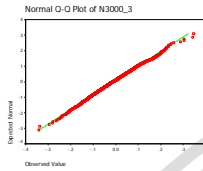
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N2000_10	.022	1000	.200(*)	.998	1000	.512

Tests of Normality



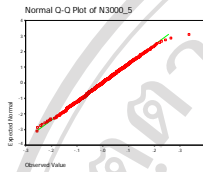
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N3000_1	.026	1000	.118	.997	1000	.050

Tests of Normality



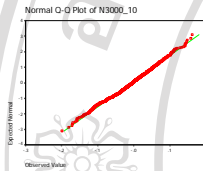
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N3000_3	.019	1000	.200(*)	.998	1000	.239

Tests of Normality



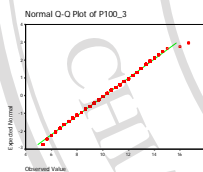
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N3000_5	.014	1000	.200(*)	.999	1000	.858

Tests of Normality



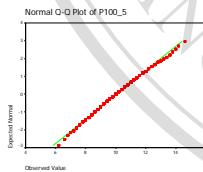
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N3000_10	.031	1000	.058	.996	1000	.007

Tests of Normality



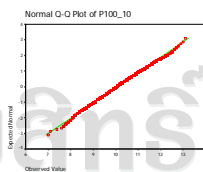
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P100_3	.045	1000	.000	.995	1000	.002

Tests of Normality



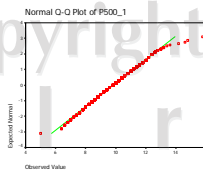
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P100_5	.050	1000	.000	.995	1000	.001

Tests of Normality



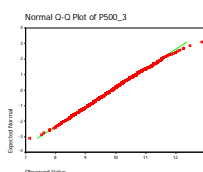
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P100_10	.034	1000	.009	.997	1000	.082

Tests of Normality



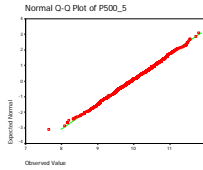
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P500_1	.048	1000	.000	.994	1000	.000

Tests of Normality



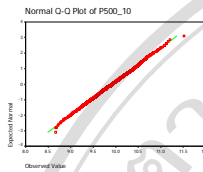
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P500_3	.037	1000	.003	.998	1000	.308

Tests of Normality



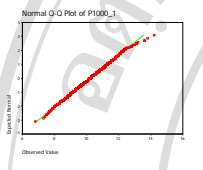
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P500_5	.023	1000	.200(*)	.999	1000	.612

Tests of Normality



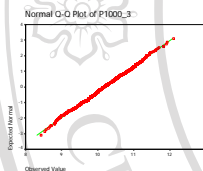
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P500_10	.024	1000	.200(*)	.998	1000	.524

Tests of Normality



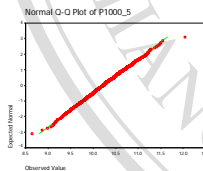
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P1000_1	.027	1000	.088	.998	1000	.300

Tests of Normality



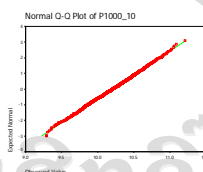
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P1000_3	.027	1000	.077	.998	1000	.286

Tests of Normality



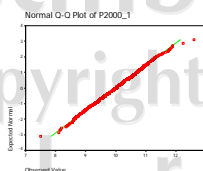
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P1000_5	.027	1000	.092	.999	1000	.705

Tests of Normality



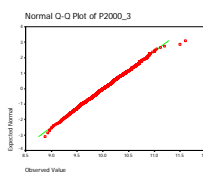
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P1000_10	.017	1000	.200(*)	.999	1000	.621

Tests of Normality



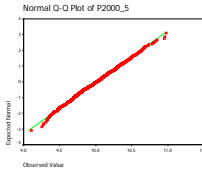
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P2000_1	.023	1000	.200(*)	.999	1000	.587

Tests of Normality



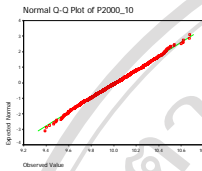
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P2000_3	.024	1000	.200(*)	.998	1000	.305

Tests of Normality



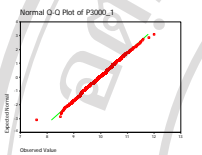
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P2000_5	.028	1000	.067	.998	1000	.264

Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P2000_10	.019	1000	.200(*)	.998	1000	.323

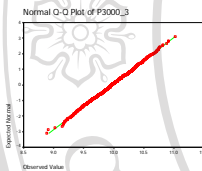
Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P3000_1	.028	1000	.066	.998	1000	.212

Tests of Normality

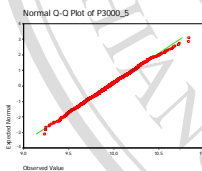
Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P3000_3	.020	1000	.200(*)	.999	1000	.669

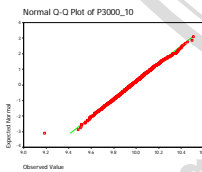
Tests of Normality

Tests of Normality



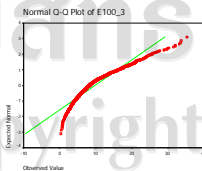
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P3000_5	.020	1000	.200(*)	.998	1000	.319

Tests of Normality



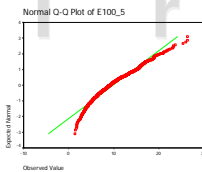
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P3000_10	.017	1000	.200(*)	.998	1000	.263

Tests of Normality



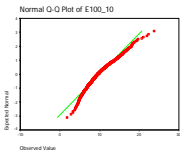
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E100_3	.117	1000	.000	.917	1000	.000

Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E100_5	.066	1000	.000	.967	1000	.000

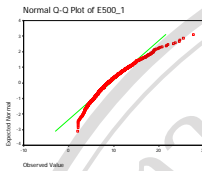
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Tests of Normality

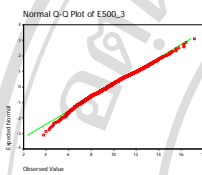
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E100_10	.065	1000	.000	.972	1000	.000

