

SECTION I : Beginner level questions

1. Write the output of the following

```
k=['a','b','c','d','e']  
print(k[-1:-7:-1])
```

In [1]:

```
k=['a','b','c','d','e']  
print(k[-1:-7:-1])
```

```
['e', 'd', 'c', 'b', 'a']
```

2. Reverse a list using Python

```
list1 = [100, 200, 300, 400, 500]
```

In [2]:

```
list1 = [100, 200, 300, 400, 500]  
list1.reverse()  
print(list1)
```

```
[500, 400, 300, 200, 100]
```

3. Given two numbers, write a python code to find the maximum of these two numbers.

Sample input: a=2, b=4

In [3]:

```
a = 2  
b = 4  
if (a > b):  
    print ("maximum = ",a)  
else:  
    print ("maximum = ",b)
```

```
maximum = 4
```

SECTION II: Intermediate level questions

6. Write a python program to print the current year, month and day

In [4]:

```
from datetime import date  
today = date.today()  
print("Current date is",today)
```

```
Current date is 2022-12-11
```

7. Write a Python program to construct the following pattern, using a nested for loop.

```
*  
**  
***  
****  
*****  
*****  
****  
***  
**  
*
```

In [5]:

```

for i in range(1, 6):
    for j in range(1, i+1):
        print("*", end=" ")
    print()

for i in range(4, 0, -1):
    for j in range(1, i+1):
        print("*", end=" ")
    print()

```

```

*
**
***
****
*****
****
***
**
*

```

9. Display all duplicate items from a list given:

10, 20, 60, 30, 20, 40, 30, 60, 70, 80

In [16]:

```

list = [10, 20, 60, 30, 20, 40, 30, 60, 70, 80]
duplicates = []
for item in list:
    if item in duplicates:
        print(item)
    else:
        duplicates.append(item)

```

```

20
30
60

```

SECTION III : Difficult level questions

11. Write a python program to print the numbers from a given number n till 0 using recursion

In [15]:

```

def print_numbers(n):
    if n == 0:
        print(n)
        return
    print(n)
    print_numbers(n - 1)
num=10
print_numbers(num)

```

```

10
9
8
7
6
5
4
3
2
1
0

```

12. Modify the element of a nested list inside the following list:

Sample input : list1 = [5, [10, 15, [20, 25, [30, 35], 40], 45], 50]
 Change the element 35 to 3500

In [9]:

```
list1 = [5, [10, 15, [20, 25, [30, 35], 40], 45], 50]
pos = list1[1][2][2]
del pos[1]
pos.insert(1, 3500)
print(list1)
```

```
[5, [10, 15, [20, 25, [30, 3500], 40], 45], 50]
```

13. Write a while loop to display only alphabets from a string.

Hint: In this question, print only the letters from a string by skipping all digits and special symbols

In [18]:

```
string = "Hello, World! 123"
i = 0
while i < len(string):
    if string[i].isalpha():
        print(string[i], end=" ")
    i += 1
```

```
HelloWorld
```

In []: