# **GLIMMPSE Validation Report:**

GLMM(F) Example 4. Power and confidence limits for a univariate model

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### 1. Introduction

The following report contains validation results for the JavaStatistics library, a component of the GLIMMPSE software system. For more information about GLIMMPSE and related publications, please visit

#### http://samplesizeshop.org.

The automated validation tests shown below compare power values produced by the JavaStatistics library to published results and also to simulation. Sources for published values include POWERLIB (Johnson *et al.* 2007) and a SAS IML implementation of the methods described by Glueck and Muller (2003).

Validation results are listed in Section 3 of the report. Timing results show the calculation and simulation times for the overall experiment and the mean times per power calculation. Summary statistics show the maximum absolute deviation between the power value calculated by the JavaStatistics library and the results obtained from SAS or via simulation. The table in Section 3.3 shows the deviation values for each individual power comparison. Deviations larger than  $10^{-6}$  from SAS power values and 0.05 for simulated power values are displayed in red.

# 2. Study Design

The study design for Example 4 is a balanced two group design. We calculate power for a two-sample t-test comparing the mean response between the groups. We calculate confidence limits for the power values. The example is based on Figure 1 from

Taylor, D. J., & Muller, K. E. (1995). Computing Confidence Bounds for Power and Sample Size of the General Linear Univariate Model. *The American Statistician*, 49(1), 43-47.

### 2.1. Inputs to the Power Calculation

### 2.1.1. List Inputs

Type I error rates

0.0100000

#### Beta scale values



 $0.5000000,\ 0.5100000,\ 0.5200000,\ 0.5300000,\ 0.5400000,\ 0.5500000,\ 0.5600000,\ 0.5700000,\ 0.5800000,\ 0.5900000,\ 0.60000000,\ 0.6100000,\ 0.6200000,\ 0.6300000,\ 0.6400000,\ 0.6500000,\ 0.6600000,\ 0.6700000,\ 0.6800000,\ 0.6900000,\ 0.7000000,\ 0.7100000,\ 0.7200000,\ 0.7300000,\ 0.7400000,\ 0.7500000$ 

#### Sigma scale values

1.0000000

Per group sample size values

12

Statistical tests

UNIREP

Power methods

cond

#### 2.1.2. Matrix Inputs

$$\mathbf{Es} \left( \mathbf{X} \right) = \begin{bmatrix} 1.0000 & 0.0000 \\ 0.0000 & 1.0000 \end{bmatrix}$$

$$\mathbf{B}_{(2\times1)} = \begin{bmatrix} 0.0000 \\ 0.7500 \end{bmatrix}$$

$$\mathbf{C}_{(1\times2)} = \begin{bmatrix} 1.0000 & -1.0000 \end{bmatrix}$$

$$\mathbf{U}_{(1\times1)} = \begin{bmatrix} 1.0000 \end{bmatrix}$$

$$\mathbf{\Theta}_{0} = \begin{bmatrix} 0.0000 \end{bmatrix}$$

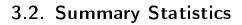
$$\mathbf{\Sigma}_{E} = \begin{bmatrix} 0.0680 \end{bmatrix}$$

# 3. Validation Results

A total of 228 power values were computed for this experiment.

# 3.1. Timing

	Total Time (seconds)	Mean Time (seconds)
Calculation	0.0000000	0.00E0
Simulation	41.3070000	1.81E-1



Max deviation from SAS	0.00000095
Max deviation from lower CI limit	0.00000091
Max deviation from upper CI limit	0.00000088
Max deviation from simulation	0.00575844

### 3.3. Full Validation Results

Power	CI	SAS Power (deviation)	SAS CI (deviation)	Sim Power (deviation)	Test	Sigma Scale	Beta Scale	Total N	Alpha
0.0100000	(0.0100000, 0.0100000)	0.0100000 (0.0000000)	(0.0100000, 0.0100000) {0.0000000, 0.0000000}	0.0104000 (0.0004000)	UNIREP	1.0000000	0.0000000	24	0.0100000
0.0102836	(0.0101414, 0.0104749)	0.0102836 (0.0000000)	(0.0101414, 0.0104749) {0.0000000, 0.0000000}	0.0101000 (0.0001836)	UNIREP	1.0000000	0.0100000	24	0.0100000
0.0111428	(0.0105677, 0.0119211)	0.0111422 (0.0000006)	(0.0105676, 0.0119211) {0.0000001, 0.0000000}	0.0111000 (0.0000428)	UNIREP	1.0000000	0.0200000	24	0.0100000
0.0125988	(0.0112851, 0.0144031)	0.0125988 (0.0000000)	(0.0112843, 0.0144028) {0.0000008, 0.0000003}	0.0125000 (0.0000988)	UNIREP	1.0000000	0.0300000	24	0.0100000
0.0146918	(0.0123012, 0.0180247)	0.0146914 (0.0000004)	(0.0123011, 0.0180247) {0.0000000, 0.0000001}	0.0140000 (0.0006918)	UNIREP	1.0000000	0.0400000	24	0.0100000
0.0174724	(0.0136315, 0.0229299)	0.0174724 (0.0000000)	(0.0136313, 0.0229294) {0.0000002, 0.0000004}	0.0156000 (0.0018724)	UNIREP	1.0000000	0.0500000	24	0.0100000
0.0210076	(0.0152925, 0.0292928)	0.0210074 (0.0000002)	(0.0152918, 0.0292927) {0.0000007, 0.0000001}	0.0182000 (0.0028076)	UNIREP	1.0000000	0.0600000	24	0.0100000
0.0253753	(0.0173029, 0.0373179)	0.0253744 (0.0000010)	(0.0173029, 0.0373175) {0.0000000, 0.0000004}	0.0231000 (0.0022753)	UNIREP	1.0000000	0.0700000	24	0.0100000
0.0306619	(0.0196883, 0.0472262)	0.0306618 (0.0000001)	(0.0196882, 0.0472261) {0.0000001, 0.0000001}	0.0278000 (0.0028619)	UNIREP	1.0000000	0.080000	24	0.0100000
0.0369672	(0.0224747, 0.0592511)	0.0369668 (0.0000004)	(0.0224744, 0.0592508) {0.0000004, 0.0000003}	0.0349000 (0.0020672)	UNIREP	1.0000000	0.0900000	24	0.0100000
0.0443930	(0.0256910, 0.0736229)	0.0443929 (0.0000000)	(0.0256910, 0.0736228) {0.0000000, 0.0000001}	0.0412000 (0.0031930)	UNIREP	1.0000000	0.1000000	24	0.0100000
0.0530477	(0.0293700, 0.0905603)	0.0530476 (0.0000002)	(0.0293699, 0.0905601) {0.0000001, 0.0000002}	0.0509000 (0.0021477)	UNIREP	1.0000000	0.1100000	24	0.0100000
0.0630393	(0.0335455, 0.1102546)	0.0630388 (0.0000005)	(0.0335453, 0.1102537) {0.0000002, 0.0000008}	0.0600000 (0.0030393)	UNIREP	1.0000000	0.1200000	24	0.0100000





