data wide\_lead;

input ID TRT $ PB1 - PB4;

datalines;

1 P 30.8 26.9 25.8 23.8

2 A 26.5 14.8 19.5 21.0

3 A 25.8 23.0 19.1 23.2

…

98 A 29.4 22.1 25.3 4.1

99 A 21.9 7.6 10.8 13.0

100 A 20.7 8.1 25.7 12.3

;

run;

Proc corr data = wide\_lead cov pearson;

Var PB1 PB2 PB3 PB4;

Run;

**The CORR Procedure**

|  |  |
| --- | --- |
| **4 Variables:** | PB1 PB2 PB3 PB4 |

| **Covariance Matrix, DF = 99** | | | | |
| --- | --- | --- | --- | --- |
|  | **PB1** | **PB2** | **PB3** | **PB4** |
| **PB1** | 24.98905455 | 18.16066061 | 18.92146263 | 21.78219798 |
| **PB2** | 18.16066061 | 75.22486768 | 59.24103838 | 37.48690505 |
| **PB3** | 18.92146263 | 59.24103838 | 65.38538990 | 36.54235556 |
| **PB4** | 21.78219798 | 37.48690505 | 36.54235556 | 60.15897374 |

| **Simple Statistics** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **N** | **Mean** | **Std Dev** | **Sum** | **Minimum** | **Maximum** |
| **PB1** | 100 | 26.40600 | 4.99891 | 2641 | 19.70000 | 41.10000 |
| **PB2** | 100 | 19.09100 | 8.67323 | 1909 | 2.80000 | 40.80000 |
| **PB3** | 100 | 19.79200 | 8.08612 | 1979 | 3.00000 | 40.40000 |
| **PB4** | 100 | 22.20400 | 7.75622 | 2220 | 4.10000 | 63.90000 |

| **Pearson Correlation Coefficients, N = 100 Prob > |r| under H0: Rho=0** | | | | |
| --- | --- | --- | --- | --- |
|  | **PB1** | **PB2** | **PB3** | **PB4** |
| **PB1** | 1.00000 | 0.41887  <.0001 | 0.46810  <.0001 | 0.56179  <.0001 |
| **PB2** | 0.41887  <.0001 | 1.00000 | 0.84470  <.0001 | 0.55725  <.0001 |
| **PB3** | 0.46810  <.0001 | 0.84470  <.0001 | 1.00000 | 0.58265  <.0001 |
| **PB4** | 0.56179  <.0001 | 0.55725  <.0001 | 0.58265  <.0001 | 1.00000 |

**proc sort data = wide\_lead;**

**by trt;**

**run;**

**Proc corr data = wide\_lead cov pearson;**

**by trt;**

**Var PB1 PB2 PB3 PB4;**

**Run;**

**The CORR Procedure**

**TRT=A**

|  |  |
| --- | --- |
| **4 Variables:** | PB1 PB2 PB3 PB4 |

| **Covariance Matrix, DF = 49** | | | | |
| --- | --- | --- | --- | --- |
|  | **PB1** | **PB2** | **PB3** | **PB4** |
| **PB1** | 25.20979592 | 15.46542857 | 15.13800000 | 22.98542857 |
| **PB2** | 15.46542857 | 58.86705714 | 44.02907347 | 35.96595510 |
| **PB3** | 15.13800000 | 44.02907347 | 61.65714694 | 33.02197143 |
| **PB4** | 22.98542857 | 35.96595510 | 33.02197143 | 85.49464898 |

| **Simple Statistics** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **N** | **Mean** | **Std Dev** | **Sum** | **Minimum** | **Maximum** |
| **PB1** | 50 | 26.54000 | 5.02094 | 1327 | 19.70000 | 41.10000 |
| **PB2** | 50 | 13.52200 | 7.67249 | 676.10000 | 2.80000 | 39.00000 |
| **PB3** | 50 | 15.51400 | 7.85221 | 775.70000 | 3.00000 | 40.40000 |
| **PB4** | 50 | 20.76200 | 9.24633 | 1038 | 4.10000 | 63.90000 |

| **Pearson Correlation Coefficients, N = 50 Prob > |r| under H0: Rho=0** | | | | |
| --- | --- | --- | --- | --- |
|  | **PB1** | **PB2** | **PB3** | **PB4** |
| **PB1** | 1.00000 | 0.40146  0.0039 | 0.38397  0.0059 | 0.49511  0.0003 |
| **PB2** | 0.40146  0.0039 | 1.00000 | 0.73082  <.0001 | 0.50697  0.0002 |
| **PB3** | 0.38397  0.0059 | 0.73082  <.0001 | 1.00000 | 0.45482  0.0009 |
| **PB4** | 0.49511  0.0003 | 0.50697  0.0002 | 0.45482  0.0009 | 1.00000 |

**The CORR Procedure**

**TRT=P**

|  |  |
| --- | --- |
| **4 Variables:** | PB1 PB2 PB3 PB4 |

| **Covariance Matrix, DF = 49** | | | | |
| --- | --- | --- | --- | --- |
|  | **PB1** | **PB2** | **PB3** | **PB4** |
| **PB1** | 25.24164898 | 22.74946939 | 24.26097959 | 21.41784490 |
| **PB2** | 22.74946939 | 29.82448980 | 27.04122449 | 23.38412245 |
| **PB3** | 24.26097959 | 27.04122449 | 33.09846939 | 28.21895918 |
| **PB4** | 21.41784490 | 23.38412245 | 28.21895918 | 31.80743265 |

| **Simple Statistics** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **N** | **Mean** | **Std Dev** | **Sum** | **Minimum** | **Maximum** |
| **PB1** | 50 | 26.27200 | 5.02411 | 1314 | 19.70000 | 38.10000 |
| **PB2** | 50 | 24.66000 | 5.46118 | 1233 | 14.90000 | 40.80000 |
| **PB3** | 50 | 24.07000 | 5.75313 | 1204 | 15.30000 | 38.60000 |
| **PB4** | 50 | 23.64600 | 5.63981 | 1182 | 13.50000 | 43.30000 |

| **Pearson Correlation Coefficients, N = 50 Prob > |r| under H0: Rho=0** | | | | |
| --- | --- | --- | --- | --- |
|  | **PB1** | **PB2** | **PB3** | **PB4** |
| **PB1** | 1.00000 | 0.82914  <.0001 | 0.83935  <.0001 | 0.75588  <.0001 |
| **PB2** | 0.82914  <.0001 | 1.00000 | 0.86067  <.0001 | 0.75922  <.0001 |
| **PB3** | 0.83935  <.0001 | 0.86067  <.0001 | 1.00000 | 0.86971  <.0001 |
| **PB4** | 0.75588  <.0001 | 0.75922  <.0001 | 0.86971  <.0001 | 1.00000 |