

Simulated

$X_1, X_2, X_3, X_4$  fixed range [0;5]  $N = 1,296 (=6^4)$

$$Y = 1 + X_1 + X_2 + X_3 + X_4 + N(0;1)$$

x1	x2	x3	x4	y
0	0	0	0	1,8725352
0	0	0	1	1,08959839
0	0	0	2	5,00916041
...				
5	5	5	3	18,1140679
5	5	5	4	19,6441862
5	5	5	5	21,9498451

**Spearman:**

			x1	x2	x3	x4	y
Spearman's rho	x1	Correlation Coefficient	1,000				
		Sig. (2-tailed)	.				
		N	1296				
	x2	Correlation Coefficient	,000	1,000			
		Sig. (2-tailed)	1,000	.			
		N	1296	1296			
	x3	Correlation Coefficient	,000	,000	1,000		
		Sig. (2-tailed)	1,000	1,000	.		
		N	1296	1296	1296		
	x4	Correlation Coefficient	,000	,000	,000	1,000	
		Sig. (2-tailed)	1,000	1,000	1,000	.	
		N	1296	1296	1296	1296	
y		Correlation Coefficient	,478(**)	,461(**)	,472(**)	,480(**)	1,000
		Sig. (2-tailed)	,000	,000	,000	,000	.
		N	1296	1296	1296	1296	1296

\*\* Correlation is significant at the 0.01 level (2-tailed).

**Multiple Regression (Enter):**

**Adjusted R square = 0.923**

**Coefficients<sup>a</sup>**

Model	Unstandardized B	Standardized Coefficients Beta	Sig.	95% Confidence Interval for B		Collinearity Statistics	
				Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	1,011		,000	,844	1,178		
x1	1,017	,488	,000	,986	1,049	1,000	1,000
x2	,978	,469	,000	,947	1,010	1,000	1,000
x3	,997	,479	,000	,966	1,029	1,000	1,000
x4	1,012	,485	,000	,980	1,043	1,000	1,000

a. Dependent Variable: y

Simulated

$X_1, X_2, X_3, X_4$  fixed range [0;5]  $N = 1,296 (=6^4)$

$$Y = 1 + X_1 + X_2 + X_3 + X_4 + N(0;1)$$

Where

$$X_3 = 1 + X_1 + N(0,1)$$

x1	x2	x3	x4	y
0	0	1,560104418	0	2,23242041
0	0	-0,296374822	1	2,614970419
0	0	-1,55097106	2	1,293248225
...				
5	5	5,349495955	3	20,54857305
5	5	5,752297594	4	21,02320841
5	5	7,231142897	5	21,89462109

Spearman:

			x1	x2	x3	x4	y
Spearman's rho	x1	Correlation Coefficient	1,000				
		Sig. (2-tailed)	.				
		N	1296				
	x2	Correlation Coefficient	,000	1,000			
		Sig. (2-tailed)	1,000	.			
		N	1296	1296			
	x3	Correlation Coefficient	,878(**)	,009	1,000		
		Sig. (2-tailed)	,000	,755	.		
		N	1296	1296	1296		
	x4	Correlation Coefficient	,000	,000	,014	1,000	
		Sig. (2-tailed)	1,000	1,000	,621	.	
		N	1296	1296	1296	1296	
y		Correlation Coefficient	,782(**)	,365(**)	,795(**)	,379(**)	1,000
		Sig. (2-tailed)	,000	,000	,000	,000	.
		N	1296	1296	1296	1296	1296

\*\* Correlation is significant at the 0.01 level (2-tailed).

**Multiple Regression (Enter)**

**Coefficients<sup>a</sup>**

Model		Unstandardized	Standardized	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Beta		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1,018		,000	,859	1,177		
	x1	1,019	,390	,000	,953	1,084	,246	4,058
	x2	,991	,380	,000	,959	1,024	1,000	1,000
	x3	,982	,441	,000	,927	1,038	,246	4,059
	x4	1,015	,389	,000	,983	1,048	,999	1,001

a. Dependent Variable: y

**Multiple Regression (Forward)**

**Coefficients<sup>a</sup>**

Model		Unstandardized	Standardized	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Beta		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	5,884		,000	5,583	6,186		
	x3	1,753	,787	,000	1,678	1,828	1,000	1,000
2	(Constant)	3,405		,000	3,115	3,695		
	x3	1,743	,783	,000	1,685	1,802	1,000	1,000
	x4	1,005	,385	,000	,937	1,074	1,000	1,000
3	(Constant)	,966		,000	,757	1,175		
	x3	1,737	,780	,000	1,700	1,773	1,000	1,000
	x4	1,005	,385	,000	,963	1,048	1,000	1,000
	x2	,984	,377	,000	,942	1,027	1,000	1,000
4	(Constant)	1,018		,000	,859	1,177		
	x3	,982	,441	,000	,927	1,038	,246	4,059
	x4	1,015	,389	,000	,983	1,048	,999	1,001
	x2	,991	,380	,000	,959	1,024	1,000	1,000
	x1	1,019	,390	,000	,953	1,084	,246	4,058