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0.0744722	(0.0382534, 0.1328546)	0.0744721 (0.0000001)	(0.0382529, 0.1328544) {0.0000005,	0.0713000 (0.0031722)	UNIREP	1.0000000	0.1300000	24	0.0100000
	(		0.0000002}						
0.0874473	(0.0435301, 0.1584598)	0.0874471 (0.0000002)	(0.0435300, 0.1584592) {0.0000000, 0.0000006}	0.0837000 (0.0037473)	UNIREP	1.0000000	0.1400000	24	0.0100000
0.1020538	(0.0494146,	0.1020532	(0.0494145,	0.0982000	UNIREP	1.0000000	0.1500000	24	0.0100000
	0.1870997)	(0.0000005)	0.1870996) {0.0000001, 0.0000001}	(0.0038538)					
0.1183667	(0.0559448,	0.1183666	(0.0559445,	0.1153000	UNIREP	1.0000000	0.1600000	24	0.0100000
	0.2187317)	(0.0000001)	0.2187313) {0.0000002, 0.0000004}	(0.0030667)					
0.1364461	(0.0631586, 0.2532282)	0.1364459 (0.0000002)	(0.0631581, 0.2532281) {0.0000005, 0.0000001}	0.1323000 (0.0041461)	UNIREP	1.0000000	0.1700000	24	0.0100000
0.1563294	(0.0710924, 0.2903781)	0.1563289 (0.0000005)	(0.0710924, 0.2903779) {0.0000000, 0.0000003}	0.1520000 (0.0043294)	UNIREP	1.0000000	0.1800000	24	0.0100000
0.1780291	(0.0797828,	0.1780291	(0.0797827,	0.1749000	UNIREP	1.0000000	0.1900000	24	0.0100000
0.1,00201	0.3298849)	(0.0000001)	0.3298842) {0.0000001, 0.0000007}	(0.0031291)	J 3711172	1,000,000			5,515555
0.2015335	(0.0892628,	0.2015333	(0.0892626,	0.1982000	UNIREP	1.0000000	0.2000000	24	0.0100000
	0.3713721)	(0.0000002)	0.3713720) {0.0000002, 0.0000002}	(0.0033335)					
0.2268000	(0.0995629, 0.4143974)	0.2267995 (0.0000005)	(0.0995624, 0.4143970) {0.0000004, 0.0000004}	0.2282000 (0.0014000)	UNIREP	1.0000000	0.2100000	24	0.0100000
0.2537552	(0.1107101, 0.4584605)	0.2537551 (0.0000001)	(0.1107092, 0.4584604) {0.0000009, 0.0000001}	0.2562000 (0.0024448)	UNIREP	1.0000000	0.2200000	24	0.0100000
0.2822973	(0.1227259, 0.5030258)	0.2822971 (0.0000002)	(0.1227258, 0.5030255) {0.0000001, 0.0000003}	0.2845000 (0.0022027)	UNIREP	1.0000000	0.2300000	24	0.0100000
0.3122924	(0.1356303, 0.5475384)	0.3122919 (0.0000004)	(0.1356301, 0.5475378) {0.0000002, 0.0000006}	0.3145000 (0.0022076)	UNIREP	1.0000000	0.2400000	24	0.0100000
0.3435774	(0.1494351, 0.5914453)	0.3435773 (0.0000001)	(0.1494347, 0.5914451) {0.0000004, 0.0000002}	0.3460000 (0.0024226)	UNIREP	1.0000000	0.2500000	24	0.0100000
0.3759646	(0.1641469, 0.6342187)	0.3759644 (0.0000002)	(0.1641461, 0.6342184) {0.0000007, 0.0000003}	0.3815000 (0.0055354)	UNIREP	1.0000000	0.2600000	24	0.0100000
0.4092416	(0.1797646, 0.6753711)	0.4092412 (0.0000004)	(0.1797645, 0.6753704) {0.0000001, 0.0000007}	0.4150000 (0.0057584)	UNIREP	1.0000000	0.2700000	24	0.0100000
0.4431773	(0.1962832, 0.7144727)	0.4431765 (0.0000007)	(0.1962830, 0.7144725) {0.0000002, 0.0000002}	0.4482000 (0.0050227)	UNIREP	1.0000000	0.2800000	24	0.0100000
0.4775252	(0.2136879, 0.7511676)	0.4775251 (0.0000002)	(0.2136875, 0.7511673) {0.0000003, 0.0000004}	0.4830000 (0.0054748)	UNIREP	1.0000000	0.2900000	24	0.0100000





	(0.0040570		(0.0010501		LINIDED	1		1	
0.5120327	(0.2319570,	0.5120324	(0.2319564,	0.5151000	UNIREP	1.0000000	0.3000000	24	0.0100000
	0.7851775)	(0.0000003)	0.7851773)	(0.0030673)					
			{0.0000006,						
0.5464413	(0.2510605,	0.5464407	0.0000001}	0.5507000	UNIREP	1.0000000	0.3100000	24	0.0100000
0.5404415	0.8163103)	(0.0000006)	0.8163101)	(0.0042587)	UNINEF	1.000000	0.3100000	24	0.0100000
	0.0103103)	(0.000000)	{0.0000001,	(0.0042307)					
			0.0000001,						
0.5804950	(0.2709628,	0.5804949	(0.2709627,	0.5825000	UNIREP	1.0000000	0.3200000	24	0.0100000
0.000 1500	0.8444579)	(0.0000001)	0 8444575)	(0.0020050)	OIIIII	1.0000000	0.520000	- '	0.010000
	"""	(0.000001)	{0.0000002,	(0.002000)					
			0.0000004}						
0.6139478	(0.2916189,	0.6139475	(0.2916186,	0.6145000	UNIREP	1.0000000	0.3300000	24	0.0100000
	0 8695925)	(0.0000002)	0.8695924)	(0.0005522)					
	,	,	{0.0000003,	,					
			0.0000001}						
0.6465654	(0.3129767,	0.6465649	(0.3129763,	0.6437000	UNIREP	1.0000000	0.3400000	24	0.0100000
	0.8917612)	(0.0000004)	0.8917609)	(0.0028654)					
			{0.0000004,						
			0.0000002}						
0.6781323	(0.3349775,	0.6781316	(0.3349768,	0.6752000	UNIREP	1.0000000	0.3500000	24	0.0100000
	0.9110732)	(0.0000007)	0.9110728)	(0.0029323)					
			{0.0000007,						
			0.0000004}						
0.7084547	(0.3575547,	0.7084545	(0.3575546,	0.7044000	UNIREP	1.0000000	0.3600000	24	0.0100000
	0.9276901)	(0.0000002)	0.9276895)	(0.0040547)					
			{0.0000001,						
0.7272660	(0.2006200	0.7272665	0.0000006}	0.7221000	UNIREP	1.000,000	0.3700000	0.4	0.0100000
0.7373668	(0.3806382,	0.7373665 (0.0000003)	(0.3806380,	0.7331000 (0.0042668)	UNIKEP	1.0000000	0.3700000	24	0.0100000
	0.9418120)	(0.0000003)	0.9418118)	(0.0042008)					
			0.0000002,						
0.7647294	(0.4041504,	0.7647289	(0.4041501,	0.7590000	UNIREP	1.0000000	0.3800000	24	0.0100000
0.7047294	0.9536672)	(0.0000005)	0.9536669)	(0.0057294)	ONINE	1.0000000	0.300000	24	0.0100000
	0.5350012)	(0.000000)	{0.0000003,	(0.0031234)					
			0.0000003}						
0.7904330	(0.4280098,	0.7904328	(0.4280092,	0.7851000	UNIREP	1.0000000	0.3900000	24	0.0100000
	0.9634974)	(0.0000001)	0.9634970)	(0.0053330)					1
	,	,	{0.0000005,	`					
			0.0000004}						
0.8144004	(0.4521302,	0.8144001	(0.4521301,	0.8093000	UNIREP	1.0000000	0.4000000	24	0.0100000
	0.9715484)	(0.0000002)	0.9715483)	(0.0051004)					
			{0.0000001,						
			0.0000001}						
0.8365832	(0.4764247,	0.8365829	(0.4764245,	0.8343000	UNIREP	1.0000000	0.4100000	24	0.0100000
	0.9780622)	(0.0000003)	0.9780620)	(0.0022832)					
			{0.0000002,						
	(		0.0000002}						
0.8569626	(0.5008026,	0.8569621	(0.5008024,	0.8553000	UNIREP	1.0000000	0.4200000	24	0.0100000
	0.9832677)	(0.0000005)	0.9832674)	(0.0016626)					
			{0.0000003,						
0.0755460	(0.5051721	0.0755460	0.0000003}	0.0721000	LINIDED	1 000000	0.4200000	0.4	0.0100000
0.8755463	(0.5251731,	0.8755462	(0.5251727,	0.8731000	UNIREP	1.0000000	0.4300000	24	0.0100000
	0.9873770)	(0.0000001)	0.9873766)	(0.0024463)					
			{0.0000004, 0.0000004}						
0.8923685	(0.5494452,	0.8923682	(0.5494446,	0.8887000	UNIREP	1.0000000	0.4400000	24	0.0100000
3.0323003	0.9905811)	(0.0000002)	0.9905809)	(0.0036685)	CIVINE	1.300000	0.440000		3.010000
	0.9903011)	(0.0000002)	{0.0000006,	(0.0030003)					
			0.0000001}						
0.9074833	(0.5735287,	0.9074830	(0.5735286,	0.9033000	UNIREP	1.0000000	0.4500000	24	0.0100000
	0.9930493)	(0.0000003)	0.9930492)	(0.0041833)					
		`	{0.0000001,	`,					
			0.0000002}						
0.9209642	(0.5973371,	0.9209637	(0.5973369,	0.9186000	UNIREP	1.0000000	0.4600000	24	0.0100000
	0 9949275)	(0.0000005)	0.9949273)	(0.0023642)					
	0.3343213)	(0.000000)	0.00.00,						
	0.9949213)	(0.000000)	{0.0000002, 0.0000002}	(**************************************					