Tests of Normality



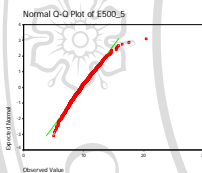
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E500_1	.069	1000	.000	.959	1000	.000

Tests of Normality



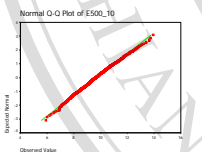
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E500_3	.032	1000	.018	.992	1000	.000

Tests of Normality



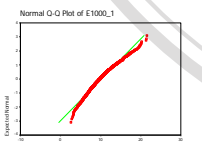
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E500_5	.041	1000	.000	.986	1000	.000

Tests of Normality



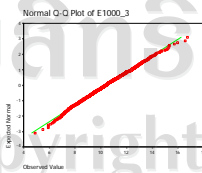
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E500_10	.021	1000	.200(*)	.997	1000	.085

Tests of Normality



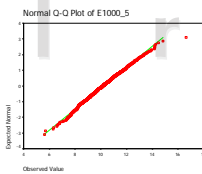
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E1000_1	.047	1000	.000	.980	1000	.000

Tests of Normality



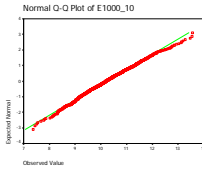
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E1000_3	.023	1000	.200(*)	.998	1000	.180

Tests of Normality



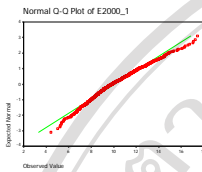
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E1000_5	.027	1000	.080	.997	1000	.025

Tests of Normality



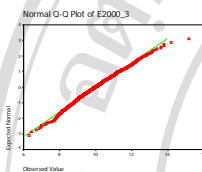
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E1000_10	.025	1000	.143	.996	1000	.011

Tests of Normality



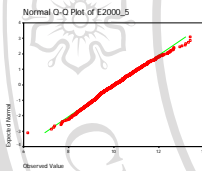
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E2000_1	.056	1000	.000	.985	1000	.000

Tests of Normality



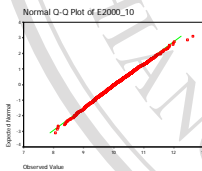
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E2000_3	.027	1000	.077	.995	1000	.001

Tests of Normality



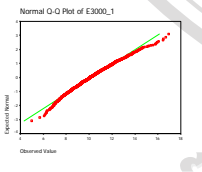
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E2000_5	.030	1000	.036	.995	1000	.002

Tests of Normality



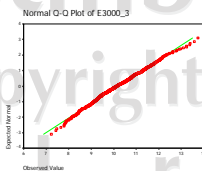
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E2000_10	.022	1000	.200(*)	.998	1000	.223

Tests of Normality



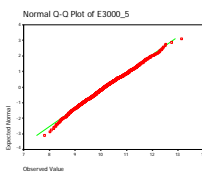
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E3000_1	.035	1000	.006	.989	1000	.000

Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E3000_3	.034	1000	.007	.996	1000	.014

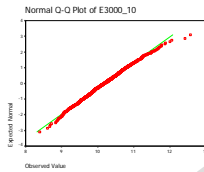
Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E3000_5	.027	1000	.084	.997	1000	.037

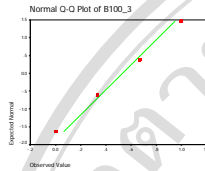
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Tests of Normality



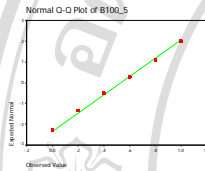
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E3000_10	.026	1000	.110	.997	1000	.046

Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B100_3	.237	1000	.000	.874	1000	.000

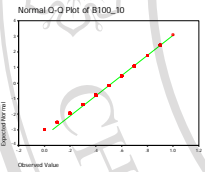
Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B100_5	.173	1000	.000	.930	1000	.000

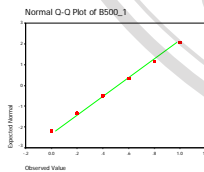
Tests of Normality

Tests of Normality



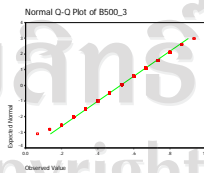
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B100_10	.140	1000	.000	.963	1000	.000

Tests of Normality



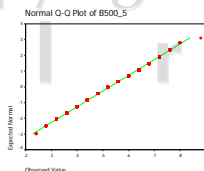
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B500_1	.174	1000	.000	.929	1000	.000

Tests of Normality



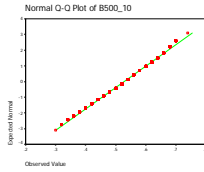
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B500_3	.102	1000	.000	.976	1000	.000

Tests of Normality



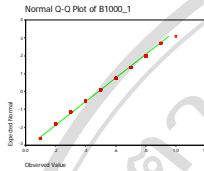
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B500_5	.097	1000	.000	.985	1000	.000

Tests of Normality



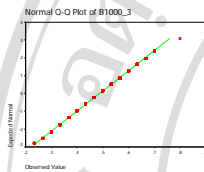
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B500_10	.073	1000	.000	.991	1000	.000

Tests of Normality



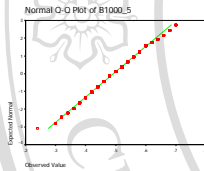
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B1000_1	.131	1000	.000	.962	1000	.000

Tests of Normality



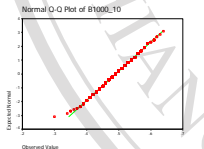
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B1000_3	.077	1000	.000	.987	1000	.000

Tests of Normality



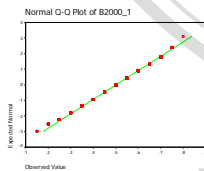
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B1000_5	.073	1000	.000	.991	1000	.000

Tests of Normality



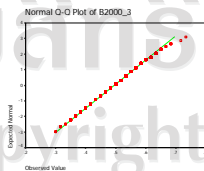
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B1000_10	.051	1000	.000	.995	1000	.002

Tests of Normality



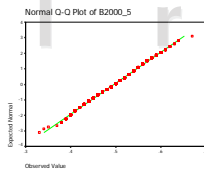
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B2000_1	.093	1000	.000	.980	1000	.000