a. Dependent Variable: y

**Multiple Regression (Enter  $X_1, X_2, X_4$ )**

**Adjusted R square = 0.895**

**Coefficients<sup>a</sup>**

Model		Unstandardized	Standardized	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Beta		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1,903		,000	1,694	2,112		
	x1	2,018	,773	,000	1,973	2,063	1,000	1,000
	x2	1,000	,383	,000	,955	1,045	1,000	1,000
	x4	1,028	,394	,000	,983	1,073	1,000	1,000

a. Dependent Variable: y

Simulated

$X_1, X_2, X_3, X_4$  fixed range [0;5]  $N = 1,296 (=6^4)$

$$Y = 1 + X_1 + X_2 + X_3 + X_4 + N(0;1)$$

Where

$$X_3 = 1 + X_1 + X_2 + N(0,1)$$

x1	x2	x3	x4	y
0	0	1,071150489	0	3,29409761
0	0	1,673162131	1	3,149892831
0	0	2,450107401	2	5,776998647
...				
5	5	10,2483116	3	22,90724079
5	5	8,705509301	4	22,76532142
5	5	8,41168158	5	24,63090058

**Spearman:**

			x1	x2	x3	x4	y
Spearman's rho	x1	Correlation Coefficient	1,000				
		Sig. (2-tailed)	.				
		N	1296				
	x2	Correlation Coefficient	,000	1,000			
		Sig. (2-tailed)	1,000	.			
		N	1296	1296			
	x3	Correlation Coefficient	,662(**)	,637(**)	1,000		
		Sig. (2-tailed)	,000	,000	.		
		N	1296	1296	1296		
	x4	Correlation Coefficient	,000	,000	-,011	1,000	
		Sig. (2-tailed)	1,000	1,000	,682	.	
		N	1296	1296	1296	1296	
	y	Correlation Coefficient	,650(**)	,633(**)	,909(**)	,297(**)	1,000
		Sig. (2-tailed)	,000	,000	,000	,000	.
		N	1296	1296	1296	1296	1296

\*\* Correlation is significant at the 0.01 level (2-tailed).

**Multiple Regression (Enter)**

**Coefficients<sup>a</sup>**

Model	Unstandardized B	Standardized Coefficients Beta	Sig.	95% Confidence Interval for B		Collinearity Statistics	
				Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	,995		,000	,837	1,153		
x1	1,041	,334	,000	,978	1,104	,251	3,984
x2	1,021	,328	,000	,959	1,083	,262	3,821
x3	,982	,483	,000	,929	1,036	,147	6,805
x4	,979	,314	,000	,948	1,011	,999	1,001

a. Dependent Variable: y

**Multiple Regression (Forward)**

**Coefficients<sup>a</sup>**

Model	Unstandardized B	Standardized Coefficients Beta	Sig.	95% Confidence Interval for B		Collinearity Statistics	
				Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	3,332		,000	3,033	3,631		
x3	1,857	,912	,000	1,812	1,903	1,000	1,000
2 (Constant)	,817		,000	,598	1,035		
x3	1,863	,915	,000	1,834	1,892	1,000	1,000
x4	,992	,318	,000	,948	1,036	1,000	1,000
3 (Constant)	,830		,000	,618	1,042		
x3	1,753	,861	,000	1,716	1,789	,585	1,708
x4	,990	,318	,000	,948	1,033	1,000	1,000
x2	,263	,084	,000	,207	,318	,585	1,708
4 (Constant)	,995		,000	,837	1,153		
x3	,982	,483	,000	,929	1,036	,147	6,805
x4	,979	,314	,000	,948	1,011	,999	1,001
x2	1,021	,328	,000	,959	1,083	,262	3,821
x1	1,041	,334	,000	,978	1,104	,251	3,984

a. Dependent Variable: y

**Multiple Regression (Enter  $X_1, X_2, X_4$ )**

**Adjusted R square = 0.931**

**Coefficients<sup>a</sup>**

Model	Unstandardized B	Standardized Coefficients Beta	Sig.	95% Confidence Interval for B		Collinearity Statistics	
				Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	2,039		,000	1,832	2,246		
x1	2,036	,654	,000	1,992	2,081	1,000	1,000
x2	1,988	,638	,000	1,944	2,033	1,000	1,000
x4	,965	,310	,000	,921	1,010	1,000	1,000

a. Dependent Variable: y

Simulated

$X_1, X_2, X_3, X_4$  fixed range [0;5]  $N = 1,296 (=6^4)$

$$Y = 1 + X_1 + X_2 + X_3 + X_4 + N(0;1)$$

Where

$$X_3 = 1 + 10 X_1^6 + 10 \exp(-X_2) + N(0,1)$$

x1	x2	x3	x4	y
0	0	9,398649486	0	10,07649531
0	0	11,42016329	1	13,66498664
0	0	10,76170782	2	14,25730352
...				
5	5	156251,023	3	156264,9439
5	5	156248,2096	4	156263,86
5	5	156251,5855	5	156267,1913

**Pearson:**

		x1	x2	x3	x4	y
x1	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	1296				
x2	Pearson Correlation	,000	1			
	Sig. (2-tailed)	1,000				
	N	1296	1296			
x3	Pearson Correlation	,787(**)	,000	1		
	Sig. (2-tailed)	,000	,998			
	N	1296	1296	1296		
x4	Pearson Correlation	,000	,000	,000	1	
	Sig. (2-tailed)	1,000	1,000	1,000		
	N	1296	1296	1296	1296	
y	Pearson Correlation	,787(**)	,000	1,000(**)	,000	1
	Sig. (2-tailed)	,000	,999	,000	,999	
	N	1296	1296	1296	1296	1296

\*\* Correlation is significant at the 0.01 level (2-tailed).