	/2.522225		/2.522222		LINUBER			1	
0.9328986	(0.6207855,	0.9328985	(0.6207852,	0.9322000	UNIREP	1.0000000	0.4700000	24	0.0100000
	0.9963393)	(0.0000001)	0.9963391)	(0.0006986)					
			{0.0000003,						
	(0.0107001		0.0000002}		LINIDED	1			
0.9433871	(0.6437934,	0.9433869	(0.6437930,	0.9422000	UNIREP	1.0000000	0.4800000	24	0.0100000
	0.9973876)	(0.0000002)	0.9973873)	(0.0011871)					
			{0.0000004,						
			0.0000003}						
0.9525367	(0.6662853,	0.9525364	(0.6662847,	0.9519000	UNIREP	1.0000000	0.4900000	24	0.0100000
	0.9981564)	(0.0000003)	0.9981563)	(0.0006367)					
			{0.0000006,						
			0.0000001}						
0.9604597	(0.6881903,	0.9604594	(0.6881901,	0.9599000	UNIREP	1.0000000	0.5000000	24	0.0100000
	0.9987137)	(0.0000004)	0.9987135)	(0.0005597)					
			{0.0000001,						
			0.0000001}						
0.9672703	(0.7094456,	0.9672698	(0 7094454,	0.9675000	UNIREP	1.0000000	0.5100000	24	0.0100000
	0.9991126)	(0.0000005)	0.9991125)	(0.0002297)					
			{0.0000002,						
			0.0000001}						
0.9730812	(0.7299934,	0.9730810	(0.7299931,	0.9729000	UNIREP	1.0000000	0.5200000	24	0.0100000
	0.9993947)	(0.0000001)	0.9993946)	(0.0001812)					
			{0.0000003,						
			0.0000001}						
0.9780035	(0.7497837,	0.9780033	(0.7497833,	0.9783000	UNIREP	1.0000000	0.5300000	24	0.0100000
	0.9995919)	(0.0000002)	0.9995917)	(0.0002965)					
			{0.0000004,						
			0.0000001}						
0.9821423	(0.7687737,	0.9821420	(0.7687731,	0.9822000	UNIREP	1.0000000	0.5400000	24	0.0100000
	0.9997279)	(0.0000003)	0.9997278)	(0.0000577)					
			{0.0000005,						
			0.0000002}						
0.9855968	(0.7869276,	0.9855965	(0.7869275,	0.9849000	UNIREP	1.0000000	0.5500000	24	0.0100000
	0.9998207)	(0.0000003)	0.9998205)	(0.0006968)					
			{0.0000001,						
			0.0000002}						
0.9884592	(0.8042190,	0.9884588	(0.8042189,	0.9884000	UNIREP	1.0000000	0.5600000	24	0.0100000
	0.9998832)	(0.0000004)	0.9998830)	(0.0000592)					
	-		{0.0000002,						
			0.0000001}						
0.9908132	(0.8206275,	0.9908130	(0.8206273,	0.9900000	UNIREP	1.0000000	0.5700000	24	0.0100000
	0.9999248)	(0.0000001)	0.9999247)	(0.0008132)					
	-		{0.0000002,						
			0.0000001}						
0.9927355	(0.8361406,	0.9927353	(0.8361403,	0.9920000	UNIREP	1.0000000	0.5800000	24	0.0100000
	0.9999521)	(0.0000002)	0.9999520)	(0.0007355)					
	,	,	{0.0000003,	,					
			0.0000001}						
0.9942936	(0.8507529,	0.9942934	(0.8507525,	0.9939000	UNIREP	1.0000000	0.5900000	24	0.0100000
	0.9999698)	(0.0000002)	0.9999698)	(0.0003936)					
	,	,	{0.0000005,	,					
			0.00000000}						
0.9955473	(0.8644659,	0.9955471	(0.8644653,	0.9952000	UNIREP	1.0000000	0.6000000	24	0.0100000
	0.9999812)	(0.0000002)	0.9999812)	(0.0003473)		1,000000	0.000000		0.020000
	"""	(0.0000002)	{0.0000006,	(0.00000)					
			0.00000000}						
0.9965488	(0.8772867,	0.9965485	(0.8772866,	0.9962000	UNIREP	1.0000000	0.6100000	24	0.0100000
0.0000.00	0 9999885)	(0.0000003)	0 9999884)	(0.0003488)		1,000000	0.010000		0.020000
	0.5555005)	(0.000000)	{0.0000001,	(0.0003400)					
			0.0000001}						
0.9973429	(0.8892303,	0.9973426	(0.8892301,	0.9972000	UNIREP	1.0000000	0.6200000	24	0.0100000
0.5515425	0.9999930)	(0.0000003)	0.9999930)	(0.0001429)	OWNE	1.000000	0.020000	27	0.0100000
	0.5555550)	(0.000003)	{0.0000002,	(0.0001429)					
			0.00000002,						
0.9979681	(0.9003150,	0.9979677	(0.9003148,	0.9978000	UNIREP	1.0000000	0.6300000	24	0.0100000
J. JJ1 JUUI	0.9999958)	(0.0000003)	0.9999958)	(0.0001681)	CIVILLE	1.300000	0.000000		3.010000
	0.555550)	(0.0000003)	{0.0000003,	(0.0001001)					
			0.00000003,						
			0.0000000}			1		1	





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0.9984563	(0.9105649,	0.9984562	(0.9105645,	0.9989000	UNIREP	1.0000000	0.6400000	24	0.0100000
	0.9999975)	(0.0000001)	0.9999975)	(0.0004437)					
			{0.0000003,						
0.0000050	(0.0000070	0.0000050	0.0000000}	0.000000	LINIDED	1 000000	0.6500000	2.4	0.010000
0.9988353	(0.9200078,	0.9988352	(0.9200073,	0.9992000	UNIREP	1.0000000	0.6500000	24	0.0100000
	0.9999985)	(0.0000001)	0.9999985)	(0.0003647)					
			{0.0000005,						
0.0001070	(0.0006750	0.0001071	0.0000000}	0.0005000	LINIDED	1.000000	0.6600000	0.4	0.0100000
0.9991272	(0.9286752,	0.9991271	(0.9286746,	0.9995000	UNIREP	1.0000000	0.6600000	24	0.0100000
	0.9999992)	(0.0000001)	0.9999991)	(0.0003728)					
			{0.0000006,						
0.9993504	(0.9366010,	0.9993503	0.0000000}	0.9995000	UNIREP	1.0000000	0.6700000	24	0.0100000
0.9993304	0.9999995)	(0.0000001)	(0.9366009, 0.9999995)	(0.0001496)	UNIKEP	1.0000000	0.0700000	24	0.0100000
	0.9999995)	(0.0000001)		(0.0001490)					
			{0.0000001, 0.0000000}						
0.9995198	(0.9438229,	0.9995196	(0.9438227,	0.9995000	UNIREP	1.0000000	0.6800000	24	0.0100000
0.9993190	0.9999997)	(0.0000001)	0.9999997)	(0.0000198)	UNINEF	1.000000	0.000000	24	0.010000
	0.9999991)	(0.0000001)		(0.0000198)					
			{0.0000002,						
0.9996474	(0.9503788,	0.9996473	0.00000000} (0.9503785,	0.9996000	UNIREP	1.0000000	0.6900000	24	0.0100000
0.9990414	0.9999998)	(0.0000002)	0.9999998)	(0.0000474)	ONINE	1.000000	0.090000	24	0.0100000
	0.9999990)	(0.0000002)	{0.0000002,	(0.0000474)					
			0.00000002,						
0.9997429	(0.9563083,	0.9997428	(0.9563079,	0.9997000	UNIREP	1.0000000	0.7000000	24	0.0100000
0.5551 425	0.9999999)	(0.0000002)	0.9999999)	(0.0000429)	OWNE	1.000000	0.700000	27	0.0100000
	0.9999999)	(0.0000002)	{0.0000003,	(0.0000429)					
			0 00000003						
0.9998138	(0.9616515,	0.9998137	(0.9616511,	0.9998000	UNIREP	1.0000000	0.7100000	24	0.0100000
	1.0000000)	(0.0000002)	1.0000000)	(0.0000138)					
	1.000000,	(0.0000002)	{0.0000004,	(0,0000100)					
			0.00000000}						
0.9998661	(0.9664487,	0.9998660	(0.9664482,	0.9999000	UNIREP	1.0000000	0.7200000	24	0.0100000
	1.0000000)	(0.0000001)	1.0000000)	(0.0000339)					
		(**************************************	{0.0000005,	(**************************************					
			0.0000000}						
0.9999044	(0.9707395,	0.9999042	(0.9707394,	0.9999000	UNIREP	1.0000000	0.7300000	24	0.0100000
	1 0000000)	(0.0000001)	ì 0000000)	(0.0000044)					
	,	`	{0.0000001,	,					
			0.0000000}						
0.9999322	(0.9745640,	0.9999320	(0.9745638,	0.9999000	UNIREP	1.0000000	0.7400000	24	0.0100000
	1.0000000)	(0.0000001)	1.0000000)	(0.0000322)					
			{0.0000002,						
			0.0000000}						
0.9999522	(0.9779600,	0.9999521	(0.9779598,	1.0000000	UNIREP	1.0000000	0.7500000	24	0.0100000
	1.0000000)	(0.0000001)	1.0000000)	(0.0000478)					
			{0.0000002,						
			0.0000000}						
0.0100000	(0.0100000,	0.0100000	(0.0100000,	0.0104000	UNIREP	1.0000000	0.0000000	24	0.0100000
	1.0000000)	(0.0000000)	1.0000000)	(0.0004000)					
			{0.0000000,						
			0.0000000}						
0.0102836	(0 0101589,	0.0102836	(0.0101589,	0.0101000	UNIREP	1.0000000	0.0100000	24	0.0100000
	1.0000000)	(0.0000000)	1.0000000)	(0.0001836)					
			{0.0000000,						
			0.0000000}						
0.0111428	(0.0106381,	0.0111422	(0.0106380,	0.0111000	UNIREP	1.0000000	0.0200000	24	0.0100000
	1.0000000)	(0.0000006)	1.0000000)	(0.0000428)					
			{0.0000001,						
0.0105000	(0.011111	0.0105000	0.0000000}	0.0105000	LINUDES	1.0000000	0.0000000	1 24	0.0100000
0.0125988	(0.0114447,	0.0125988	(0.0114447,	0.0125000	UNIREP	1.0000000	0.0300000	24	0.0100000
	1.0000000)	(0.0000000)	1.0000000)	(0.0000988)					
			{0.0000000,						
0.0146055	(0.0105000	0.07.1007.1	0.0000000}	0.01.10000	LINUDES	1.0000000	0.0400000	2.1	0.0100000
0.0146918	(0.0125909,	0.0146914	(0.0125909,	0.0140000	UNIREP	1.0000000	0.0400000	24	0.0100000
	1.0000000)	(0.0000004)	1.0000000)	(0.0006918)					
			{0.0000000,						
			0 00000000}						