Tests of Normality



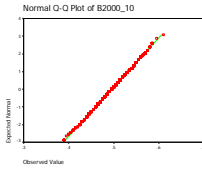
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B2000_3	.060	1000	.000	.993	1000	.000

Tests of Normality



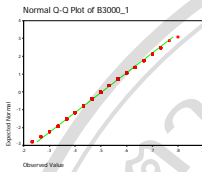
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B2000_5	.050	1000	.000	.995	1000	.003

Tests of Normality



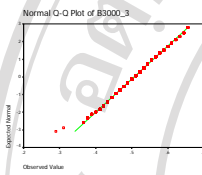
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B2000_10	.039	1000	.001	.997	1000	.078

Tests of Normality



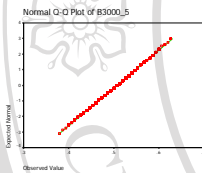
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B3000_1	.084	1000	.000	.987	1000	.000

Tests of Normality



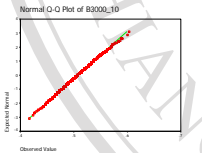
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B3000_3	.044	1000	.000	.994	1000	.001

Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B3000_5	.051	1000	.000	.996	1000	.024

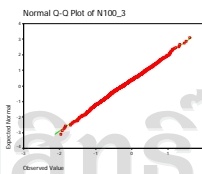
Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B3000_10	.029	1000	.043	.998	1000	.249

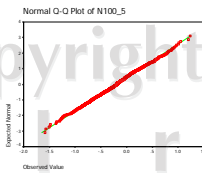
กรณี สุ่มตัวอย่างแบบไม่ใส่คืน

Tests of Normality



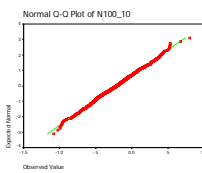
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N100_3	.030	1000	.032	.998	1000	.166

Tests of Normality



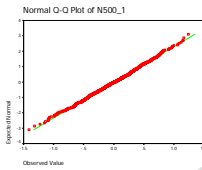
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N100_5	.024	1000	.200(*)	.998	1000	.365

Tests of Normality



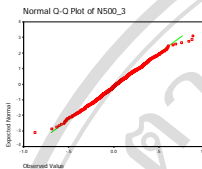
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N100_10	.022	1000	.200(*)	.998	1000	.242

Tests of Normality



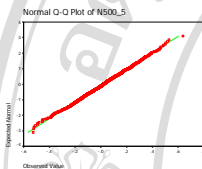
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N500_1	.027	1000	.076	.998	1000	.436

Tests of Normality



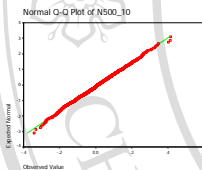
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N500_3	.022	1000	.200(*)	.998	1000	.205

Tests of Normality



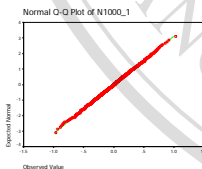
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N500_5	.017	1000	.200(*)	.999	1000	.714

Tests of Normality



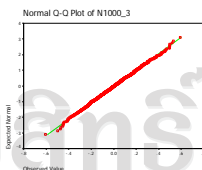
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N500_10	.015	1000	.200(*)	.998	1000	.473

Tests of Normality



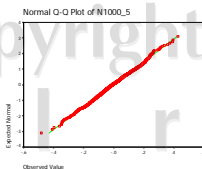
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N1000_1	.013	1000	.200(*)	.999	1000	.990

Tests of Normality



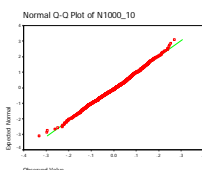
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N1000_3	.013	1000	.200(*)	.999	1000	.759

Tests of Normality



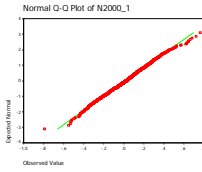
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N1000_5	.020	1000	.200(*)	.998	1000	.312

Tests of Normality



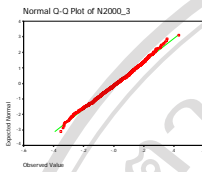
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N1000_10	.029	1000	.050	.997	1000	.061

Tests of Normality



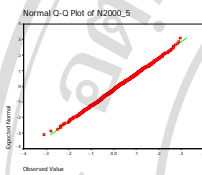
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N2000_1	.016	1000	.200(*)	.998	1000	.258

Tests of Normality



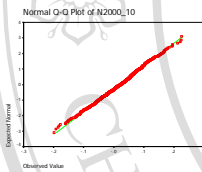
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N2000_3	.028	1000	.067	.997	1000	.058

Tests of Normality



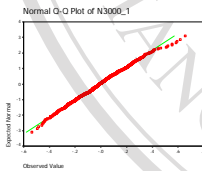
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N2000_5	.019	1000	.200(*)	.999	1000	.853

Tests of Normality



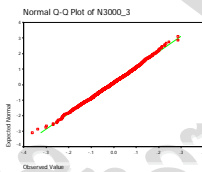
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N2000_10	.027	1000	.079	.997	1000	.113

Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N3000_1	.027	1000	.088	.997	1000	.045

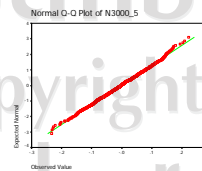
Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N3000_3	.018	1000	.200(*)	.998	1000	.512

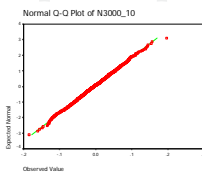
Tests of Normality

Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N3000_5	.016	1000	.200(*)	.998	1000	.217

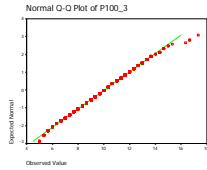
Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
N3000_10	.015	1000	.200(*)	.999	1000	.973

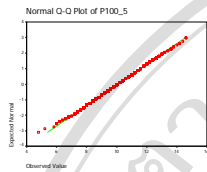
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Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P100_3	.047	1000	.000	.995	1000	.002

