Experiment 4: Logistic Regression

```
z=input('enter the value in a straight line form:')
y=1/(1+exp(-z))
w=subs(y,2)
fprintf('%0.01f\n',w)
if w>0.5
    disp('accepted')
else
    disp('not accepted')
end
```

Problem description: For the straight line equation -5x+3, find the chances of acceptance for x=0.4 and x=0.7.

Extra program

Nonlinear Regression
Fitting an exponential model
Example:

X	0	1	3	5	7	9
Y	1	0.891	0.708	0.562	0.447	0.355

```
disp('*Program to fit exponential equation')
x=input('enter the value of x in matrix form:')
y=input('enter the value of y in matrix form:')
n=length(x);
Y=log((y))
sum(Y)
X=(x)
% first set all values of addition to zero
sumX=0
sumY=0;
sumXY=0;
sumX2=0;
```

```
for i=1:n
    sumX=sumX+X(i);
    sumY=sumY+Y(i);
    sumXY=sumXY+X(i)*Y(i);
    sumX2=sumX2+X(i)*X(i);
end
d=[sumX2 sumX;sumX n];
db=[n sumY;sumX sumXY];
b1=det(db)/det(d)
meanX=sumX/n;
meanY=sumY/n;
a1=meanY-(b1*meanX);
a=exp(a1)
```