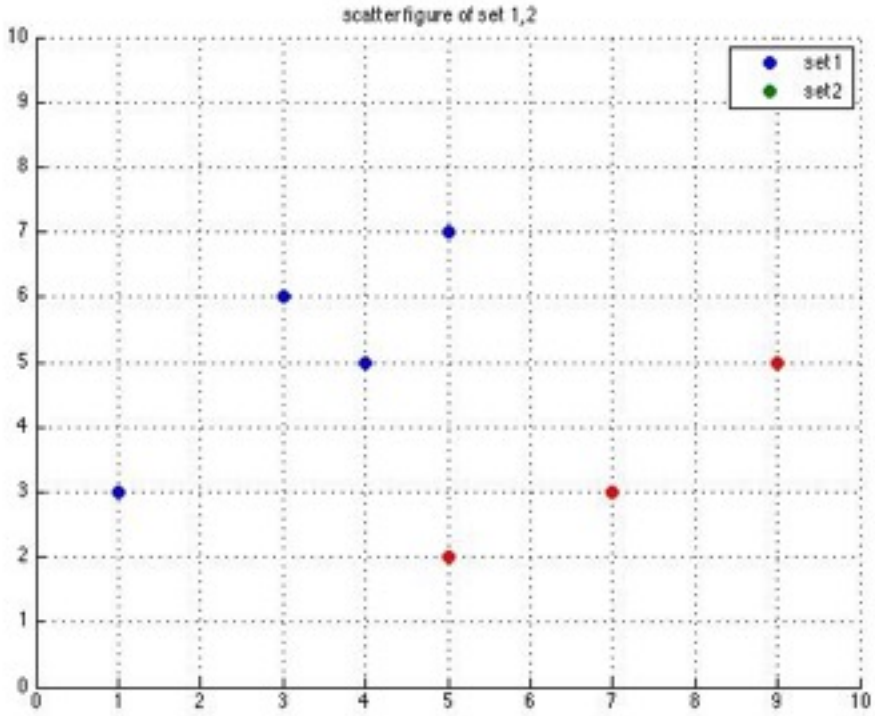
#HW2: Linear programming#
code and result log

4.
figure




```
!*******************************code**********
MIN= m*m+n*n;
!MIN=m;
! m*xi + n* yi +b = 0 is the line;

B*(1*m+3*n+b)>=1;
B*(5*m+7*n+b)>=1;
B*(3*m+6*n+b)>=1;
B*(4*m+5*n+b)>=1;

B*(5*m+2*n+b)<=-1;
B*(7*m+3*n+b)<=-1;
B*(9*m+5*n+b)<=-1;
```

----------result----

[Error Code: 92]

Warning: The current solution may be nonoptimal/infeasible for the current model.
No feasible solution found.
Infeasibilities: 0.7880409+116
Total solver iterations: 0
Elapsed runtime seconds: 2.72
Model is convex quadratic

Model Class: QP

Total variables: 2
Nonlinear variables: 2
Integer variables: 0

Total constraints: 8
Nonlinear constraints: 1

Total nonzeros: 16
Nonlinear nonzeros: 2

Variable	Value	Reduced Cost
M	**1.000000**	**9.000000**
N	**1.000000**	**5.000000**
B	**1.000000**	**0.000000**

Row	Slack or Surplus	Dual Price
1	2.000000	-1.000000
2	0.000000	-73744.00
3	4.000000	0.000000
4	0.000000	0.000000
5	0.000000	0.000000
6	0.000000	0.000000
7	-2.000000	0.000000
8	-2.000000	0.000000
9	-2.000000	1.000000

5.

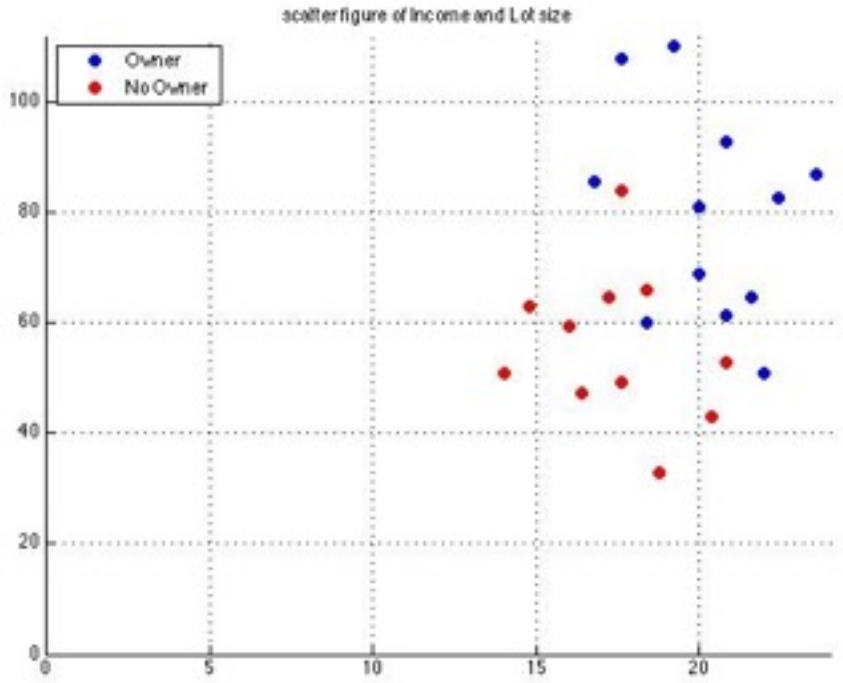

scatter figure of Income and Lot size
Owner
No Owner
100
80
60
40
20
0
0
5
10
15
20

figure: