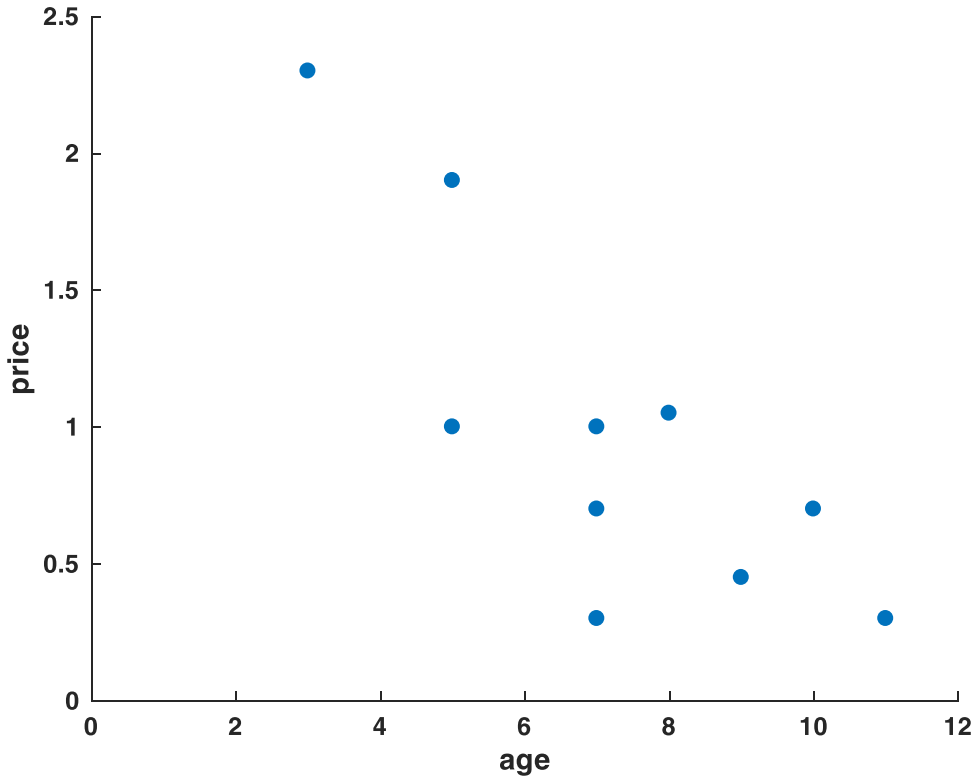
Sayyed Mohsen Vazirizade

23398312

smvazirizade@email.arizona.edu

Assignment 1#

Problem 1




```
clc;clear;close all
x(:,1)=[3 5 5 7 7 7 8 9 10 11]
x(:,2)=[2.3 1.9 1 0.7 0.3 1 1.05 0.45 0.7 0.3]
figure
scatter(x(:,1),x(:,2),'filled');
xlabel('age')
ylabel('price')
xlim([0 12])
fprintf('mean value of x1=%.02f \n',mean(x(:,1)))
fprintf('mean value of x2=%.02f \n',mean(x(:,2)))
fprintf('variance of x1=%.02f \n',var(x(:,1)))
fprintf('variance of x2=%.02f \n',var(x(:,2)))
fprintf(' Cov of x1 and x2= \n %.02f %.02f \n %.02f %.02f \n',cov(x))
fprintf('Corr of x1 and x2= \n %.02f %.02f \n %.02f %.02f \n',corrcoef(x))


Sum=0
for j=1:length(x(:,1))
for i=1:length(x(:,1))
   Sum=Sum+(x(i,1)-7.2).*(x(j,2)-0.97);
end
end
Sum/i
Sum/(i-1)
```

mean value of x1=7.20

mean value of x2=0.97

variance of x1=5.96

variance of x2=0.44

Cov of x1 and x2=

5.96 -1.30

-1.30 0.44

Corr of x1 and x2=

1.00 -0.80

-0.80 1.00