**Spearman:**

		x1	x2	x3	x4	y	
Spearman's rho	x1	Correlation Coefficient	1,000				
		Sig. (2-tailed)	.				
		N	1296				
	x2	Correlation Coefficient	,000	1,000			
		Sig. (2-tailed)	1,000	.			
		N	1296	1296			
	x3	Correlation Coefficient	,984(**)	-,144(**)	1,000		
		Sig. (2-tailed)	,000	,000	.		
		N	1296	1296	1296		
	x4	Correlation Coefficient	,000	,000	,001	1,000	
		Sig. (2-tailed)	1,000	1,000	,981	.	
		N	1296	1296	1296	1296	
	y	Correlation Coefficient	,986(**)	-,060(*)	,987(**)	,099(**)	1,000
		Sig. (2-tailed)	,000	,031	,000	,000	.
		N	1296	1296	1296	1296	1296

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

**Multiple Regression (Enter)**

**Coefficients<sup>a</sup>**

Model		Unstandardized	Standardized	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Beta		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1,093		,000	,942	1,244		
	x1	,985	,000	,000	,935	1,035	,381	2,627
	x2	,968	,000	,000	,937	,999	1,000	1,000
	x3	1,000	1,000	,000	1,000	1,000	,381	2,627
	x4	1,013	,000	,000	,982	1,044	1,000	1,000

a. Dependent Variable: y

**Multiple Regression (Forward)**

**Coefficients<sup>a</sup>**

Model		Unstandardized	Standardized	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Beta		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	7,705		,000	7,528	7,883		
	x3	1,000	1,000	,000	1,000	1,000	1,000	1,000
2	(Constant)	5,173		,000	4,951	5,396		
	x3	1,000	1,000	,000	1,000	1,000	1,000	1,000
	x4	1,013	,000	,000	,943	1,082	1,000	1,000
3	(Constant)	2,754		,000	2,570	2,938		
	x3	1,000	1,000	,000	1,000	1,000	1,000	1,000
	x4	1,013	,000	,000	,968	1,058	1,000	1,000
	x2	,968	,000	,000	,923	1,013	1,000	1,000
4	(Constant)	1,093		,000	,942	1,244		
	x3	1,000	1,000	,000	1,000	1,000	,381	2,627
	x4	1,013	,000	,000	,982	1,044	1,000	1,000
	x2	,968	,000	,000	,937	,999	1,000	1,000
	x1	,985	,000	,000	,935	1,035	,381	2,627

a. Dependent Variable: y

**Multiple Regression (Enter  $X_2, X_3, X_4$ )**

**Adjusted R square = 1.000**

**Coefficients<sup>a</sup>**

Model	Unstanda rdized	Standardized Coefficients	Sig.	95% Confidence Interval for B		Collinearity Statistics			
				B	Beta	Lower Bound	Upper Bound	Tolerance	VIF
				1	(Constant)	2,754		,000	2,570
	x2	,968	,000	,000	,923	1,013	1,000	1,000	
	x3	1,000	1,000	,000	1,000	1,000	1,000	1,000	
	x4	1,013	,000	,000	,968	1,058	1,000	1,000	

a. Dependent Variable: y

**Multiple Regression (Enter  $X_1, X_3, X_4$ )**

**Adjusted R square = 1.000**

**Coefficients<sup>a</sup>**

Model	Unstanda rdized	Standardized Coefficients	Sig.	95% Confidence Interval for B		Collinearity Statistics			
				B	Beta	Lower Bound	Upper Bound	Tolerance	VIF
				1	(Constant)	3,512		,000	3,255
	x1	,985	,000	,000	,886	1,084	,381	2,627	
	x3	1,000	1,000	,000	1,000	1,000	,381	2,627	
	x4	1,013	,000	,000	,952	1,074	1,000	1,000	

a. Dependent Variable: y

**Multiple Regression (Enter  $X_3, X_4$ )**

**Adjusted R square = 1.000**

**Coefficients<sup>a</sup>**

Model	Unstanda rdized	Standardized Coefficients	Sig.	95% Confidence Interval for B		Collinearity Statistics			
				B	Beta	Lower Bound	Upper Bound	Tolerance	VIF
				1	(Constant)	5,173		,000	4,951
	x3	1,000	1,000	,000	1,000	1,000	1,000	1,000	
	x4	1,013	,000	,000	,943	1,082	1,000	1,000	

a. Dependent Variable: y