

TA-Assignment

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Batch-C4

Q1 Write a program to print the following using for loop

a. First 10 Even numbers b. First 10 Odd number c. First 10 Natural numbers d. First 10 Whole numbers

```
In [2]: n=10
        for i in range(1,(2*n)+1):
            if(i%2==0):
                print(i)
```

2
4
6
8
10
12
14
16
18
20

```
In [3]: n=10
        for i in range(1,(2*n)+1):
            if(i%2!=0):
                print(i)
```

1
3
5
7
9
11
13
15
17
19

```
In [4]: n=10
        for i in range(1,n+1):
            print(i)
```

```
1
2
3
4
5
6
7
8
9
10
```

```
In [5]: n=10
        for i in range(0,n):
            print(i)
```

```
0
1
2
3
4
5
6
7
8
9
```

Q2 Write a program to display the number names of the digits of a number entered by user,for example if the number is 541 then output should be Five Four One.

```
In [6]: A=input("Enter a number: ")
i=0
num=len(A)
def word(digit) :
    if digit=='0' :
        print("Zero ", end="")
    elif digit=='1' :
        print("One ", end="")
    elif digit=='2' :
        print("Two ", end="")
    elif digit=='3' :
        print("Three ", end="")
    elif digit=='4' :
        print("Four ", end="")
    elif digit=='5' :
        print("Five ", end="")
    elif digit=='6' :
        print("Six ", end="")
    elif digit=='7' :
        print("Seven ", end="")
    elif digit=='8' :
        print("Eight ", end="")
    elif digit=='9' :
        print("Nine ", end="")
while i < num:
    word(A[i])
    i += 1
```

Enter a number: 348
Three Four Eight

Q3 Write a program to add first n terms of the following series using a for loop: $1/1! + 1/2! + 1/3! + \dots + 1/n!$

```
In [8]: n=int(input("enter the nth digit: "))
add=0
factorial=1
for i in range(1,n+1):
    factorial *= i
    add += 1.0/factorial
print(add)
```

enter the nth digit: 78
1.7182818284590455

Q4 Write a program to display sum of odd numbers and even numbers separately that fall between two numbers accepted from the user. (Including both numbers).

```
In [9]: lowerlim=int(input("Enter lower limit. "))
upperlim=int(input("Enter upper limit. "))
evenadd=0
oddadd=0
for i in range(lowerlim,upperlim+1):
    if(i%2==0):
        evenadd+=i
    else:
        oddadd+=i
print("The sum of even numbers is: %d" %evenadd)
print("The sum of odd numbers is: %d" %oddadd)
```

```
Enter lower limit: 5
Enter upper limit: 9
The sum of even numbers is: 14
The sum of odd numbers is: 21
```

Q5 Write a program to display all the numbers which are divisible by 13 but not by 3 between 100 and 500.

```
In [10]: for i in range(100,501):
        if(i%13==0 and i%3!=0):
            print(i, end=",")
```

```
104,130,143,169,182,208,221,247,260,286,299,325,338,364,377,403,416,442,455,481,494,
```

Q6 Write a Program to print all the characters in the string 'PYTHON PROGRAMMING' using a for loop.

```
In [11]: string='PYTHON PROGRAMMING'
length=len(string)
for i in range(0,len(string)):
    print("The letter present at %d position is %c" %(i+1 , string[i]))
```

```
The letter present at 1 position is P
The letter present at 2 position is Y
The letter present at 3 position is T
The letter present at 4 position is H
The letter present at 5 position is O
The letter present at 6 position is N
The letter present at 7 position is 
The letter present at 8 position is P
The letter present at 9 position is R
The letter present at 10 position is O
The letter present at 11 position is G
The letter present at 12 position is R
The letter present at 13 position is A
The letter present at 14 position is M
The letter present at 15 position is M
The letter present at 16 position is I
The letter present at 17 position is N
The letter present at 18 position is G
```

Q7 Write a program to print all the factors of a number using a for loop.

```
In [12]: n=int(input("Enter a number: "))
print("The factors of number are:")
for i in range(1,n+1):
    if n%i==0:
        print(i)
```

```
Enter a number: 7
The factors of number are:
1
7
```

Q8 Write a program to print the following series till n terms. 1 4 9 16 25 _ n terms

```
In [13]: n=int(input("Enter the value of n: "))
for i in range(1,n+1):
    square=i**2
    print(square,end=" ")
```

```
Enter the value of n: 15
1 4 9 16 25 36 49 64 81 100 121 144 169 196 225
```

Q9 Write a program to check whether the given inputted number is prime or not.

```
In [14]: number=int(input("Enter a number: "))
for i in range(2,number):
    if(number%i==0):
        flag=0
    else:
        flag=1
if(flag==0):
    print("Entered number is not prime")
else:
    print("Entered number is prime")
```

Enter a number: 47
Entered number is prime

Q10 Write a Python program to construct the following pattern, using a nested for loop. * * * * *

```
In [15]: n=5
for i in range(n):
    for j in range(i) :
        print ('* ', end="")
    print('')
for i in range(n,0, -1):
    for j in range(i):
        print('* ', end="")
    print('')
```

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

Q11 Write a program to print the grade card of a student. Accept marks of 5 subjects for a student, compute the % of marks and print the grade. If the percentage is greater than 80 then grade A If between 60-79 then B, If between 40-50 then C, otherwise F.

```
In [16]: sub1=int(input("Enter marks of Subject 1(out of 100): "))
sub2=int(input("Enter marks of Subject 2(out of 100): "))
sub3=int(input("Enter marks of Subject 3(out of 100): "))
sub4=int(input("Enter marks of Subject 4(out of 100): "))
sub5=int(input("Enter marks of Subject 5(out of 100): "))
per=((sub1+sub2+sub3+sub4+sub5)/500)*100
print("Percentage secured is: ", per)
if(per>=80):
    print("Grade secured is A")
elif(60<=per<=79):
    print("Grade secured is B")
elif(40<=per<=59):
    print("Grade secured is C")
else:
    print("Grade secured is F")
```

```
Enter marks of Subject 1(out of 100): 89
Enter marks of Subject 2(out of 100): 92
Enter marks of Subject 3(out of 100): 78
Enter marks of Subject 4(out of 100): 86
Enter marks of Subject 5(out of 100): 90
Percentage secured is: 87.0
Grade secured is A
```

Q12 Write a program to perform the following task: a) Accept the name of subject and marks information for two subjects b) if subject is maths or science then add the marks and print c) If the subject is English or social then find the percentage of marks.

```
In [18]: subject1=input("Name of subject 1 ")
subject2=input("Name of subject 2 ")
marks1=int(input("Marks of subject 1(out of 100) "))
marks2=int(input("Marks of subject 2(out of 100) "))
if(subject1=="maths" and subject2=="science") or (subject2=="maths" and subject1:
    print("Total marks are ",marks1+marks2)
elif(subject1=="english" and subject2=="social") or (subject2=="english" and sub
    print("Percentage is ", (marks1+marks2)/2)
else:
    print("invalid entry")
```

```
Name of subject 1 english
Name of subject 2 social
Marks of subject 1(out of 100) 89
Marks of subject 2(out of 100) 77
Percentage is 83.0
```

Q13 Write a program to accept 10 numbers in tuple and find the largest element and smallest with index.

```
In [20]: tuple=[]
for i in range(1,11):
    value=int(input("Enter %d element of tuple: " %i))
    tuple.append(value)
largest=max(tuple)
smallest=min(tuple)
print("Tuple= ",tuple)
print("Largest element is %d and its index is %d" %(largest,tuple.index(largest)/
print("Smallest element is %d and its index is %d" %(smallest,tuple.index(smalle'
```

Enter 1 element of tuple: 5
Enter 2 element of tuple: 6
Enter 3 element of tuple: 3
Enter 4 element of tuple: 4
Enter 5 element of tuple: 7
Enter 6 element of tuple: 8
Enter 7 element of tuple: 2
Enter 8 element of tuple: 1
Enter 9 element of tuple: 9
Enter 10 element of tuple: 44
Tuple= [5, 6, 3, 4, 7, 8, 2, 1, 9, 44]
Largest element is 44 and its index is 9
Smallest element is 1 and its index is 7

Q14 Write a Python program to convert character of a string to a list containing their ascii value.

```
In [21]: string='python'
ascii=[]
for char in string:
    ascii.append(ord(char))
print(ascii)
```

[112, 121, 116, 104, 111, 110]

Q15 Python Program to Concatenate two list of lists Row-wise Given two list, write a Python program to add elements to each row

Input: test list1 = [[1, 2, 3], [1, 2, 3], [3, 7, 4]],

test_list2 = [[4, 5], [9, 3, 5, 7], [8]]

Output: [[1, 2, 3, 4,5], [1, 2, 3, 9, 3, 5, 7], [3, 7, 4, 8]]

Hint: Use Enumerate function


```
In [1]: test_list1 = [[1, 2, 3], [1, 2, 3], [3, 7, 4]]
test_list2 = [[4, 5], [9, 3, 5, 7], [8]]
for index, ele in enumerate(test_list1):
    new_vals = []
    for ele in test_list2[index]:
        new_vals.append(ele)
    test_list1[index].extend(new_vals)
print(test_list1)
```

```
[[1, 2, 3, 4, 5], [1, 2, 3, 9, 3, 5, 7], [3, 7, 4, 8]]
```