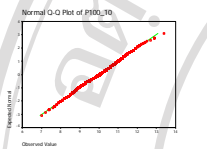
Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P100_5	.033	1000	.012	.998	1000	.215

Tests of Normality

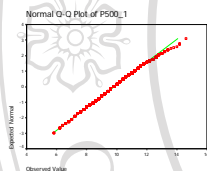
Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P100_10	.040	1000	.001	.997	1000	.043

Tests of Normality

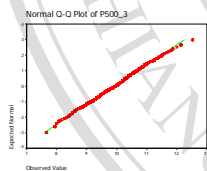
Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P500_1	.046	1000	.000	.995	1000	.003

Tests of Normality

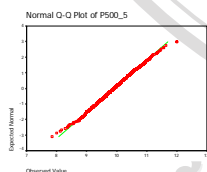
Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P500_3	.033	1000	.014	.998	1000	.172

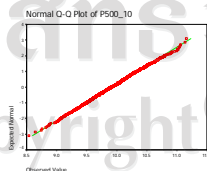
Tests of Normality

Tests of Normality



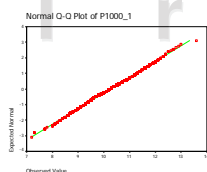
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P500_5	.024	1000	.200(*)	.998	1000	.476

Tests of Normality



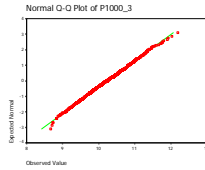
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P500_10	.022	1000	.200(*)	.999	1000	.715

Tests of Normality



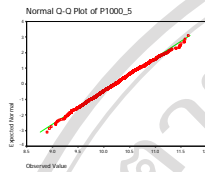
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P1000_1	.044	1000	.000	.998	1000	.165

Tests of Normality



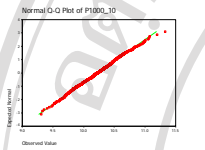
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P1000_3	.023	1000	.200(*)	.998	1000	.416

Tests of Normality



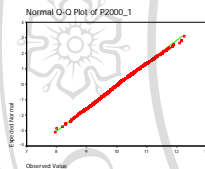
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P1000_5	.027	1000	.079	.998	1000	.190

Tests of Normality



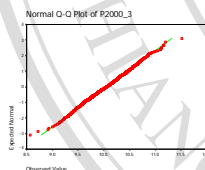
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P1000_10	.026	1000	.117	.998	1000	.399

Tests of Normality



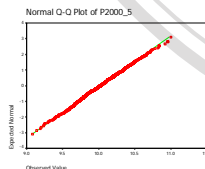
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P2000_1	.040	1000	.001	.998	1000	.249

Tests of Normality



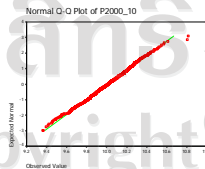
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P2000_3	.024	1000	.200(*)	.999	1000	.639

Tests of Normality



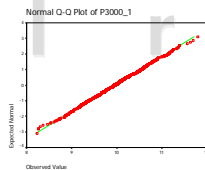
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P2000_5	.028	1000	.070	.998	1000	.517

Tests of Normality



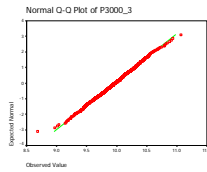
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P2000_10	.022	1000	.200(*)	.997	1000	.112

Tests of Normality



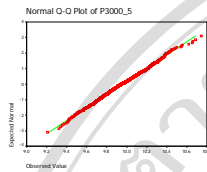
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P3000_1	.027	1000	.075	.999	1000	.714

Tests of Normality



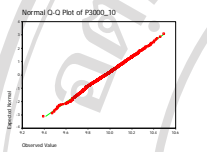
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P3000_3	.027	1000	.084	.999	1000	.805

Tests of Normality



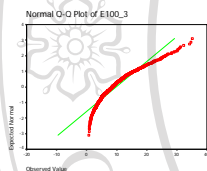
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P3000_5	.029	1000	.053	.998	1000	.427

Tests of Normality



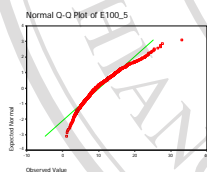
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P3000_10	.026	1000	.110	.998	1000	.398

Tests of Normality



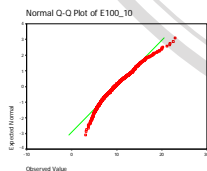
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E100_3	.099	1000	.000	.918	1000	.000

Tests of Normality



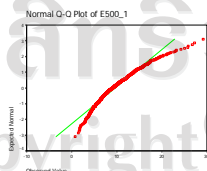
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E100_5	.085	1000	.000	.951	1000	.000

Tests of Normality



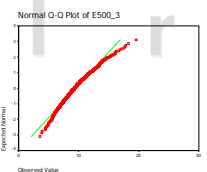
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E100_10	.055	1000	.000	.974	1000	.000

Tests of Normality



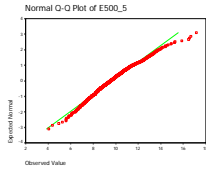
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E500_1	.065	1000	.000	.958	1000	.000

Tests of Normality



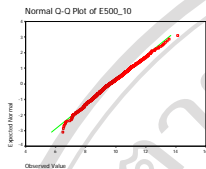
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E500_3	.049	1000	.000	.982	1000	.000

Tests of Normality



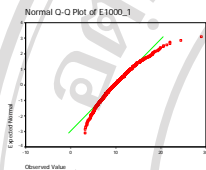
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E500_5	.038	1000	.002	.987	1000	.000

Tests of Normality



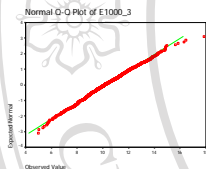
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E500_10	.034	1000	.009	.996	1000	.017

Tests of Normality



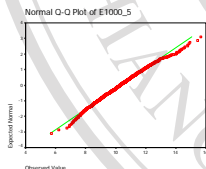
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E1000_1	.048	1000	.000	.970	1000	.000

Tests of Normality



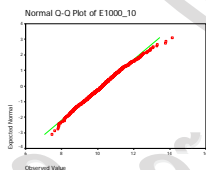
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E1000_3	.023	1000	.200(*)	.997	1000	.037

