

ATILIM UNIVERSITY
DEPARTMENT OF COMPUTER ENGINEERING
COMPE 325 – STUDY OF PROGRAMMING LANGUAGES
HOMEWORK I

Fall 2022-23

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Due Date: Oct. 24, 2022, 23:30

Write a program in Python including the following:

- a) A function that takes an integer and forms a list of its digits.

Sample Run:

```
x=239945
```

```
lst=fun(x)
```

```
[2, 3, 9, 9, 4, 5]
```

- b) A function which takes a list of integer digits, and an integer y (1-digit) as parameter, and performs the following:

- If the list is of even length, replaces the maximum number of the list with y. If the maximum number occurs more than once, replace all.
- If the list is of odd length, insert as many y's as the length of the list, to the front of the list.
- Print the resulting list.

Sample Run:

```
form(lst,1)      #for lst=[2,3,9,9,4,5]
```

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

```
form(lst,1)      #for lst=[2,3,4]
```

```
[1,1,1,2,3,4]
```

- c) Read 2 integers x and y (y should be 1-digit), call the first function with x, and send the resulting list, and y to the second function. Lastly, print the resulting list.

Note: You can use list functions, but **no loops and no type conversion**. Recursion is allowed. 😊