

```
! Beasley, assembly, polishing, packing
max 1.5 x1 + 2.5 x2 + 3 x3 + 4.5 x4
subject to
 2 x1 + 4 x2 + 3 x3 + 7 x4 - tass = 0
 3 x1 + 2 x2 + 3 x3 + 4 x4 - tpol = 0
 2 x1 + 3 x2 + 2 x3 + 5 x4 - tpac = 0
tass < 100
tpol < 50
tpac < 60
end
```

LP OPTIMUM FOUND AT STEP 5

OBJECTIVE FUNCTION VALUE

1) 58.00000

| VARIABLE | VALUE | REDUCED COST |
|----------|-----------|--------------|
| X1 | 0.000000 | 1.500000 |
| X2 | 16.000000 | 0.000000 |
| X3 | 6.000000 | 0.000000 |
| X4 | 0.000000 | 0.200000 |
| TASS | 82.000000 | 0.000000 |
| TPOL | 50.000000 | 0.000000 |
| TPAC | 60.000000 | 0.000000 |

| ROW | SLACK OR SURPLUS | DUAL PRICES |
|-----|------------------|-------------|
| 2) | 0.000000 | 0.000000 |
| 3) | 0.000000 | 0.800000 |
| 4) | 0.000000 | 0.300000 |
| 5) | 18.000000 | 0.000000 |
| 6) | 0.000000 | 0.800000 |
| 7) | 0.000000 | 0.300000 |

NO. ITERATIONS= 5

RANGES IN WHICH THE BASIS IS UNCHANGED:

| VARIABLE | CURRENT COEF | OBJ COEFFICIENT RANGES | |
|----------|--------------|------------------------|--------------------|
| | | ALLOWABLE INCREASE | ALLOWABLE DECREASE |
| X1 | 1.500000 | 1.500000 | INFINITY |
| X2 | 2.500000 | 2.000000 | 0.142857 |
| X3 | 3.000000 | 0.750000 | 0.500001 |
| X4 | 4.500000 | 0.200000 | INFINITY |
| TASS | 0.000000 | 1.000002 | 0.250000 |
| TPOL | 0.000000 | INFINITY | 0.800000 |
| TPAC | 0.000000 | INFINITY | 0.300000 |

| ROW | CURRENT RHS | RIGHTHAND SIDE RANGES | |
|-----|-------------|-----------------------|--------------------|
| | | ALLOWABLE INCREASE | ALLOWABLE DECREASE |
| 2 | 0.000000 | 82.000000 | 18.000000 |
| 3 | 0.000000 | 40.000000 | 10.000000 |
| 4 | 0.000000 | 14.999999 | 26.666666 |
| 5 | 100.000000 | INFINITY | 18.000000 |
| 6 | 50.000000 | 40.000000 | 10.000000 |
| 7 | 60.000000 | 14.999999 | 26.666666 |