PYTHON FOR DATA SCIENCE

DAY-3 (CLASS CODE)

Q 1. WAP to input a number and print sum of its digits .

SOURCE CODE :

```
sum=0                                   #initialize sum as 0
n=int(input("enter the number : "))     #input a number
while n>0:
    r=n%10
    sum+=r
    n//=10
print("The sum of the digit of given number is ",sum)     #print the resultant output
```

OUTPUT :

```
>>>
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========
enter the number : 29
The sum of the digit of given number is  11
>>>
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========
enter the number : 456
The sum of the digit of given number is  15
>>>
```

Q 2. WAP to input a number and find it is a amstrong number or not .

SORCE CODE :

```
num = int(input("Enter a number: "))      #input a number
s = 0
temp = num                                #assigned the value of num to temp
while temp > 0:
    digit = temp % 10
    s += digit ** 3
    temp //= 10
```

```
if num == s:
    print(num, "is an Armstrong number")
else:
    print(num, "is not an Armstrong number")
```

OUTPUT :

```
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========
Enter a number: 34
34 is not an Armstrong number
>>>
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========
Enter a number: 153
153 is an Armstrong number
>>>
```

Q 3. WAP to find a number is palindrome or not.

SOURCE CODE :

```
num = int(input("Enter a number: "))
temp = num
reverse_num = 0

while temp > 0:
    digit = temp % 10
    reverse_num = (reverse_num * 10) + digit
    temp //= 10

if num == reverse_num:
    print(num, "is a palindrome number")
else:
    print(num, "is not a palindrome number")
```

OUTPUT :

```
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========
Enter a number: 234
234 is not a palindrome number
>>>
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========
Enter a number: 121
121 is a palindrome number
>>>
```

Q 4. WAP to input a number a find whether it is prime or not .

SOURCE CODE :

```
num = int(input("Enter a number: "))
if num > 1:
    if (num==2):
        print("2 is a prime number")
    else:
        for i in range(2, num):
            if (num % i) == 0:
                print(num, "is not a prime number it is a composite number")
                break

            else:
                print(num, "is a prime number")
                break
else:
    print(num, "is neither a prime number nor a compsite number")
```

OUTPUT :

```
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========
Enter a number: 4
4 is not a prime number it is a composite number
>>>
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========
Enter a number: 1
1 is neither a prime number nor a compsite number
>>>
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========
Enter a number: 2
2 is a prime number
>>>
```

Q 5 . WAP to print prime numbers from 15 to 30 .

SOURCE CODE :

```
for i in range(15,30):
    for j in range(2,i):
```

```
        if (i%j) == 0:
            break
    else :
        print(i)
```

OUTPUT :

```
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========
17
19
23
29
>>>
```

Q 6 . WAP to print multiplication table of all the number from 1 to 10 .

SOURCE CODE :

```
for i in range(1, 11):
    for j in range(1, 11):
        print(i, "x", j, "=", i*j)
    print()
```

OUTPUT :

```
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========
1 x 1 = 1
1 x 2 = 2
1 x 3 = 3
1 x 4 = 4
1 x 5 = 5
1 x 6 = 6
1 x 7 = 7
1 x 8 = 8
1 x 9 = 9
1 x 10 = 10

2 x 1 = 2
2 x 2 = 4
2 x 3 = 6
2 x 4 = 8
2 x 5 = 10
2 x 6 = 12
2 x 7 = 14
2 x 8 = 16
2 x 9 = 18
2 x 10 = 20

3 x 1 = 3
3 x 2 = 6
3 x 3 = 9
3 x 4 = 12
3 x 5 = 15
3 x 6 = 18
3 x 7 = 21
3 x 8 = 24
3 x 9 = 27
3 x 10 = 30
```

```
4 x 1 = 4
4 x 2 = 8
4 x 3 = 12
4 x 4 = 16
4 x 5 = 20
4 x 6 = 24
4 x 7 = 28
4 x 8 = 32
4 x 9 = 36
4 x 10 = 40

5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50

6 x 1 = 6
6 x 2 = 12
6 x 3 = 18
6 x 4 = 24
6 x 5 = 30
6 x 6 = 36
6 x 7 = 42
6 x 8 = 48
6 x 9 = 54
6 x 10 = 60

7 x 1 = 7
7 x 2 = 14
```

```
7 x 8 = 56
7 x 9 = 63
7 x 10 = 70

8 x 1 = 8
8 x 2 = 16
8 x 3 = 24
8 x 4 = 32
8 x 5 = 40
8 x 6 = 48
8 x 7 = 56
8 x 8 = 64
8 x 9 = 72
8 x 10 = 80

9 x 1 = 9
9 x 2 = 18
9 x 3 = 27
9 x 4 = 36
9 x 5 = 45
9 x 6 = 54
9 x 7 = 63
9 x 8 = 72
9 x 9 = 81
9 x 10 = 90

10 x 1 = 10
10 x 2 = 20
10 x 3 = 30
10 x 4 = 40
10 x 5 = 50
10 x 6 = 60
10 x 7 = 70
10 x 8 = 80
10 x 9 = 90
10 x 10 = 100
```

Q 7 . WAP to print following pattern

''' *

* *

***

****

***** '''

SOURCE CODE :

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

OUTPUT :

```
========== RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =======
*
**
***
****
*****
```

Q 8 . WAP to print sum of numbers between 1 to 10 . (stop infinite loop)

SOURCE CODE :

```
n=10
s=0
while True:
    s+=n
    n-=1
    if n==0:
        break
print("The sum of 1 to 10 numbers is ",s)
```

OUTPUT :

```
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py ========
The sum of 10 numbers is  55
```

Q 9. WAP to print the following pattern

'''1

1 2

1 2 3

1 2 3 4 '''

SOURCE CODE :

```
for i in range(1, 6):
    for j in range(1,i):
        print(j,end=' ')
    print()
```

OUTPUT :

```
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========

1
1 2
1 2 3
1 2 3 4
>>>
```

Q 10. WAP to print the following pattern

'''A

A B

A B C

A B C D '''

SOURCE CODE :

```
s = ord('A')          # Get the Unicode value of 'A'
```

```
for i in range(1, 10):
    for j in range(0, i):
        print(chr(s+j), end=" ")
    print()
```

OUTPUT :

```
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========
A
A B
A B C
A B C D
A B C D E
A B C D E F
A B C D E F G
A B C D E F G H
A B C D E F G H I
>>>
```

Q 11. WAP to reverse a string using slicing .

SOURCE CODE :

```
s="wxaditya"
print("the reverse string is ",s[::-1])
```

OUTPUT :

```
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========
the reverse string is  aytidaxw
>>>
```

Q 12. WAP to input a string and a count the number of letter(uppercase and lowercase),number or special character.

SOURCE CODE :

```
st=input(“Enter a string : “)
su=sl=sd=ss=0
for i in st:
    if (i.isupper()):
        su+=1
    if (i.islower()):
```

```
        sl+=1
    elif (i.isdigit()):
        sd+=1
    else:
        ss+=1
print("The number of upper case letter in the string is ",su)
print("The number of lower case letter in the string is ",sl)
print("The number of digit in the string is ",sd)
print("The number of special character in the string is ",ss)
```

OUTPUT :

```
========= RESTART: C:\Users\dell\OneDrive\Documents\python files\w3.py =========
Enter a string :abcde#12345
The number of upper case letter in the string is  0
The number of lower case letter in the string is  5
The number of digit in the string is  5
The number of special character in the string is  1
```

----------END OF THE FILE----------