Question 38

Used for the production of four different products, with two different manufacturing processes and two different material requirements:

```
proc optmodel;
var X1, X2, X3, X4;
num prob_id init 1;  /*PROB id*/
MAX z = 50*X1 + 58*X2 + 46*X3 + 62*X4;
con
4* X1 + 3.5*X2 + 4.6*X3 + 3.9*X4 <= 600,
2.1*X1 + 2.6*X2 + 3.5*X3 + 1.9*X4 <= 500,
 15*X1 + 23*X2 + 18*X3 + 25*X4 <= 3600,
 8*X1 + 12.6*X2 + 9.7*X3 + 10.5*X4 <= 1700,
 0.4*X1 + 0.4*X2 - 0.6*X3 - 0.6*X4 >=0,
X1 >=0, X2 >= 0, X3 >= 0, X4 >= 0;
solve;
create data sol_data_01 from X1 X2 X3 X4 prob_id;

print X1 X2 X3 X4;


quit;
```

CASE STUDY

```
proc optmodel;
	var X1, X2;
	num prob_id init 1;  /PROB id/
	max z = 12*X1 + 16*X2;
	con
	X1 + X2 <= 60,
	X1 + 2*X2 <= 80,
	2*X1 - 3*X2 >= 0,
	0.10*X1 - 0.90*X2 <=0
	X1 >=0, X2 >= 0;
	solve;
	create data sol_data_01 from X1 X2 prob_id;

	print X1 X2;
```

```
proc sql;
create table sol_PRB_01 as
	select
		Group.*
		,sol_data_01.*

	from sol_data_01,
		Group;
quit;
```