

```

DATA BLOCOAU;
INPUT
TRAT$ BLOCO RESP;
CARDS;
A      1      128
A      2      120
A      3      130
A      4      116
B      1      110
B      2      112
B      3      121
B      4      102
C      1      122
C      2      131
C      3      145
C      4      133

D      1      129
E      1      112
F      1      156
G      2      129
H      2      154
I      2      165
J      3      131
K      3      136
L      3      126
M      4      111
N      4      131
P      4      134
;

PROC GLM;
CLASS TRAT BLOCO;
MODEL RESP= BLOCO TRAT;
LSMEANS TRAT;
LSMEANS TRAT/ADJUST =T LINES;
RUN;

```

| Class Level Information | | |
|-------------------------|--------|-------------------------------|
| Class | Levels | Values |
| TRAT | 15 | A B C D E F G H I J K L M N P |
| BLOCO | 4 | 1 2 3 4 |

| | |
|-----------------------------|----|
| Number of Observations Read | 24 |
| Number of Observations Used | 24 |

| Dependent Variable: RESP | | | | | |
|--------------------------|----|----------------|-------------|---------|--------|
| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
| Model | 17 | 5172.500000 | 304.264706 | 9.34 | 0.0056 |
| Error | 6 | 195.500000 | 32.583333 | | |
| Corrected Total | 23 | 5368.000000 | | | |

R-Square Coeff Var Root MSE RESP Mean
0.963580 4.442164 5.708181 128.5000

| Source | DF | Type I SS | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| BLOCO | 3 | 676.000000 | 225.333333 | 6.92 | 0.0225 |
| TRAT | 14 | 4496.500000 | 321.178571 | 9.86 | 0.0050 |

| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| BLOCO | 3 | 387.000000 | 129.000000 | 3.96 | 0.0715 |
| TRAT | 14 | 4496.500000 | 321.178571 | 9.86 | 0.0050 |

The GLM Procedure
Least Squares Means

| TRAT | RESP LSMEAN | LSMEAN Number |
|------|-------------|---------------|
| A | 123.500000 | 1 |
| B | 111.250000 | 2 |
| C | 132.750000 | 3 |
| D | 131.500000 | 4 |
| E | 114.500000 | 5 |
| F | 158.500000 | 6 |
| G | 130.500000 | 7 |
| H | 155.500000 | 8 |
| I | 166.500000 | 9 |
| J | 121.500000 | 10 |
| K | 126.500000 | 11 |
| L | 116.500000 | 12 |
| M | 116.500000 | 13 |
| N | 136.500000 | 14 |
| P | 139.500000 | 15 |

T Comparison Lines for Least Squares Means of TRAT

LS-means with the same letter are not significantly different.

| | RESP LSMEAN | TRAT | LSMEAN Number |
|-----|-------------|------|---------------|
| A | 166.50 | I | 9 |
| A | | | |
| B A | 158.50 | F | 6 |

| | | | | | |
|---|---|---|--------|---|----|
| B | A | | | | |
| B | A | | 155.50 | H | 8 |
| B | | | | | |
| B | C | | 139.50 | P | 15 |
| B | C | | | | |
| B | C | D | 136.50 | N | 14 |
| | C | D | | | |
| | C | D | 132.75 | C | 3 |
| | C | D | | | |
| | C | D | 131.50 | D | 4 |
| | C | D | | | |
| | C | D | 130.50 | G | 7 |
| | C | D | | | |
| E | C | D | 126.50 | K | 11 |
| E | C | D | | | |
| E | C | D | 123.50 | A | 1 |
| E | C | D | | | |
| E | C | D | 121.50 | J | 10 |
| E | | D | | | |
| E | | D | 116.50 | L | 12 |
| E | | D | | | |
| E | | D | 116.50 | M | 13 |
| E | | D | | | |
| E | | D | 114.50 | E | 5 |
| E | | | | | |
| E | | | 111.25 | B | 2 |

The LINES display does not reflect all significant comparisons. The following additional pairs are significantly different: (14,13) (3,5) (1,2)

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.