0.017/77	(0.01:000	0.0470.1	(0.01.1000	0.045.000	LIMIDED	1 0000000		1 04	0.010000
0.0174724	(0.0140936,	0.0174724	(0.0140934,	0.0156000	UNIREP	1.0000000	0.0500000	24	0.0100000
	1.0000000)	(0.0000000)	1.0000000)	(0.0018724)					
			{0.0000003,						
0.0210076	(0.0159734,	0.0210074	0.0000000}	0.0182000	UNIREP	1.0000000	0.0600000	24	0.0100000
0.0210070	1.0000000)	(0.0000002)	1.0000000)	(0.0028076)	UNINEF	1.000000	0.0000000	24	0.0100000
	1.0000000)	(0.0000002)	{0.0000000,	(0.0020070)					
			0 00000000}						
0.0253753	(0.0182565,	0.0253744	(0.0182564,	0.0231000	UNIREP	1.0000000	0.0700000	24	0.0100000
	1.0000000)	(0.0000010)	1.0000000)	(0.0022753)					
	,	,	{0.0000001,	,					
			0.0000000}						
0.0306619	(0.0209723,	0.0306618	(0.0209721,	0.0278000	UNIREP	1.0000000	0.080000	24	0.0100000
	1.0000000)	(0.0000001)	1.0000000)	(0.0028619)					
			{0.0000002,						
			0.0000000}						
0.0369672	(0.0241544,	0.0369668	(0.0241537,	0.0349000	UNIREP	1.0000000	0.0900000	24	0.0100000
	1.0000000)	(0.0000004)	1.0000000)	(0.0020672)					
			{0.0000007,						
0.0440000	(0.0070000	0.0440000	0.0000000}	0.0410000	LINIDED	1 000000	0.1000000	0.4	0.0100000
0.0443930	(0.0278380,	0.0443929	(0.0278379,	0.0412000	UNIREP	1.0000000	0.1000000	24	0.0100000
	1.0000000)	(0.0000000)	1.0000000)	(0.0031930)					
			{0.0000000, 0.0000000}						
0.0530477	(0.0320644,	0.0530476	(0.0320643,	0.0509000	UNIREP	1.0000000	0.1100000	24	0.0100000
0.0550477	1.0000000)	(0.0000002)	1.0000000)	(0.0021477)	ONINE	1.0000000	0.1100000	24	0.0100000
	1.0000000)	(0.0000002)	{0.0000001,	(0.0021477)					
			0 0000000}						
0.0630393	(0.0368751,	0.0630388	(0.0368747,	0.0600000	UNIREP	1.0000000	0.1200000	24	0.0100000
	1.0000000)	(0.0000005)	1.0000000)	(0.0030393)					
	,	,	{0.0000004,	,					
			0.00000000}						
0.0744722	(0.0423140,	0.0744721	(0.0423130,	0.0713000	UNIREP	1.0000000	0.1300000	24	0.0100000
	1.0000000)	(0.0000001)	1.0000000)	(0.0031722)					
			{0.0000009,						
			0.0000000}						
0.0874473	(0.0484243,	0.0874471	(0.0484243,	0.0837000	UNIREP	1.0000000	0.1400000	24	0.0100000
	1.0000000)	(0.0000002)	1.0000000)	(0.0037473)					
			{0.0000001,						
0.1020538	(0.0552541,	0.1020532	0.0000000}	0.0982000	UNIREP	1.0000000	0.1500000	24	0.0100000
0.1020556	1.0000000)	(0.0000005)	1.0000000)	(0.0038538)	UNINEF	1.000000	0.1300000	24	0.0100000
	1.0000000)	(0.0000003)	{0.0000000}	(0.0030330)					
			0 00000002						
0.1183667	(0.0628476,	0.1183666	(0.0628471	0.1153000	UNIREP	1.0000000	0.1600000	24	0.0100000
	1.0000000)	(0.0000001)	1 0000000)	(0.0030667)				- '	
	,	,	{0.0000005,	,					
			0.00000000}						
0.1364461	(0.0712482,	0.1364459	(0.0712482,	0.1323000	UNIREP	1.0000000	0.1700000	24	0.0100000
	1.0000000)	(0.0000002)	1.0000000)	(0.0041461)					
			{0.0000000,						
			0.0000000}						
0.1563294	(0.0804996,	0.1563289	(0.0804995,	0.1520000	UNIREP	1.0000000	0.1800000	24	0.0100000
	1.0000000)	(0.0000005)	1.0000000)	(0.0043294)					
			{0.0000001,						
0.1700001	(0.0006407	0.1700001	0.0000000}	0.1740000	LINIDED	1 000000	0.1000000		0.0100000
0.1780291	(0.0906407,	0.1780291	(0.0906405,	0.1749000	UNIREP	1.0000000	0.1900000	24	0.0100000
	1.0000000)	(0.0000001)	1.0000000)	(0.0031291)					
			{0.0000002,						
	(0.1017076,	0.2015333	0.0000000}	0.1982000	UNIREP	1.0000000	0.2000000	24	0.0100000
0.2015335		1 0.2013333	1 '	(0.0033335)	OMINER	1.0000000	0.200000	<sup>2</sup>	0.0100000
0.2015335		(U DODOOOS)	1 0000000				1		
0.2015335	1.0000000)	(0.0000002)	1.0000000)	(0.0033333)					
0.2015335		(0.0000002)	{0.0000005,	(0.0033333)					
	1.0000000)		{0.0000005, 0.0000000}		UNIREP	1.0000000	0.2100000	24	0.0100000
0.2268000		(0.0000002) 0.2267995 (0.0000005)	{0.0000005,	0.2282000	UNIREP	1.0000000	0.2100000	24	0.0100000
	(0.1137308,	0.2267995	{0.0000005, 0.0000000} (0.1137307,		UNIREP	1.0000000	0.2100000	24	0.0100000





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0.2537552	(0.1267373,	0.2537551	(0.1267371,	0.2562000	UNIREP	1.0000000	0.2200000	24	0.0100000
	1.0000000)	(0.0000001)	1.0000000) {0.0000001, 0.0000000}	(0.0024448)					
0.2822973	(0.1407463,	0.2822971	(0.1407460,	0.2845000	UNIREP	1.0000000	0.2300000	24	0.0100000
	1.0000000)	(0.0000002)	1.0000000) {0.0000003, 0.0000000}	(0.0022027)					
0.3122924	(0.1557704,	0.3122919	(0.1557698,	0.3145000	UNIREP	1.0000000	0.2400000	24	0.0100000
0.3122924	1.0000000)	(0.0000004)	1.0000000) {0.0000005, 0.0000000}	(0.0022076)	OMME	1.000000	0.240000	27	0.010000
0.3435774	(0.1718135,	0.3435773	(0.1718134,	0.3460000	UNIREP	1.0000000	0.2500000	24	0.0100000
0.3433774	1.0000000)	(0.0000001)	1.0000000) {0.0000001, 0.0000000}	(0.0024226)	OWNE	1.000000	0.230000	27	0.010000
0.3759646	(0.1888730,	0.3759644	(0.1888729,	0.3815000	UNIREP	1.0000000	0.2600000	24	0.0100000
	1.0000000)	(0.0000002)	1.0000000) {0.0000001, 0.0000000}	(0.0055354)					
0.4092416	(0.2069360,	0.4092412	(0.2069357,	0.4150000	UNIREP	1.0000000	0.2700000	24	0.0100000
	1.0000000)	(0.0000004)	1.0000000) {0.0000003, 0.0000000}	(0.0057584)					
0.4431773	(0.2259803,	0.4431765	(0.2259798,	0.4482000	UNIREP	1.0000000	0.2800000	24	0.0100000
	1.0000000)	(0.0000007)	1.0000000) {0.0000005, 0.0000000}	(0.0050227)					
0.4775252	(0.2459745,	0.4775251	(0.2459736,	0.4830000	UNIREP	1.0000000	0.2900000	24	0.0100000
	1.0000000)	(0.0000002)	1.0000000) {0.00000009, 0.0000000}	(0.0054748)					
0.5120327	(0.2668759,	0.5120324	(0.2668758,	0.5151000	UNIREP	1.0000000	0.3000000	24	0.0100000
	1 0000000)	(0.0000003)	1.0000000) {0.0000001, 0.0000000}	(0.0030673)					
0.5464413	(0.2886356,	0.5464407	(0.2886353,	0.5507000	UNIREP	1.0000000	0.3100000	24	0.0100000
	1.0000000)	(0.0000006)	1.0000000) {0.0000002, 0.0000000}	(0.0042587)					
0.5804950	(0.3111924,	0.5804949	(0.3111920,	0.5825000	UNIREP	1.0000000	0.3200000	24	0.0100000
	1.0000000)	(0.0000001)	1.0000000) {0.0000004, 0.0000000}	(0.0020050)					
0.6139478	(0.3344773,	0.6139475	(0.3344765,	0.6145000	UNIREP	1.0000000	0.3300000	24	0.0100000
	1.0000000)	(0.0000002)	1.0000000) {0.0000007, 0.0000000}	(0.0005522)					
0.6465654	(0.3584114, 1.0000000)	0.6465649 (0.0000004)	(0.3584112, 1.0000000) {0.0000001, 0.0000000}	0.6437000 (0.0028654)	UNIREP	1.0000000	0.3400000	24	0.0100000
0.6781323	(0.3829110, 1.0000000)	0.6781316 (0.0000007)	(0.3829108, 1.0000000) {0.0000002, 0.0000000}	0.6752000 (0.0029323)	UNIREP	1.0000000	0.3500000	24	0.0100000
0.7084547	(0.4078835,	0.7084545	(0.4078832,	0.7044000	UNIREP	1.0000000	0.3600000	24	0.0100000
	1 0000000)	(0.0000002)	1.0000000) {0.0000004, 0.0000000}	(0.0040547)					
0.7373668	(0.4332312, 1.0000000)	0.7373665 (0.0000003)	(0.4332306, 1.0000000) {0.0000006, 0.0000000}	0.7331000 (0.0042668)	UNIREP	1.0000000	0.3700000	24	0.0100000
0.7647294	(0.4588509, 1.0000000)	0.7647289 (0.0000005)	(0.4588507, 1.0000000) {0.0000001, 0.0000000}	0.7590000 (0.0057294)	UNIREP	1.0000000	0.3800000	24	0.0100000