Tests of Normality



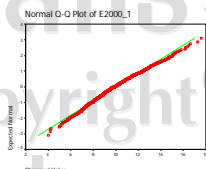
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E1000_5	.024	1000	.200(*)	.993	1000	.000

Tests of Normality



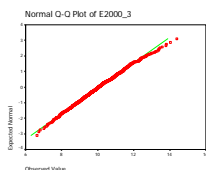
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E1000_10	.025	1000	.139	.996	1000	.006

Tests of Normality



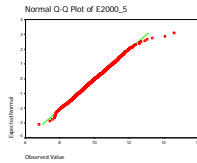
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E2000_1	.043	1000	.000	.992	1000	.000

Tests of Normality



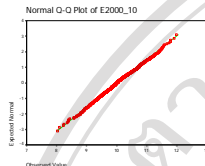
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E2000_3	.029	1000	.052	.998	1000	.143

Tests of Normality



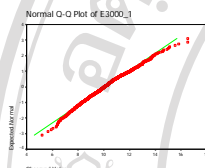
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E2000_5	.017	1000	.200(*)	.996	1000	.011

Tests of Normality



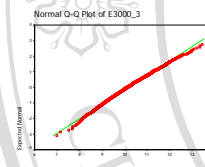
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E2000_10	.029	1000	.044	.998	1000	.359

Tests of Normality



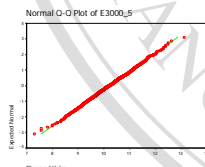
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E3000_1	.037	1000	.002	.993	1000	.000

Tests of Normality



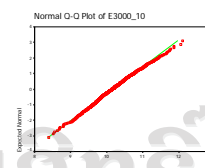
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E3000_3	.029	1000	.043	.996	1000	.006

Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E3000_5	.015	1000	.200(*)	.999	1000	.978

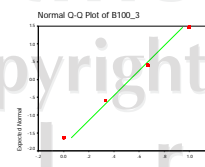
Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
E3000_10	.025	1000	.133	.997	1000	.038

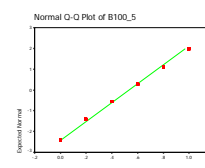
Tests of Normality

Tests of Normality



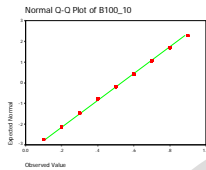
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B100_3	.231	1000	.000	.874	1000	.000

Tests of Normality



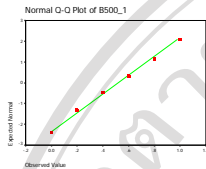
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B100_5	.176	1000	.000	.927	1000	.000

Tests of Normality



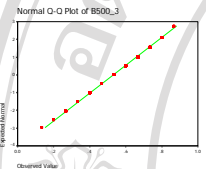
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B100_10	.140	1000	.000	.961	1000	.000

Tests of Normality



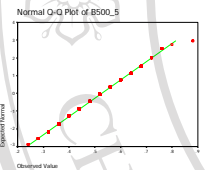
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B500_1	.177	1000	.000	.926	1000	.000

Tests of Normality



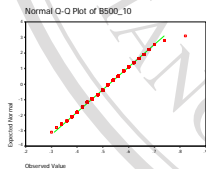
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B500_3	.101	1000	.000	.976	1000	.000

Tests of Normality



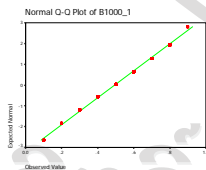
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B500_5	.085	1000	.000	.984	1000	.000

Tests of Normality



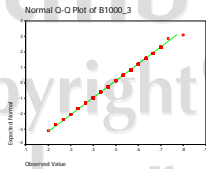
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B500_10	.070	1000	.000	.991	1000	.000

Tests of Normality



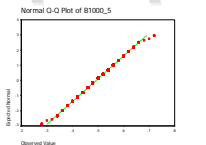
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B1000_1	.126	1000	.000	.961	1000	.000

Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B1000_3	.077	1000	.000	.988	1000	.000

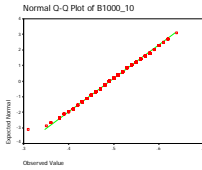
Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B1000_5	.071	1000	.000	.991	1000	.000

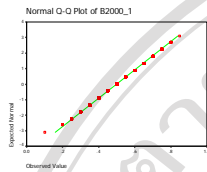
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Tests of Normality



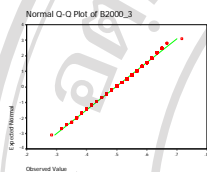
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B1000_10	.053	1000	.000	.995	1000	.002

Tests of Normality



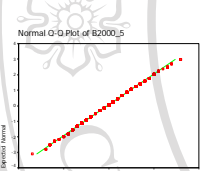
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B2000_1	.092	1000	.000	.982	1000	.000

Tests of Normality



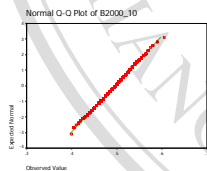
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B2000_3	.061	1000	.000	.993	1000	.000

Tests of Normality



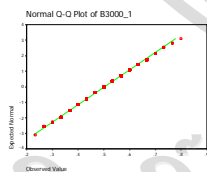
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B2000_5	.048	1000	.000	.995	1000	.005

Tests of Normality



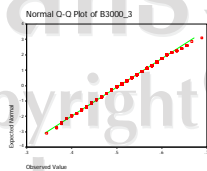
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B2000_10	.040	1000	.001	.997	1000	.058

Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B3000_1	.086	1000	.000	.987	1000	.000

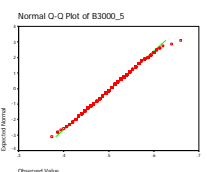
Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B3000_3	.053	1000	.000	.995	1000	.002

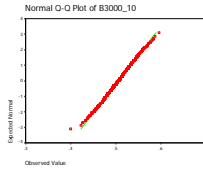
Tests of Normality

Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B3000_5	.053	1000	.000	.996	1000	.008

Tests of Normality



	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
B3000_10	.036	1000	.005	.997	1000	.118



