

# Digital Image Processing

LAB REPORT 1

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## Tasks:

x = [[1, 2, 3, 4, 5], [21, 22, 23, 24, 25], [31, 32, 33, 34, 35]]

- Write python code using python indexing and slicing for the following output. Use only one print statement for each output.

- [21, 22, 23, 24, 25]
- 3
- [32, 33]
- [1, 3, 5]

```
1 x=[[1,2,3,4,5],[21,22,23,24,25],[31,32,33,34,35]]
2 print(x[0])
3 print(x[0][2])
4 print(x[2][1:3])
5 print(x[0][0:5:2])
6
```

```
[1, 2, 3, 4, 5]
3
[32, 33]
[1, 3, 5]
```

- Declare y = [0, 0, 0], now using for loop write average of first list in list 'x' on first index of list y and so on. The print(y) should give the following output o [3.0, 23.0, 33.0] i.e average of [1, 2, 3, 4, 5] = 3.0

```
7 y=[0,0,0]
8 q=0
9 for i in x:
10     mySum=0
11     for j in i:
12         mySum+=j
13     mySum=mySum/5
14     y[q]=mySum
15     q=q+1
16 print(y)
17
```

```
[3.0, 23.0, 33.0]
```

- Declare `z = [0, 0, 0, 0, 0]`, now using for loop write average of each index of each list in 'x' on corresponding index of list y. The `print(z)` should give the following output o [17.66, 18.66, 19.66, 20.66, 21.66] // average of [1, 21, 31] = 17.66

```

1 x=[[1,2,3,4,5],[21,22,23,24,25],[31,32,33,34,35]]
2 z=[0,0,0,0,0]
3 q=0;
4
5 for j in z:
6     mySum=0
7     for i in x:
8         mySum+=i[q]
9     mySum=mySum/3
10    z[q]=mySum
11    q=q+1
12 print(z)
13
14
15
16
17

```

input

[17.666666666666668, 18.666666666666668, 19.666666666666668, 20.666666666666668, 21.666666666666668]

`x = [1, 3, 5, 6, 7, 8, 6, 1, 2, 3]` `y = [0, 0, 0, 0, 0, 0, 0, 0, 0, 0]`

- Write python code using while loop that write average of first three items on first index of y and so on. The `print(y)` should give the following output o [3.0, 4.666666666666667, 6.0, 7.0, 7.0, 5.0, 3.0, 2.0]

```

1 x = [1, 3, 5, 6, 7, 8, 6, 1, 2, 3]
2 y = [0, 0, 0, 0, 0, 0, 0, 0, 0, 0]
3
4 a=0
5 for i in y:
6     mySum=0
7     for j in x[a:a+3]:
8         mySum+=j
9     mySum=mySum/3
10    y[a]=mySum
11    a=a+1
12 print(y)
13
14
15
16
17

```

[3.0, 4.666666666666667, 6.0, 7.0, 7.0, 5.0, 3.0, 2.0]

- Define a function that takes list as argument and returns the average of it. Then calculate the average of x and y.

```
1 def func(x):
2     mySum=0
3
4     b=range(0,len(x),1)
5     for i in b:
6         mySum+=x[i]
7     mySum=mySum/len(x)
8     return mySum
9
10 x = [1, 3, 5, 6, 7, 8, 6, 1, 2, 3]
11 y = [0, 0, 0, 0, 0, 0, 0, 0]
12 ans=func(x)
13
14 print(ans)
15
16
17
```

4.2