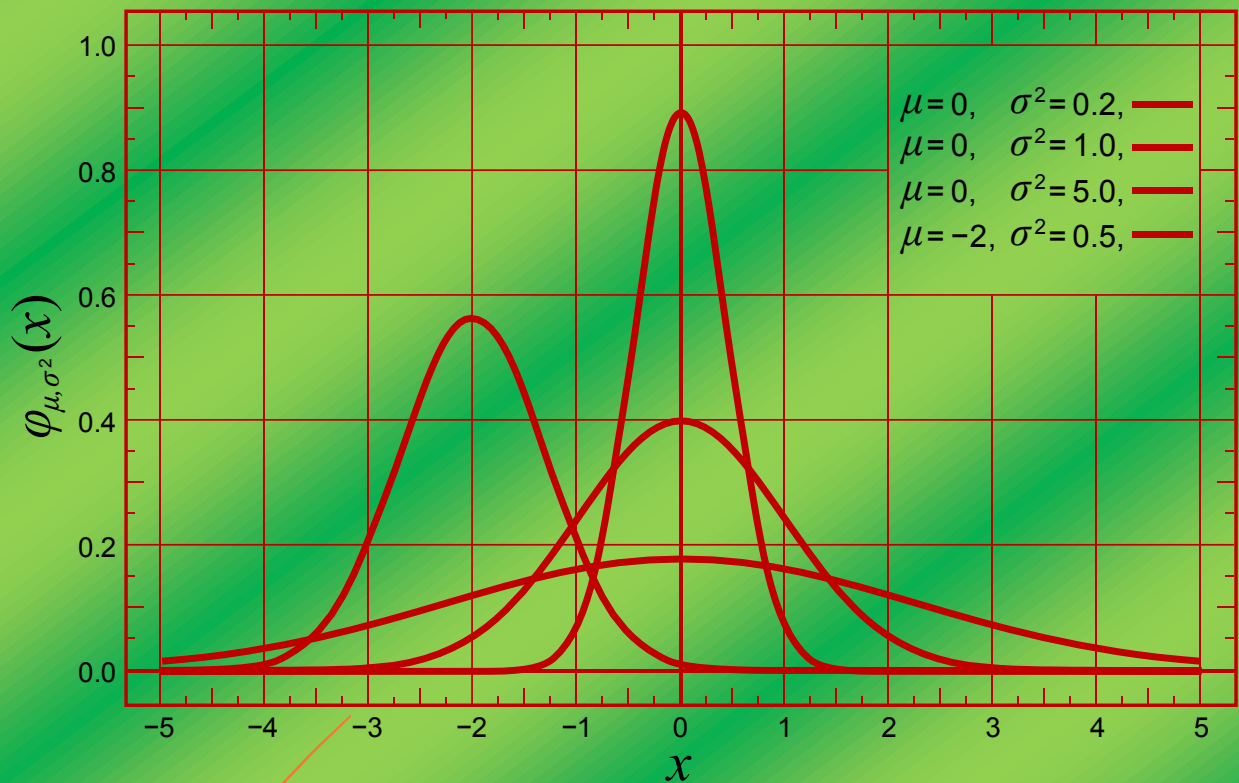


SPSS Practical Manual on Correlation Coefficients



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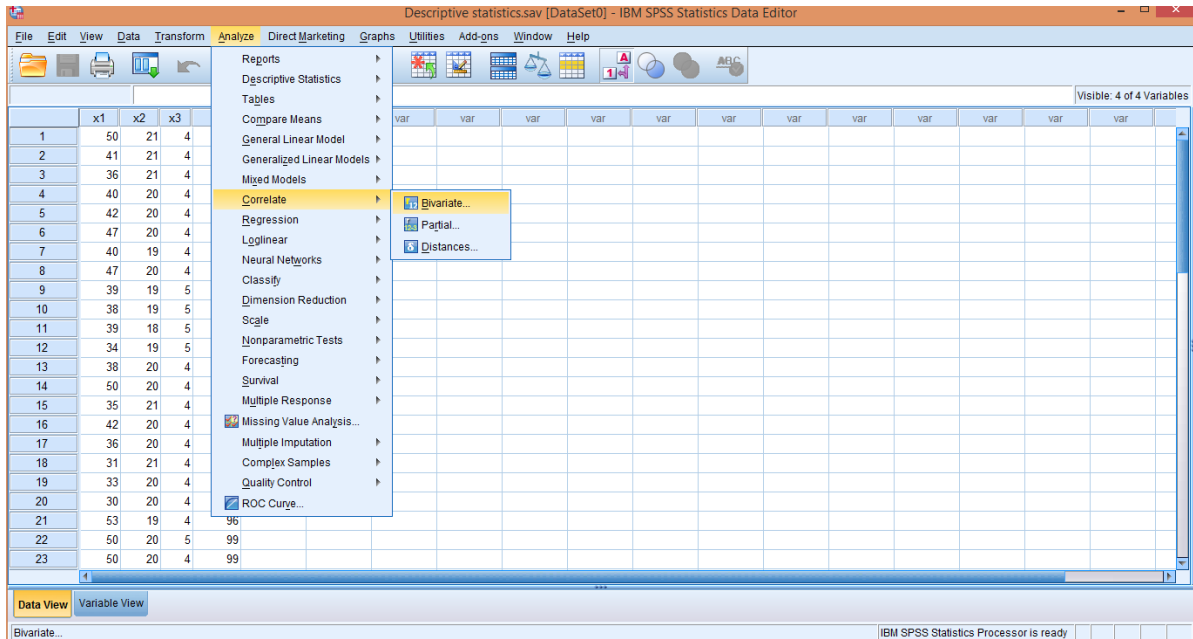
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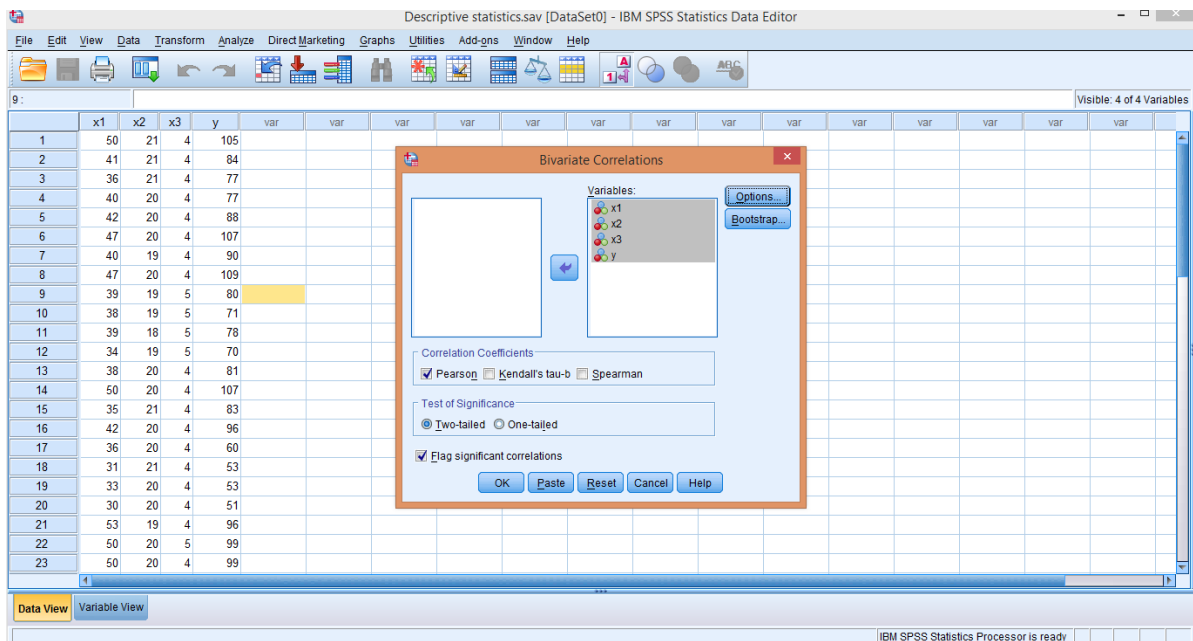
Example: Find the Correlation Coefficients for the given data set?

