**Matlab project : Almaza fares**

**Question 1**

X = [ 20:40]

**Part 1:**

For I = 1:21

For j =x(I,1)

Y(I,1)=1/(1+sqrt(j))^(2)

End

End

Y

For I = 1:21

For j= x(I,1)

Z(I,1)= (j-2)/sqrt(j)

End

End

Z

**Part 2:**

Y1= 1./(1+sqrt(x)).^(2)

Z1 = (x-2)./(sqrt(x))

My=[y,y1]

Mz=[z,z1]

**Question 2**

U = [x y z]

Plot(x, y, '-b\*', x, z, '-r\*','LineWidth',1.5)

Grid on

Legend('y', 'z')

**Question 3**

Xlabel('x')

Ylabel('y and z')

Title('y and z vs. x')

Text(0.5, 0.2, 'Almaza Fares 1996')

**Question 4**

Figure (2)

Subplot(1,2,1)

Plot(x, y, '-b', 'LineWidth', 1)

Title('y vs. x')

Grid on

Legend('y')

Xlabel('x')

Ylabel('y')

Subplot(1, 2, 2)

Plot(x, z, '-r', 'LineWidth', 2)

Title('z vs. x')

Grid on

Legend('z')

Xlabel('x')

Ylabel('y')

**Question 5**

Al = [ 0:90 ]

Sin()= sqrt(1-(cos(al)).^2

**Question 6**

V1 = 100/60

T1 = 25

V2 = 120/60

T2 = 38

X = zeros(t1+t2, 2)

Distance = zeros(t1+t2, 1)

Index = (1:t1+t2)

Ix = 0

Iy = 0

For I=1:t1+t2

If I <=t1

Ix = ix+1

Else

Iy = iy+1

End

X(I,1) = ix\*v1

X(I,2) = iy\*v2

Distance(i) = sqrt((x(I,1)^2)+(x(I,2)^2))

End

U = [x(I,1)' x(I,2)' distance']

Plot(index, distance, 'r-')

**Question 7**

X = (50:0.2:80)'

Y = zeros(length(x),1)

For I=1:length(x)

If x(i) < 65

Y(i) = x(i)

Else

Y(i) = x(i)^2

End

End

Plot (x, y, 'k-')

**Question 8**

J =1

for i = 1:length(x)

if x(i) > 60 && x(i) < 75

z(j) = x(i)

u(j) = i

j = j+1

end

end

v= [z' u']

**Question 9**

X = (5:8)

Y= (1:4)

Z= (6:9)

U = zeros(length(x)\*length(y)\*length(z),3)

For I = 1:length(y)

For k=1:length(z)

N = ((i-1)\*length(y)\*length(z)+((j-1)\*length(z))+k

U(n, 1) = x(i)

U(n, 2) = y(j)

U(n, 3) = z(k)

End

End

End

**Question 10**

A = [ 1 1 1 1; 2 3 5 10; -1 -1 1 1 ; 3 1/3 3 -1/3]

B = [ 0 100 5 9]

X = inv(A)\*B

**Question 11**

F = [ 3 100 0 -200]

Roots\_f = roots(f)

**Question 12**

X= rand(6,4)

Y = x

For I = 1:6

Y(I,5) = x(I,4).\*x(I,2);

End

Y

Z = transpose(y)

[m n] = size(z)