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ภาคผนวก ข

คำสั่งโปรแกรม

```

Dim no() As Single
Dim SelectNumber() As Single
Dim CountNo As Long
Dim xlApp As New Excel.Application
Dim xlBook As Excel.Workbook
Dim xlSheet As Excel.Worksheet
Dim xlRow As Long
Dim xlCol As Integer
Dim xlNumPage As Byte
Dim xlLastRow As Long
Dim StartTime As Date
Dim BookNo As Byte

Private Sub cmdCancel_Click()
    GetNum = ""
    List1.Clear
    nTotal = ""
    nNumber.Clear
    TotalNum = ""
    CountNo = 0
    GetNum.SetFocus
    BookNo = 0
End Sub

Private Sub cmdClose_Click()
    If MsgBox("ปิดโปรแกรม?", vbQuestion + vbYesNo + vbDefaultButton2, "ปิด
โปรแกรม") = vbYes Then End
End Sub

Private Sub cmdEnter_Click()
    If GetNum = "" Then
        MsgBox "Input Data"
        GetNum.SetFocus
        Exit Sub
    End If
    Call GetNum_KeyPress(13)
    GetNum.SetFocus
End Sub

Private Sub cmdEnter2_Click()
    Dim ii As Integer

```

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```

List1.Clear
List1.AddItem -0.01566
List1.AddItem -0.42727
List1.AddItem 2.08812
List1.AddItem 1.86562
List1.AddItem 1.53459
nTotal = 5
For ii = 1 To 5
    nNumber.AddItem ii
Next
End Sub
Private Sub cmdShowData_Click()
    Dim i As Integer
    Dim StopN As Integer
    Dim CN As Integer
    TotalNum = ""
    CountNo = 0
    BookNo = 0
    If Val(nTotal) = 0 Then
        MsgBox "Input Data"
        GetNum.SetFocus
        Exit Sub
    End If
    If nNumber.ListIndex = -1 Then
        MsgBox "เลือกจำนวนที่ต้องการสุ่ม"
        nNumber.SetFocus
        Exit Sub
    End If
    If M = "" Then
        MsgBox "ใส่ค่า m"
        M.SetFocus
        Exit Sub
    End If
    If Z = "" Then
        MsgBox "ใส่ค่า Z"
        Z.SetFocus
        Exit Sub
    End If

    ReDim SelectNumber(nTotal)
    For i = 1 To List1.ListCount
        SelectNumber(i) = List1.List(i - 1)
    Next
    xlNumPage = 1
    xlApp.Visible = True

```

```

Set xlBook = xlApp.Workbooks.Add
Sheets("Sheet3").Select
ActiveWindow.SelectedSheets.Delete
Sheets("Sheet2").Select
ActiveWindow.SelectedSheets.Delete
Set xlSheet = xlBook.ActiveSheet
xlSheet.Name = "Result" & xlNumPage
xlRow = 1
xlCol = 0
' xlLastRow = 22
xlLastRow = 60002
xlSheet.Range("1:1").Font.Bold = True
StartTime = Time
Call ExcelHeader

If nNumber = 1 Then
  For i = 1 To nTotal
    xlRow = xlRow + 1
    Call CheckRow
    xlSheet.Cells(xlRow, 1 + xlCol) = SelectNumber(i)
  Next
Else
  If O1.Value = True Then
    ReDim no(nNumber)
    CountNo = 0
    CN = 1
    StopN = nTotal - (nNumber - 1)
    For i = 1 To StopN
      no(CN) = SelectNumber(i)
      Call InsertResultExcel(i, CN + 1, StopN + 1)
    Next
  Else
    ReDim no(nNumber)
    CN = 1
    For i = 1 To nTotal
      no(CN) = SelectNumber(i)
      Call InsertResultExcel2(CN + 1)
    Next
  End If
End If
TotalNum = CountNo

Call InsertFormulaStop

```

```

Set xlSheet = Nothing
Set xlBook = Nothing
Set xlApp = Nothing

```

```

GetNum.SetFocus
MsgBox "ทำการประมวลผลเรียบร้อยแล้วใช้เวลาทั้งสิ้น" & Iif(DateDiff("s", StartTime,
Time) = 0, "1", DateDiff("s", StartTime, Time)) & " ๐'๐.๐"
End Sub

```

```

Sub ExcelHeader()
For i = 1 To nNumber
xlSheet.Cells(xlRow, i + xlCol) = i
Next
xlSheet.Cells(xlRow, i + xlCol) = "ค่าเฉลี่ย"
xlSheet.Cells(xlRow, i + xlCol + 1) = "s * s"
' xlSheet.Cells(xlRow, i + xlCol + 2) = "s"
xlSheet.Cells(xlRow, i + xlCol + 2) = "L"
xlSheet.Cells(xlRow, i + xlCol + 3) = "U"
End Sub

```

```

Sub CheckRow()
If xlRow Mod xlLastRow = 0 Then
Call InsertFormula
xlRow = 1
xlNumPage = xlNumPage + 1
If xlNumPage = 11 Then
xlNumPage = 1
xlApp.Visible = True
BookNo = BookNo + 1
ActiveWorkbook.SaveAs FileName:=App.Path & "\result" & BookNo &
".xls"
ActiveWorkbook.Close
Set xlBook = xlApp.Workbooks.Add
Sheets("Sheet3").Select
ActiveWindow.SelectedSheets.Delete
Sheets("Sheet2").Select
ActiveWindow.SelectedSheets.Delete
Else
xlBook.Sheets.Add
End If
Set xlSheet = xlBook.ActiveSheet
xlSheet.Name = "Result" & xlNumPage
xlSheet.Move After:=Sheets(xlNumPage)
xlSheet.Range("1:1").Font.Bold = True
Call ExcelHeader
xlRow = xlRow + 1
End If
End Sub

```