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	(0.1010001		(0.10.10070		LINIDED	1		1	
0.7904330	(0.4846381,	0.7904328	(0.4846379,	0.7851000	UNIREP	1.0000000	0.3900000	24	0.0100000
	1.0000000)	(0.0000001)	1.0000000)	(0.0053330)					
			{0.0000002,						
0.8144004	(0.5104847,	0.8144001	0.00000000}	0.8093000	UNIREP	1.0000000	0.4000000	24	0.0100000
0.8144004	1.0000000)	(0.0000002)	1.0000000)	(0.0051004)	UNINEF	1.000000	0.400000	24	0.0100000
	1.0000000)	(0.0000002)	{0.0000003,	(0.0031004)					
			0 00000003						
0.8365832	(0.5362823,	0.8365829	(0.5362819,	0.8343000	UNIREP	1.0000000	0.4100000	24	0.0100000
	1.0000000)	(0.0000003)	1.0000000)	(0.0022832)					1
	,	,	{0.0000005,	,					
			0.0000000}						
0.8569626	(0.5619233,	0.8569621	(0.5619226,	0.8553000	UNIREP	1.0000000	0.4200000	24	0.0100000
	1.0000000)	(0.0000005)	1.0000000)	(0.0016626)					
			{0.0000007,						
			0.0000000}						
0.8755463	(0.5873010,	0.8755462	(0.5873008,	0.8731000	UNIREP	1.0000000	0.4300000	24	0.0100000
	1.0000000)	(0.0000001)	1.0000000)	(0.0024463)					
			{0.0000002,						
0.8923685	(0.6122146	0.0003603	0.0000000}	0.8887000	UNIREP	1.000000	0.4400000	24	0.0100000
0.8923085	(0.6123146, 1.0000000)	(0.0000002)	(0.6123144, 1.0000000)	(0.0036685)	UNIKEP	1.0000000	0.4400000	24	0.0100000
	1.0000000)	(0.0000002)	{0.0000000}	(0.0030063)					
			0.00000002,						
0.9074833	(0.6368657,	0.9074830	(0.6368653,	0.9033000	UNIREP	1.0000000	0.4500000	24	0.0100000
	1.0000000)	(0.0000003)	1.0000000)	(0.0041833)					1
	,	,	{0.0000004,	,					
			0.0000000}						
0.9209642	(0.6608622,	0.9209637	(0.6608616,	0.9186000	UNIREP	1.0000000	0.4600000	24	0.0100000
	1.0000000)	(0.0000005)	1.0000000)	(0.0023642)					
			{0.0000005,						
	(		0.0000000}						
0.9328986	(0.6842181,	0.9328985	(0.6842180,	0.9322000	UNIREP	1.0000000	0.4700000	24	0.0100000
	1.0000000)	(0.0000001)	1.0000000)	(0.0006986)					
			{0.0000001,						
0.9433871	(0.7068567,	0.9433869	0.0000000}	0.9422000	UNIREP	1.0000000	0.4800000	24	0.0100000
0.9433071	1.0000000)	(0.0000002)	1.0000000)	(0.0011871)	UNIKEP	1.000000	0.4600000	24	0.0100000
	1.0000000)	(0.0000002)	{0.0000000}	(0.0011071)					
			0 00000000}						
0.9525367	(0.7287082,	0.9525364	(0.7287079,	0.9519000	UNIREP	1.0000000	0.4900000	24	0.0100000
	1 0000000)	(0.0000003)	ì 0000000)	(0.0006367)					
	,	`	{0.0000003,	,					
			0.0000000}						
0.9604597	(0.7497120,	0.9604594	(0.7497116,	0.9599000	UNIREP	1.0000000	0.5000000	24	0.0100000
	1.0000000)	(0.0000004)	1.0000000)	(0.0005597)					
			{0.0000004,						
	(0.7000170		0.0000000}		LINIDED	1		<u> </u>	
0.9672703	(0.7698170,	0.9672698	(0.7698164,	0.9675000	UNIREP	1.0000000	0.5100000	24	0.0100000
	1.0000000)	(0.0000005)	1.0000000)	(0.0002297)					
			{0.0000006, 0.0000000}						
0.9730812	(0.7889809,	0.9730810	(0.7889808,	0.9729000	UNIREP	1.0000000	0.5200000	24	0.0100000
0.9730012	1.0000000)	(0.0000001)	1.0000000)	(0.0001812)	ONINE	1.000000	0.520000	24	0.0100000
	1.000000)	(0.000001)	{0.0000001,	(0.0001012)					
			0.00000000}						
0.9780035	(0.8071728,	0.9780033	(0.8071726,	0.9783000	UNIREP	1.0000000	0.5300000	24	0.0100000
	1.0000000)	(0.0000002)	1.0000000)	(0.0002965)					
	,	`	{0.0000002,	,					
			0.0000000}						
0.9821423	(0 8243698,	0.9821420	(0.8243695,	0.9822000	UNIREP	1.0000000	0.5400000	24	0.0100000
	1.0000000)	(0.0000003)	1.0000000)	(0.0000577)					
			{0.0000003,						
0.0055000	(0.0405500	0.0055055	0.0000000}	0.0040000	LIMIDED	1.0000000	0.5500000	0.4	0.010000
0.9855968	(0.8405588,	0.9855965	(0.8405584,	0.9849000	UNIREP	1.0000000	0.5500000	24	0.0100000
	1.0000000)	(0.0000003)	1.0000000)	(0.0006968)					
			{0.0000004, 0.0000000}						
			0.0000000}						





0.9884592	(0.8557356, 1.0000000)	0.9884588 (0.0000004)	(0.8557351, 1.0000000) {0.0000005, 0.0000000}	0.9884000 (0.0000592)	UNIREP	1.0000000	0.5600000	24	0.0100000
0.9908132	(0.8699040, 1.0000000)	0.9908130 (0.0000001)	(0.8699038, 1.0000000) {0.0000001, 0.0000000}	0.9900000 (0.0008132)	UNIREP	1.0000000	0.5700000	24	0.0100000
0.9927355	(0.8830768, 1.0000000)	0.9927353 (0.0000002)	(0.8830767, 1.0000000) {0.0000002, 0.0000000}	0.9920000 (0.0007355)	UNIREP	1.0000000	0.5800000	24	0.0100000
0.9942936	(0.8952731, 1.0000000)	0.9942934 (0.0000002)	(0.8952728, 1.0000000) {0.0000002, 0.0000000}	0.9939000 (0.0003936)	UNIREP	1.0000000	0.5900000	24	0.0100000
0.9955473	(0.9065183, 1.0000000)	0.9955471 (0.0000002)	(0.9065180, 1.0000000) {0.0000003, 0.0000000}	0.9952000 (0.0003473)	UNIREP	1.0000000	0.6000000	24	0.0100000
0.9965488	(0.9168438, 1.0000000)	0.9965485 (0.0000003)	(0.9168434, 1.0000000) {0.0000004, 0.0000000}	0.9962000 (0.0003488)	UNIREP	1.0000000	0.6100000	24	0.0100000
0.9973429	(0.9262856, 1.0000000)	0.9973426 (0.0000003)	(0.9262851, 1.0000000) {0.0000005, 0.0000000}	0.9972000 (0.0001429)	UNIREP	1.0000000	0.6200000	24	0.0100000
0.9979681	(0.9348830, 1.0000000)	0.9979677 (0.0000003)	(0.9348829, 1.0000000) {0.0000001, 0.0000000}	0.9978000 (0.0001681)	UNIREP	1.0000000	0.6300000	24	0.0100000
0.9984563	(0.9426801, 1.0000000)	0.9984562 (0.0000001)	(0.9426799, 1.0000000) {0.0000002, 0.0000000}	0.9989000 (0.0004437)	UNIREP	1.0000000	0.6400000	24	0.0100000
0.9988353	(0.9497218, 1.0000000)	0.9988352 (0.0000001)	(0.9497215, 1.0000000) {0.0000002, 0.0000000}	0.9992000 (0.0003647)	UNIREP	1.0000000	0.6500000	24	0.0100000
0.9991272	(0.9560550, 1.0000000)	0.9991271 (0.0000001)	(0.9560547, 1.0000000) {0.0000003, 0.0000000}	0.9995000 (0.0003728)	UNIREP	1.0000000	0.6600000	24	0.0100000
0.9993504	(0.9617276, 1.0000000)	0.9993503 (0.0000001)	(0.9617272, 1.0000000) {0.0000004, 0.0000000}	0.9995000 (0.0001496)	UNIREP	1.0000000	0.6700000	24	0.0100000
0.9995198	(0.9667875, 1.0000000)	0.9995196 (0.0000001)	(0.9667870, 1.0000000) {0.0000005, 0.0000000}	0.9995000 (0.0000198)	UNIREP	1.0000000	0.6800000	24	0.0100000
0.9996474	(0.9712818, 1.0000000)	0.9996473 (0.0000002)	(0.9712816, 1.0000000) {0.0000001, 0.0000000}	0.9996000 (0.0000474)	UNIREP	1.0000000	0.6900000	24	0.0100000
0.9997429	(0.9752580, 1.0000000)	0.9997428 (0.0000002)	(0.9752579, 1.0000000) {0.0000002, 0.0000000}	0.9997000 (0.0000429)	UNIREP	1.0000000	0.7000000	24	0.0100000
0.9998138	(0.9787611, 1.0000000)	0.9998137 (0.0000002)	(0.9787609, 1.0000000) {0.0000002, 0.0000000}	0.9998000 (0.0000138)	UNIREP	1.0000000	0.7100000	24	0.0100000
0.9998661	(0.9818347, 1.0000000)	0.9998660 (0.0000001)	(0.9818345, 1.0000000) {0.0000002, 0.0000000}	0.9999000 (0.0000339)	UNIREP	1.0000000	0.7200000	24	0.0100000





	/		(0.00.1500.1		LINIDED			1.0.	
0.9999044	(0.9845204, 1.0000000)	0.9999042 (0.0000001)	(0.9845201, 1.0000000) {0.0000003,	0.9999000 (0.0000044)	UNIREP	1.0000000	0.7300000	24	0.0100000
			0.00000003,						
0.9999322	(0.9868574,	0.9999320	(0.9868571,	0.9999000	UNIREP	1.0000000	0.7400000	24	0.0100000
	1.0000000)	(0.0000001)	1.0000000)	(0.0000322)					
			{0.0000004,						
0.0000522	(0.0000007	0.0000521	0.0000000}	1.0000000	UNIREP	1.0000000	0.7500000	24	0.0100000
0.9999522	(0.9888827, 1.0000000)	(0.0000001)	(0.9888823,	1.0000000 (0.0000478)	UNIKEP	1.0000000	0.7500000	24	0.0100000
	1.0000000)	(0.0000001)	1.0000000) {0.0000004,	(0.0000478)					
			0 0000000}						
0.0100000	(0.0100000,	0.0100000	(0.0100000,	0.0104000	UNIREP	1.0000000	0.0000000	24	0.0100000
	ò 0100000)	(0.0000000)	ò 0100000)	(0.0004000)					
			{0.0000000,						
			0.0000000}						
0.0102836	(0.0100000,	0.0102836	(0.0100000,	0.0101000	UNIREP	1.0000000	0.0100000	24	0.0100000
	0.0104379)	(0.0000000)	0.0104379)	(0.0001836)					
			{0.0000000,						
0.0111428	(0.0100000,	0.0111422	(0.0100000)	0.0111000	UNIREP	1.0000000	0.0200000	24	0.0100000
0.0111420	0.0117699)	(0.0000006)	0.0117699)	(0.0000428)	OWNE	1.000000	0.020000		0.010000
	"""	(3.333333)	{0.0000000,	(515555125)					
			0.00000000}						
0.0125988	(0.0100000,	0.0125988	(0.0100000,	0.0125000	UNIREP	1.0000000	0.0300000	24	0.0100000
	0.0140508)	(0.0000000)	0.0140506)	(0.0000988)					
			{0.0000000,						
0.0146010	(0.0100000	0.0146014	0.0000002}	0.0140000	LINIDED	1 000000	0.0400000	24	0.0100000
0.0146918	(0.0100000, 0.0173694)	0.0146914 (0.0000004)	(0.0100000, 0.0173693)	0.0140000 (0.0006918)	UNIREP	1.0000000	0.0400000	24	0.0100000
	0.0173094)	(0.0000004)	{0.0000000,	(0.0000918)					
			0 00000000}						
0.0174724	(0.0100000,	0.0174724	(0.0100000,	0.0156000	UNIREP	1.0000000	0.0500000	24	0.0100000
	0.0218484)	(0.0000000)	0.0218481)	(0.0018724)					
	,	,	{0.0000000,	,					
			0.0000003}						
0.0210076	(0.0100000,	0.0210074	(0.0100000,	0.0182000	UNIREP	1.0000000	0.0600000	24	0.0100000
	0.0276378)	(0.0000002)	0.0276378)	(0.0028076)					
			{0.0000000, 0.0000000}						
0.0253753	(0.0100000,	0.0253744	(0.0100000)	0.0231000	UNIREP	1.0000000	0.0700000	24	0.0100000
0.0200.00	0.0349136)	(0.0000010)	0.0349133)	(0.0022753)	3.1	1,000000			0,020000
	,	,	{0.000000ó,	,					
			0 0000003}						
0.0306619	(0.0100000,	0.0306618	(0.0100000,	0.0278000	UNIREP	1.0000000	0.0800000	24	0.0100000
	0.0438681)	(0.0000001)	0.0438681)	(0.0028619)					
			{0.0000000,						
0.0369672	(0.0100000,	0.0369668	0.0000000}	0.0349000	UNIREP	1.0000000	0.0900000	24	0.0100000
0.0309072	0.0547065)	(0.0000004)	0.0547063)	(0.0020672)	OMINER	1.000000	0.0900000	24	0.0100000
	0.0347003)	(0.0000004)	{0.0000000,	(0.0020072)					
			0.0000002}						
0.0443930	(0.0100000,	0.0443929	(0.0100000,	0.0412000	UNIREP	1.0000000	0.1000000	24	0.0100000
	0.0676352)	(0.0000000)	0.0676345)	(0.0031930)					
			{0.0000000,						
	(0.010000		0.0000007}		LINIDED	1 22222		1	
0.0530477	(0.0100000,	0.0530476	(0.0100000,	0.0509000	UNIREP	1.0000000	0.1100000	24	0.0100000
	0.0828515)	(0.0000002)	0.0828514)	(0.0021477)					
			0.00000000						
0.0630393	(0.0100000,	0.0630388	(0.0100000)	0.0600000	UNIREP	1.0000000	0.1200000	24	0.0100000
	0.1005384)	(0.0000005)	0.1005379)	(0.0030393)				'	1
		` ′	{0.0000000,	` '					
			0 0000005}						
0.0744722	(0.0100000,	0.0744721	(0.0100000,	0.0713000	UNIREP	1.0000000	0.1300000	24	0.0100000
	0.1208454)	(0.0000001)	0.1208453)	(0.0031722)					
			{0.0000000,						
			0.0000001}						





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0.0874473	(0.0100000,	0.0874471	(0.0100000,	0.0837000	UNIREP	1.0000000	0.1400000	24	0.0100000
	0.1438850)	(0.0000002)	0.1438847)	(0.0037473)					
			{0.0000000,						
0.10005	(0.0100111	0.10005	0.0000003}	0.000000	LINUSES		0.150000	1	0.020022
0.1020538	(0.0100000,	0.1020532	(0.0100000,	0.0982000	UNIREP	1.0000000	0.1500000	24	0.0100000
	0.1697172)	(0.0000005)	0.1697163)	(0.0038538)					
			{0.0000000,						
0.1100667	(0.010000	0.1100666	0.0000009}	0.1150000	LINIDED	1 000000	0.1600000		0.010000
0.1183667	(0.0100000,	0.1183666	(0.0100000,	0.1153000	UNIREP	1.0000000	0.1600000	24	0.0100000
	0.1983408)	(0.0000001)	0.1983406)	(0.0030667)					
			{0.0000000,						
0.1264461	(0.0100000	0.1264450	0.0000002}	0.1222000	UNIREP	1.000000	0.1700000	24	0.010000
0.1364461	(0.0100000,	0.1364459	(0.0100000,	0.1323000	UNIKEP	1.0000000	0.1700000	24	0.0100000
	0.2296913)	(0.0000002)	0.2296908)	(0.0041461)					
			{0.0000000,						
0.1563294	(0.0100000	0.1563289	0.0000005} (0.0100000,	0.1520000	UNIREP	1.0000000	0.1800000	24	0.0100000
0.1503294	(0.0100000,	(0.0000005)			UNIKEP	1.0000000	0.1000000	24	0.0100000
	0.2636290)	(0.0000003)	0.2636288)	(0.0043294)					
			{0.0000000,						
0.1780291	(0.0100000,	0.1780291	(0.0100000)	0.1749000	UNIREP	1.0000000	0.1900000	24	0.0100000
0.1700291	0.2999441)	(0.0000001)	0.2999437)	(0.0031291)	ONINE	1.000000	0.190000	24	0.0100000
	0.2999441)	(0.0000001)	{0.0000000,	(0.0031291)					
			0.0000003}						
0.2015335	(0.0100000,	0.2015333	(0.0100000)	0.1982000	UNIREP	1.0000000	0.2000000	24	0.0100000
0.2013333	0.3383544)	(0.0000002)	0.3383536)	(0.0033335)	OWNE	1.000000	0.200000	27	0.0100000
	0.5505544)	(0.0000002)	{0.0000000,	(0.0033333)					
			0.0000008}						
0.2268000	(0.0100000.	0.2267995	(0.0100000)	0.2282000	UNIREP	1.0000000	0.2100000	24	0.0100000
	0.3785113)	(0.0000005)	0.3785111)	(0.0014000)					
	,	(**************************************	{0.0000000,	(**************************************					
			0.0000002}						
0.2537552	(0.0100000,	0.2537551	(0.0100000,	0.2562000	UNIREP	1.0000000	0.2200000	24	0.0100000
	0.4200131)	(0.0000001)	0.4200126)	(0.0024448)					
	,	,	{0.000000ó,	,					
			0 0000005}						
0.2822973	(0.0100000,	0.2822971	(0.0100000,	0.2845000	UNIREP	1.0000000	0.2300000	24	0.0100000
	0.4624101)	(0.0000002)	0.4624100)	(0.0022027)					
		`	{0.0000000,	,					
			0 0000001}						
0.3122924	(0.0100000,	0.3122919	(0.0100000,	0.3145000	UNIREP	1.0000000	0.2400000	24	0.0100000
	0.5052255)	(0.0000004)	0.5052252)	(0.0022076)					
			{0.0000000,						
			0.0000003}						
0.3435774	(0.0100000,	0.3435773	(0.0100000,	0.3460000	UNIREP	1.0000000	0.2500000	24	0.0100000
	0.5479669)	(0.0000001)	0.5479664)	(0.0024226)					
			{0.0000000,						
			0.0000006}						
0.3759646	(0.0100000,	0.3759644	(0.0100000,	0.3815000	UNIREP	1.0000000	0.2600000	24	0.0100000
	0.5901447)	(0.0000002)	0.5901445)	(0.0055354)					
			{0.0000000,						
	(		0.0000002}						
0.4092416	(0.0100000,	0.4092412	(0.0100000,	0.4150000	UNIREP	1.0000000	0.2700000	24	0.0100000
	0.6312909)	(0.0000004)	0.6312905)	(0.0057584)					
			{0.0000000,						
0.4421772	(0.0100000	0.4401765	0.0000003}	0.4400000	LINIDED	1.000000	0.000000	0.4	0.0100000
0.4431773	(0.0100000,	0.4431765	(0.0100000,	0.4482000	UNIREP	1.0000000	0.2800000	24	0.0100000
	0.6709712)	(0.0000007)	0.6709706)	(0.0050227)					
			{0.0000000,						
0.4775252	(0.0100000	0.4775251	0.0000006}	0.4830000	UNIREP	1 0000000	0.2000000	24	0.0100000
0.4775252	(0.0100000,		(0.0100000,		UNIKEP	1.0000000	0.2900000	24	0.0100000
	0.7087998)	(0.0000002)	0.7087996)	(0.0054748)					
			{0.0000000,						
0 E120227	(0.0100000	0.5100304	0.0000002}	0.5151000	UNIREP	1.0000000	0.3000000	24	0.0100000
0.5120327	(0.0100000, 0.7444527)	(0.0000003)	(0.0100000,	(0.0030673)	UNIKEP	1.0000000	0.3000000	24	0.0100000
	0.7444527)	(0.0000003)	0.7444523)	(0.0030073)					
			{0.0000000,						
			0.0000004}						





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0.5464413	(0.0100000,	0.5464407	(0.0100000,	0.5507000	UNIREP	1.0000000	0.3100000	24	0.0100000
	0.7776712)	(0.0000006)	0.7776706)	(0.0042587)					
			{0.0000000,						
0.5004050	(0.010000	0.5004040	0.0000006}	0.5005000	LINIDED	1 000000	0.000000	2.4	0.0100000
0.5804950	(0.0100000,	0.5804949	(0.0100000,	0.5825000	UNIREP	1.0000000	0.3200000	24	0.0100000
	0.8082682)	(0.0000001)	0.8082680)	(0.0020050)					
			{0.0000000,						
0.6120.470	(0.0100000	0.6120475	0.0000002}	0.6145000	UNIREP	1.000,000	0.2200000	0.4	0.0100000
0.6139478	(0.0100000,	0.6139475	(0.0100000,	0.6145000	UNIKEP	1.0000000	0.3300000	24	0.0100000
	0.8361310)	(0.0000002)	0.8361307)	(0.0005522)					
			{0.0000000,						
0.6465654	(0.0100000,	0.6465649	0.0000003}	0.6437000	UNIREP	1.0000000	0.3400000	24	0.0100000
0.0405054	0.8612149)	(0.0000004)	0.8612144)	(0.0028654)	UNIKEP	1.0000000	0.3400000	24	0.0100000
	0.0012149)	(0.0000004)		(0.0028034)					
			{0.0000000, 0.0000006}						
0.6781323	(0.0100000,	0.6781316	(0.0100000)	0.6752000	UNIREP	1.0000000	0.3500000	24	0.0100000
0.0701323	0.8835399)	(0.0000007)	0.8835397)	(0.0029323)	ONINE	1.000000	0.330000	24	0.0100000
	0.0033399)	(0.0000007)		(0.0029323)					
			{0.0000000,						
0.7084547	(0.0100000,	0.7084545	(0.01000002)	0.7044000	UNIREP	1.0000000	0.3600000	24	0.0100000
0.7004547	0.9031849)	(0.0000002)	0.9031846)	(0.0040547)	ONINE	1.000000	0.300000	24	0.0100000
	0.9031049)	(0.0000002)	{0.0000000,	(0.0040347)					
			0.0000003}						
0.7373668	(0.0100000,	0.7373665	(0.0100000)	0.7331000	UNIREP	1.0000000	0.3700000	24	0.0100000
0.1313000	0.9202752)	(0.0000003)	0.9202747)	(0.0042668)	OWNE	1.000000	0.370000	27	0.010000
	0.9202132)	(0.0000003)	{0.0000000,	(0.0042000)					
			0.0000005}						
0.7647294	(0.0100000.	0.7647289	(0.0100000,	0.7590000	UNIREP	1.0000000	0.3800000	24	0.0100000
	0.9349741)	(0.0000005)	0.9349740)	(0.0057294)	3.1	1.000000	0,000000		0,020000
	3,33,131,127	(0.000000)	{0.00000000,	(0.000.20.)					
			0.0000001}						
0.7904330	(0.0100000,	0.7904328	(0.0100000,	0.7851000	UNIREP	1.0000000	0.3900000	24	0.0100000
	0.9474740)	(0.0000001)	0.9474737)	(0.0053330)					
		(**************************************	{0.0000000,	(**************************************					
			0.0000002}						
0.8144004	(0.0100000,	0.8144001	(0.0100000,	0.8093000	UNIREP	1.0000000	0.4000000	24	0.0100000
	0.9579832)	(0.0000002)	0.9579829)	(0.0051004)					
			{0.0000000,						
			0.0000003}						
0.8365832	(0.0100000,	0.8365829	(0.0100000,	0.8343000	UNIREP	1.0000000	0.4100000	24	0.0100000
	0.9667192)	(0.0000003)	0.9667187)	(0.0022832)					
			{0.0000000,						
			0 0000005}						
0.8569626	(0.0100000,	0.8569621	(0.0100000,	0.8553000	UNIREP	1.0000000	0.4200000	24	0.0100000
	0.9738986)	(0.0000005)	0.9738984)	(0.0016626)					
			{0.0000000,						
			0.0000002}						
0.8755463	(0.0100000,	0.8755462	(0.0100000,	0.8731000	UNIREP	1.0000000	0.4300000	24	0.0100000
	0.9797329)	(0.0000001)	0.9797327)	(0.0024463)					
			{0.0000000,						
			0.0000002}						
0.8923685	(0.0100000,	0.8923682	(0.0100000,	0.8887000	UNIREP	1.0000000	0.4400000	24	0.0100000
	0.9844206)	(0.0000002)	0.9844203)	(0.0036685)					
			{0.0000000,						
			0.0000003}						
0.9074833	(0.0100000,	0.9074830	(0.0100000,	0.9033000	UNIREP	1.0000000	0.4500000	24	0.0100000
	0.9881445)	(0.0000003)	0.9881441)	(0.0041833)					
			{0.0000000,						
	(0.01		0.0000004}		110115 = 5	1		1	
0.9209642	(0.0100000,	0.9209637	(0.0100000,	0.9186000	UNIREP	1.0000000	0.4600000	24	0.0100000
	0.9910692)	(0.0000005)	0.9910691)	(0.0023642)					
			{0.0000000,						
	1		0.0000001}		110115 = 5		<u> </u>		
	/0.0:		(0.0:						
0.9328986	(0.0100000,	0.9328985	(0.0100000,	0.9322000	UNIREP	1.0000000	0.4700000	24	0.0100000
0.9328986	(0.0100000, 0.9933410)	0.9328985 (0.0000001)	0 9933408)	0.9322000 (0.0006986)	UNIREP	1.0000000	0.4700000	24	0.0100000
0.9328986			1 '		UNIKEP	1.0000000	0.4700000	24	0.0100000