x1	x2	x3	y
50.20	20.50	3.90	104.90
41.40	20.60	4.00	84.30
36.20	20.50	3.80	77.00
39.80	19.60	3.90	76.50
41.80	19.50	3.70	88.00
47.20	20.10	3.60	106.50
39.60	19.30	3.60	89.80
46.60	20.10	3.70	108.70
39.20	19.00	4.50	80.00
37.60	18.50	4.60	71.30
38.80	18.10	4.60	77.50
33.60	19.30	4.70	69.50
37.80	20.00	4.30	80.80
49.60	20.30	4.40	106.50
35.40	20.60	4.20	83.30
41.80	20.30	4.30	95.90
35.60	20.00	4.10	60.00
31.40	20.80	4.00	52.50
33.20	20.30	4.20	53.00
29.80	19.90	4.10	51.00
53.40	19.20	4.20	96.40
50.20	19.50	4.50	98.80
49.60	20.30	4.30	99.10
57.80	19.90	4.50	107.20
43.80	19.50	4.30	91.40
46.80	20.40	4.30	99.70
41.40	20.70	4.20	83.30
43.60	20.30	4.30	89.50
50.60	19.70	4.20	91.80
47.80	19.80	4.00	84.80
41.80	20.10	4.30	70.00
46.80	20.50	4.10	81.50

Correlation Analysis:
Step 1: Correlate → Bivariate



Step 2: → Bivariate Correlations → select variables → Flag significant correlations →OK



Output:

		Correlations			
		x1	x2	x3	y
x1	Pearson Correlation	1	.021	.022	.851**
	Sig. (2-tailed)		.909	.903	.000
	N	32	32	32	32
x2	Pearson Correlation	.021	1	-.362*	.058
	Sig. (2-tailed)	.909		.042	.753
	N	32	32	32	32
x3	Pearson Correlation	.022	-.362*	1	-.111
	Sig. (2-tailed)	.903	.042		.546
	N	32	32	32	32
y	Pearson Correlation	.851**	.058	-.111	1
	Sig. (2-tailed)	.000	.753	.546	
	N	32	32	32	32

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

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

* figures highlighted with yellow colour are significantly correlated.

Do Yourself

Find the Correlation Coefficient for the following data:

pH	EC	CEC	Porosity	Sand	Silt	Clay	LR
4.10	0.16	11.80	50.80	25.40	28.30	14.60	11.87
4.80	0.28	13.80	55.40	51.50	54.40	21.00	16.70
4.48	0.23	12.94	52.90	33.70	48.20	17.90	14.48
4.13	0.12	10.90	49.70	23.00	31.00	14.80	14.45
4.50	0.28	13.90	58.60	48.00	56.90	26.60	19.60
4.34	0.20	11.84	52.90	35.50	45.10	19.30	16.90
4.63	0.10	11.70	56.50	20.00	23.00	16.30	11.82
4.99	0.17	13.10	59.40	52.00	57.40	28.20	14.86
4.80	0.14	12.42	57.40	34.70	42.50	22.50	13.00
4.04	0.14	10.70	53.10	29.60	16.00	15.70	15.55
4.83	0.20	11.20	54.70	50.00	49.00	36.80	18.98
4.38	0.16	10.96	54.00	40.50	36.60	22.50	17.20
4.26	0.15	10.90	51.40	32.30	23.60	13.00	12.00
5.04	0.20	11.50	55.80	51.20	45.50	30.80	15.39
4.55	0.17	11.22	53.90	42.20	34.80	22.70	13.50

Reference Books:

1. A Hand Book of Agricultural Statistics, S. R. S. Chandel, Achal Prakashan Mandir, Kanpur.
2. A Text book of Agricultural Statistics, R. Rangaswamy, New Age International (P) Limited, publishers.
3. Biometrical Methods in Quantitative Genetic Analysis, R.K. Singh and B. D. Chaudhary, Kalyani Publishers.
4. Design Resources Server: www.iasri.res.in E-Manual Winter School IASRI.
5. Fundamentals of Mathematical Statistics, S.C. Gupta and V.K. Kapoor, Sultan Chand & Sons Educational Publications.
6. Fundamentals Applied Statistics, S.C. Gupta and V.K. Kapoor, Sultan Chand & Sons Educational Publications.
7. Programmed Statistics, B.L. Agarwal, New Age International (P) Limited, publishers.
8. Probability and Statistical Inference Theory and Practice, D. Bhattacharya and S. Roy Chowdhury, U. N. Dhur & Sons.
9. Statistics Theory and Practice, D. Bhattacharya and S. Roy Chowdhury, U. N. Dhur & Sons.
10. Statistical Methods, K.P. Dhamu and K. Ramamoorthy, AGROBIOS (INDIA).
11. Statistics for Agricultural Sciences, G. Nageswara Rao, Second Edition, BS Publications, Hyderabad.