```

Sub InsertFormula()

```

```

Dim i As Integer
Dim StrFormula As String
StrFormula = "=SUM(RC[-" & nNumber & "]:RC[-1])/" & nNumber
xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 1), xlSheet.Cells(xlLastRow -
1, nNumber + xlCol + 1)).Select
Selection.FormulaR1C1 = StrFormula
StrFormula = "=(((RC[-" & nNumber + 1 & "]-RC[-1])*(RC[-" & nNumber + 1 &
"]-RC[-1]))"
For i = nNumber To 2 Step -1
    StrFormula = StrFormula & "+((RC[-" & i & "]-RC[-1])*(RC[-" & i & "]-RC[-
1]))"
Next
StrFormula = StrFormula & "/" & nNumber - 1
xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 2), xlSheet.Cells(xlLastRow -
1, nNumber + xlCol + 2)).Select
Selection.FormulaR1C1 = StrFormula
StrFormula = "=SQRT(RC[-1])"
xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 3), xlSheet.Cells(xlLastRow -
1, nNumber + xlCol + 3)).Select
Selection.FormulaR1C1 = StrFormula
StrFormula = "=RC[-3]-" & Val(Z) & "*RC[-1]/SQRT(" & nNumber & ")"
xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 4), xlSheet.Cells(xlLastRow -
1, nNumber + xlCol + 4)).Select
Selection.FormulaR1C1 = StrFormula
StrFormula = "=RC[-4]+ " & Val(Z) & "*RC[-2]/SQRT(" & nNumber & ")"
xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 5), xlSheet.Cells(xlLastRow -
1, nNumber + xlCol + 5)).Select
Selection.FormulaR1C1 = StrFormula
StrFormula = "=IF(AND(RC[-2]<=" & M & ",RC[-1]>=" & M & "),1,0)"
xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 6), xlSheet.Cells(xlLastRow -
1, nNumber + xlCol + 6)).Select
Selection.FormulaR1C1 = StrFormula
End Sub

```

```

Sub InsertFormulaStop()
Dim i As Integer
Dim StrFormula As String
'Sum
StrFormula = "=SUM(RC[-" & nNumber & "]:RC[-1])/" & nNumber
If CountNo = xlLastRow - 2 Then
    xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 1), xlSheet.Cells(xlLastRow
- 1, nNumber + xlCol + 1)).Select
Else
    If CountNo Mod (xlLastRow - 2) = 0 Then
        xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 1),
xlSheet.Cells(xlLastRow - 1, nNumber + xlCol + 1)).Select
    Else

```

```

xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 1),
xlSheet.Cells((CountNo Mod (xlLastRow - 2)) + 1, nNumber + xlCol + 1)).Select
End If
End If
Selection.FormulaR1C1 = StrFormula

' Find S*S
StrFormula = "=(((RC[-" & nNumber + 1 & "]-RC[-1])* (RC[-" & nNumber + 1 &
"]-RC[-1])))"

For i = nNumber To 2 Step -1
StrFormula = StrFormula & "+((RC[-" & i & "]-RC[-1])* (RC[-" & i & "]-RC[-
1])))"
Next

StrFormula = StrFormula & "/" & nNumber - 1
If CountNo = xlLastRow - 2 Then
xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 2), xlSheet.Cells(xlLastRow
- 1, nNumber + xlCol + 2)).Select
Else
If CountNo Mod (xlLastRow - 2) = 0 Then
xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 2),
xlSheet.Cells(xlLastRow - 1, nNumber + xlCol + 2)).Select
Else
xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 2),
xlSheet.Cells((CountNo Mod (xlLastRow - 2)) + 1, nNumber + xlCol + 2)).Select
End If
End If
Selection.FormulaR1C1 = StrFormula

' Find S Value
' StrFormula = "=SQRT(RC[-1])"
' If CountNo = xlLastRow - 2 Then
' xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 3), xlSheet.Cells(xlLastRow
- 1, nNumber + xlCol + 3)).Select
' Else
' If CountNo Mod (xlLastRow - 2) = 0 Then
' xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 3),
xlSheet.Cells(xlLastRow - 1, nNumber + xlCol + 3)).Select
' Else
' xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 3),
xlSheet.Cells((CountNo Mod (xlLastRow - 2)) + 1, nNumber + xlCol + 3)).Select
' End If
' End If
' Selection.FormulaR1C1 = StrFormula

```



```

' Find L Value
StrFormula = "=RC[-2]-" & Val(Z) & "**SQRT(RC[-1]/" & nNumber & ")"
If CountNo = xlLastRow - 2 Then
    xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 3), xlSheet.Cells(xlLastRow
- 1, nNumber + xlCol + 3)).Select
Else
    If CountNo Mod (xlLastRow - 2) = 0 Then
        xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 3),
xlSheet.Cells(xlLastRow - 1, nNumber + xlCol + 3)).Select
    Else
        xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 3),
xlSheet.Cells((CountNo Mod (xlLastRow - 2)) + 1, nNumber + xlCol + 3)).Select
    End If
End If
Selection.FormulaR1C1 = StrFormula

' Find U value
StrFormula = "=RC[-3]+" & Val(Z) & "**SQRT(RC[-2]/" & nNumber & ")"
' "=RC[-4]+" & Val(Z) & "**RC[-2]/SQRT(" & nNumber & ")"
If CountNo = xlLastRow - 2 Then
    xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 4), xlSheet.Cells(xlLastRow
- 1, nNumber + xlCol + 4)).Select
Else
    If CountNo Mod (xlLastRow - 2) = 0 Then
        xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 4),
xlSheet.Cells(xlLastRow - 1, nNumber + xlCol + 4)).Select
    Else
        xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 4),
xlSheet.Cells((CountNo Mod (xlLastRow - 2)) + 1, nNumber + xlCol + 4)).Select
    End If
End If
Selection.FormulaR1C1 = StrFormula

' Find Counter
StrFormula = "=IF(AND(RC[-2]<=" & M & ",RC[-1]>=" & M & "),1,0)"
If CountNo = xlLastRow - 2 Then
    xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 5), xlSheet.Cells(xlLastRow
- 1, nNumber + xlCol + 5)).Select
Else
    If CountNo Mod (xlLastRow - 2) = 0 Then
        xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 5),
xlSheet.Cells(xlLastRow - 1, nNumber + xlCol + 5)).Select
    Else
        xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 5),
xlSheet.Cells((CountNo Mod (xlLastRow - 2)) + 1, nNumber + xlCol + 5)).Select
    End If
End If

```