0.9433871	(0.0100000, 0.9950856)	0.9433869 (0.0000002)	(0.0100000, 0.9950854) {0.0000000, 0.0000002}	0.9422000 (0.0011871)	UNIREP	1.0000000	0.4800000	24	0.0100000
0.9525367	(0.0100000, 0.9964103)	0.9525364 (0.0000003)	(0.0100000, 0.9964100) {0.0000000, 0.0000003}	0.9519000 (0.0006367)	UNIREP	1.0000000	0.4900000	24	0.0100000
0.9604597	(0.0100000, 0.9974049)	0.9604594 (0.0000004)	(0.0100000, 0.9974046) {0.0000000, 0.0000003}	0.9599000 (0.0005597)	UNIREP	1.0000000	0.5000000	24	0.0100000
0.9672703	(0.0100000, 0.9981434)	0.9672698 (0.0000005)	(0.0100000, 0.9981430) {0.0000000, 0.0000003}	0.9675000 (0.0002297)	UNIREP	1.0000000	0.5100000	24	0.0100000
0.9730812	(0.0100000, 0.9986852)	0.9730810 (0.0000001)	(0.0100000, 0.9986851) {0.0000000, 0.0000001}	0.9729000 (0.0001812)	UNIREP	1.0000000	0.5200000	24	0.0100000
0.9780035	(0.0100000, 0.9990787)	0.9780033 (0.0000002)	(0.0100000, 0.9990786) {0.0000000, 0.0000001}	0.9783000 (0.0002965)	UNIREP	1.0000000	0.5300000	24	0.0100000
0.9821423	(0.0100000, 0.9993612)	0.9821420 (0.0000003)	(0.0100000, 0.9993611) {0.0000000, 0.0000001}	0.9822000 (0.0000577)	UNIREP	1.0000000	0.5400000	24	0.0100000
0.9855968	(0.0100000, 0.9995617)	0.9855965 (0.0000003)	(0.0100000, 0.9995616) {0.0000000, 0.0000001}	0.9849000 (0.0006968)	UNIREP	1.0000000	0.5500000	24	0.0100000
0.9884592	(0.0100000, 0.9997024)	0.9884588 (0.0000004)	(0.0100000, 0.9997023) {0.0000000, 0.0000002}	0.9884000 (0.0000592)	UNIREP	1.0000000	0.5600000	24	0.0100000
0.9908132	(0.0100000, 0.9998001)	0.9908130 (0.0000001)	(0.0100000, 0.9998000) {0.0000000, 0.0000002}	0.9900000 (0.0008132)	UNIREP	1.0000000	0.5700000	24	0.0100000
0.9927355	(0.0100000, 0.9998671)	0.9927353 (0.0000002)	(0.0100000, 0.9998670) {0.0000000, 0.0000001}	0.9920000 (0.0007355)	UNIREP	1.0000000	0.5800000	24	0.0100000
0.9942936	(0.0100000, 0.9999126)	0.9942934 (0.0000002)	(0.0100000, 0.9999125) {0.0000000, 0.0000001}	0.9939000 (0.0003936)	UNIREP	1.0000000	0.5900000	24	0.0100000
0.9955473	(0.0100000, 0.9999432)	0.9955471 (0.0000002)	(0.0100000, 0.9999430) {0.0000000, 0.0000001}	0.9952000 (0.0003473)	UNIREP	1.0000000	0.6000000	24	0.0100000
0.9965488	(0.0100000, 0.9999634)	0.9965485 (0.0000003)	(0.0100000, 0.9999633) {0.0000000, 0.0000000}	0.9962000 (0.0003488)	UNIREP	1.0000000	0.6100000	24	0.0100000
0.9973429	(0.0100000, 0.9999767)	0.9973426 (0.0000003)	(0.0100000, 0.9999766) {0.0000000, 0.0000000}	0.9972000 (0.0001429)	UNIREP	1.0000000	0.6200000	24	0.0100000
0.9979681	(0.0100000, 0.9999853)	0.9979677 (0.0000003)	(0.0100000, 0.9999853) {0.0000000, 0.0000000}	0.9978000 (0.0001681)	UNIREP	1.0000000	0.6300000	24	0.0100000
0.9984563	(0.0100000, 0.9999908)	0.9984562 (0.0000001)	(0.0100000, 0.9999908) {0.0000000, 0.0000000}	0.9989000 (0.0004437)	UNIREP	1.0000000	0.6400000	24	0.0100000





1.0000000)

(0.0100000,

1.0000000)

0.9999522

(0.0000001)

0.9999521

(0.0000001)

1.0000000) {0.0000000, 0.0000000}

(0.0100000,

1.000000)

{0.0000000, 0.0000000}

0.9988353	(0.0100000,	0.9988352	(0.0100000,	0.9992000	UNIREP	1.0000000	0.6500000	24	0.0100000
	0.9999943)	(0.0000001)	0.9999943)	(0.0003647)					
	,	,	{0.00000000,	,					
			0.0000000}						
0.9991272	(0.0100000,	0.9991271	(0.0100000,	0.9995000	UNIREP	1.0000000	0.6600000	24	0.0100000
	0.9999966)	(0.0000001)	0.9999965)	(0.0003728)					
			{0.0000000,						
			0.0000000}						
0.9993504	(0.0100000,	0.9993503	(0.0100000,	0.9995000	UNIREP	1.0000000	0.6700000	24	0.0100000
	0.9999979)	(0.0000001)	0.9999979)	(0.0001496)					
			{0.0000000,						
	(0.010000		0.0000000}		LINIDED	1			
0.9995198	(0.0100000,	0.9995196	(0.0100000,	0.9995000	UNIREP	1.0000000	0.6800000	24	0.0100000
	0.9999988)	(0.0000001)	0.9999987)	(0.0000198)					
			{0.0000000,						
0.0006.474	(0.0100000	0.9996473	0.0000000}	0.0006000	UNIREP	1.0000000	0.6900000	24	0.0100000
0.9996474	(0.0100000, 0.9999993)		(0.0100000, 0.9999993)	0.9996000	UNIKEP	1.0000000	0.6900000	24	0.0100000
	0.9999993)	(0.0000002)	{0.0000000,	(0.0000474)					
			0.00000000						
0.9997429	(0.0100000,	0.9997428	(0.0100000)	0.9997000	UNIREP	1.0000000	0.7000000	24	0.0100000
0.9991429	0.9999996)	(0.0000002)	0.9999996)	(0.0000429)	ONINE	1.0000000	0.700000	24	0.0100000
	0.5555550)	(0.0000002)	{0.0000000,	(0.0000429)					
			0.00000000}						
0.9998138	(0.0100000,	0.9998137	(0.0100000,	0.9998000	UNIREP	1.0000000	0.7100000	24	0.0100000
	0.9999998)	(0.0000002)	0.9999997)	(0.0000138)					
		(**************************************	{0.0000000,	(**************************************					
			0.00000000}						
0.9998661	(0.0100000,	0.9998660	(0.0100000,	0.9999000	UNIREP	1.0000000	0.7200000	24	0.0100000
	0.9999999)	(0.0000001)	0.9999999)	(0.0000339)					
			{0.0000000,						
			0.0000000}						
0.9999044	(0.0100000,	0.9999042	(0.0100000,	0.9999000	UNIREP	1.0000000	0.7300000	24	0.0100000
	0.9999999)	(0.0000001)	0.9999999)	(0.0000044)					
			{0.0000000,						
			0.0000000}						
0.9999322	(0.0100000,	0.9999320	(0 0100000,	0.9999000	UNIREP	1.0000000	0.7400000	24	0.0100000

## References

UNIREP

1.0000000

0.7500000

24

(0.0000322)

1.0000000

(0.0000478)

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0.0100000