ECE 2409

Fall 2020

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Homework 3

Question 1

Part A

```
A= load("students.mat","students")
```

```
A = struct with fields:
    students: [5×10 double]
```

```
B= [A.students]
```

```
B = 5×10
   100    90    95    80   100   100    90    95    93    94
    75    60    40    45    60    65    70    75    90    79
    85    90    80    75   100    60    90    84    86    88
    40   100   100    64    90    70    90    88    76    89
    60    65    70    73    75    80    85    88    90   100
```

```
fprintf('\t%3d\t%3d\t%3d\t%3d\t%3d\t%3d\t%3d\t%3d\t%3d\t%3d\n', B')
```

```
 100  90  95  80 100 100  90  95  93  94
  75  60  40  45  60  65  70  75  90  79
  85  90  80  75 100  60  90  84  86  88
  40 100 100  64  90  70  90  88  76  89
  60  65  70  73  75  80  85  88  90 100
```

Part B

```
C= [sum(B(1,:))/10, sum(B(2,:))/10, sum(B(3,:))/10, sum(B(4,:))/10, sum(B(5,:))/10];
%or mx=mean(x,2);
fprintf('%.2f\n', C)
```

```
93.70
65.90
83.80
80.70
78.60
```

Part C

```
S1= 0.25*sum(B(1,1:7))/7 + 0.4*sum(B(1,8:9))/2 + 0.35*sum(B(1,10));
S2= 0.25*sum(B(2,1:7))/7 + 0.4*sum(B(2,8:9))/2 + 0.35*sum(B(2,10));
S3= 0.25*sum(B(3,1:7))/7 + 0.4*sum(B(3,8:9))/2 + 0.35*sum(B(3,10));
S4= 0.25*sum(B(4,1:7))/7 + 0.4*sum(B(4,8:9))/2 + 0.35*sum(B(4,10));
S5= 0.25*sum(B(5,1:7))/7 + 0.4*sum(B(5,8:9))/2 + 0.35*sum(B(5,10));
D= [S1, S2, S3, S4, S5]
```

```
D = 1×5
   93.8929   75.4714   85.5143   83.7357   88.7429
```

```
%OR M=mean(x(:,1:7),2)*0.25 ...
```

```
%fprintf('%4.2f\n',M)
fprintf('%.2f\n', D)
```

```
93.89
75.47
85.51
83.74
88.74
```

Question 2

```
x=0:1e-2:4
```

```
x = 1×401
         0    0.0100    0.0200    0.0300    0.0400    0.0500    0.0600    0.0700 ···
```

```
y= 1./((x-3).^2 + 0.1) + 1./((x-2).^2 + 0.05) +2
```

```
y = 1×401
    2.3568    2.3600    2.3632    2.3665    2.3698    2.3732    2.3766    2.3801 ···
```

```
figure
plot(x,y,'linewidth',2);grid
```