```

Selection.FormulaR1C1 = StrFormula
'
' *----- mark
'   xlSheet = "=SUM(H2:H" & xlLastRow & ") "
'
'   "=IF(AND(RC[-2]<=" & M & ",RC[-1]>=" & M & "),1,0)"
'   If CountNo = xlLastRow - 2 Then
'       xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 6), xlSheet.Cells(xlLastRow
- 1, nNumber + xlCol + 6)).Select
'   Else
'       If CountNo Mod (xlLastRow - 2) = 0 Then
'           xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 6),
xlSheet.Cells(xlLastRow - 1, nNumber + xlCol + 6)).Select
'       Else
'           xlSheet.Range(xlSheet.Cells(2, nNumber + xlCol + 6),
xlSheet.Cells((CountNo Mod (xlLastRow - 2)) + 1, nNumber + xlCol + 6)).Select
'       End If
'   End If
'   Dim nrow As Integer
'   nrow = CountNo Mod (xlLastRow - 2) + 1
'
'   BookNo = BookNo + 1
'   Selection.FormulaR1C1 = StrFormula
' *-----
'
'   xlSheet.Cells(nrow + 1, nNumber + xlCol + 5).Value = "Sum ="
'
'   xlSheet.Cells(nrow + 1, nNumber + xlCol + 6).Value = "=SUM(RC[-5]:RC[-1]"
& ")"
'
'   ActiveWorkbook.SaveAs FileName:=App.Path & "\result" & BookNo & ".xls"
'   ActiveWorkbook.Close

```

End Sub

```

Sub InsertResultExcel(ByVal StartNum As Integer, ByVal CN As Integer, ByVal
StopNum As Integer)

```

```

    Dim i As Integer

```

```

    Dim x As Byte

```

```

    For i = StartNum + 1 To StopNum

```

```

        no(CN) = SelectNumber(i)

```

```

        If StopNum = nTotal Then

```

```

            xlRow = xlRow + 1

```

```

            For x = 1 To CN

```

```

                Call CheckRow

```

```

                xlSheet.Cells(xlRow, x + xlCol) = no(x)

```

```

            Next

```

```

        CountNo = CountNo + 1
    Else
        Call InsertResultExcel(i, CN + 1, StopNum + 1)
    End If
Next
End Sub

```

```

Sub InsertResultExcel2(ByVal CN As Integer)
    Dim i As Integer
    Dim x As Byte
    For i = 1 To nTotal
        no(CN) = SelectNumber(i)
        If CN = nNumber Then
            xlRow = xlRow + 1
            For x = 1 To CN
                Call CheckRow
                xlSheet.Cells(xlRow, x + xlCol) = no(x)
            Next
            CountNo = CountNo + 1
        Else
            Call InsertResultExcel2(CN + 1)
        End If
    Next
End Sub

```

```

Private Sub cmdDelete_Click()
    If List1.ListIndex = -1 Then Exit Sub
    List1.RemoveItem (List1.ListIndex)
    nNumber.RemoveItem (nNumber.ListCount - 1)
    nTotal = nTotal - 1
End Sub

```

```

Private Sub Command1_Click()
    Dim ii As Integer
    List1.Clear
    nTotal = 20
    For ii = 10 To 90 Step 10
        List1.AddItem ii
    Next
    For ii = 11 To 99 Step 11
        List1.AddItem ii
    Next
    List1.AddItem 21
    List1.AddItem 31
    For ii = 1 To 20
        nNumber.AddItem ii
    Next

```

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End Sub

```
Private Sub Command2_Click()
    Dim excel_app As Object
    Dim excel_sheet As Object

    Set excel_app = CreateObject("Excel.Application")
    excel_app.Visible = True
    excel_app.Workbooks.Open FileName:=App.Path & "\data.xls"

    Set excel_sheet = excel_app
    List1.Clear
    Row = 1
    Do
        ItemData = Trim$(excel_sheet.Cells(Row, 1))
        If Len(ItemData) = 0 Then Exit Do
        List1.AddItem (ItemData)
        Row = Row + 1
    Loop

    excel_app.ActiveWorkbook.Close False
    excel_app.Quit
    Set excel_app = Nothing
    Set excel_sheet = Nothing
    nTotal = List1.ListCount
    nNumber.Clear
    For ni = 1 To nTotal
        nNumber.AddItem ni
    Next
    MsgBox "Load data complete" & Str(Row - 1) & "Row"
End Sub
```

```
Private Sub Form_Load()
```

```
    GetNum = ""
    List1.Clear
    nTotal = ""
    nNumber.Clear
    TotalNum = ""
    CountNo = 0
    BookNo = 0
End Sub
```

```
Private Sub GetNum_KeyPress(KeyAscii As Integer)
```

```
    If InStr("01234567890.-" & Chr(8) & Chr(13), Chr(KeyAscii)) = 0 Then KeyAscii
= 0
    If Not IsNumeric(Val(GetNum)) Then KeyAscii = 0
    If KeyAscii = 13 Then
```

```

List1.AddItem GetNum
nTotal = List1.ListCount
nNumber.AddItem nTotal
GetNum = ""
End If
End Sub

```

```

Private Sub M_KeyPress(KeyAscii As Integer)
    If InStr("01234567890.-" & Chr(8) & Chr(13), Chr(KeyAscii)) = 0 Then KeyAscii
= 0
    If Not IsNumeric(Val(M)) Then KeyAscii = 0
End Sub

```

```

Private Sub Z_KeyPress(KeyAscii As Integer)
    If InStr("01234567890.-" & Chr(8) & Chr(13), Chr(KeyAscii)) = 0 Then KeyAscii
= 0
    If Not IsNumeric(Val(Z)) Then KeyAscii = 0
End Sub

```

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ประวัติผู้เขียน

ชื่อ นางสาวกนกทิพย์ แก้วจันดี

วัน เดือน ปี เกิด 20 มกราคม 2526

ประวัติการศึกษา สำเร็จการศึกษามัธยมศึกษาตอนปลาย โรงเรียนนครไทย
ปีการศึกษา 2544
สำเร็จการศึกษาระดับปริญญาวิทยาศาสตรบัณฑิต สาขาวิชาสถิติ มหาวิทยาลัยแม่โจ้
ปีการศึกษา 2548

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