PYTHON FOR DATA SCIENCE

DAY-2 (CLASS CODE)

Q 1. WAP to find number of minutes and second in seconds (example 65 seconds =1 min 5 seconds).

SOURCE CODE :

```
s=int(input("enter the second :"))    #input time in seconds
m=s//60                               #finding minutes by floor division
r=s%60                                # remainder find for checking
if (r!=0):
    print(m,"minutes",r,"seconds")
else :
    print(m,"minutes")
```

OUTPUT :

```
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
enter the second :345
5 minutes 45 seconds
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
enter the second :23
0 minutes 23 seconds
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
enter the second :76
1 minutes 16 seconds
>>>
```

Q 2. WAP to find whether a number is divisible by 5 and 3 or one of them or not visible by both .

SOURCE CODE :

```
num=int(input("enter a number : "))   #input number
if (num%5==0 and num%3==0):
    print("it is divisible by both 5 and 3")
elif (num%5==0 and num%3!=0):
```

```
    print("it is divisible by 5 only")
elif (num%5!=0 and num%3==0):
    print("it is divisible by 3 only")


else  :
    print("not divisible by both 5 and 3")
```

OUTPUT :

```
>>>
    ===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
    enter a number : 56
    not divisible by both 5 and 3
>>>
    ===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
    enter a number : 15
    it is divisible by both 5 and 3
>>>
    ===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
    enter a number : 20
    it is divisible by 5 only
>>>
    ===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
    enter a number : 9
    it is divisible by 3 only
>>>
```

Q 3. WAP to find character a number is consonent or vowel .

SOURCE CODE :

```
c = input("Enter a character: ")          #character input
if (c in ['a','A','e','E','o','O','i','I','u','U']): #assigned vowels to a list and check is char in list
    print(c, "is a vowel")
else:
    print(c, "is a consonant")
```

OUTPUT :

```
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter a character: r
r is a consonant

===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter a character: e
e is a vowel
```

Q 4. WAP to input marks of a student and print their grade According to the data .

MARKS	GRADE
90 TO 100	A+
80 TO 90	A
70 TO 80	B+
60 TO 70	B
50 TO 60	C
40 TO 50	D
30 TO 40	E
LESS THAN 30	F

SOURCE CODE :

```
m=int(input("enter the marks :")) #input marks
if (m>=90 and m<=100):
    print('A+ grade')
elif (m>=80 and m<90):
    print('A grade')
elif (m>=70 and m<80):
    print('B+ grade')
elif (m>=60 and m<70):
    print('B grade')
elif (m>=50 and m<60):
    print('C grade')
elif (m>=40 and m<50):
    print('D grade')
elif (m>=30 and m<40):
    print('E grade')
else:
    print('F grade')
```

OUTPUT :

```
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
enter the marks :56
C grade
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
enter the marks :23
F grade
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
enter the marks :96
A+ grade
```

Q 5. WAP to input three numbers and print the largest one.

SOURCE CODE :

```
n1=int(input("enter first number"))  #taking input of three numbers
n2=int(input("enter second number"))
n3=int(input("enter third number"))


if(n1>n2 and n1>n3):
    print(n1,"is the largest number")
elif(n2>n1 and n2>n3):
    print(n2,"is the largest number")
else :
    print(n3,"is the largest number")
```

OUTPUT :

```
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
enter first number5
enter second number7
enter third number4
7 is the largest number
>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
enter first number56
enter second number76
enter third number34
76 is the largest number
>>
```

Q 7. WAP to check whether a year is a leap year or not .

SOURCE CODE :

```
year = int(input("Enter a year: "))                                    #input year
if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):   #checking of leap year
    print(year, "is a leap year")
else :
    print(year, "is not a leap year")
```

OUTPUT :

```
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter a year: 2304
2304 is a leap year
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter a year: 2007
2007 is not a leap year
```

Q 8. WAP to input three number and arrange (using nested if) .

SOURCE CODE :

```
num1=int(input("Enter the first number :"))          #input first number
num2=int(input("Enter the second number :"))      #input second number
num3=int(input("Enter the third number :"))        #input third number
if (num1<num2 and num1<num3):
    if (num2<num3):
        print(num1,num2,num3)
    else :
        print(num1,num3,num2)
if (num2<num1 and num2<num3):
    if (num1<num3):
        print(num2,num1,num3)
    else :
        print(num2,num3,num1)
else:
```

```
    if (num1<num2):
        print(num3,num1,num2)
    else :
        print(num3,num2,num1)
```

OUTPUT :

```
Python 3.10.0 (tags/v3.10.0:b494f59, Oct  4 2021, 19:00:18) [MSC v.1929 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter the first number :45
Enter the second number :33
Enter the third number :67
33 45 67
>>>
```

Q 9. WAP to input three number and find the larget (using nested if) .

SOURCE CODE :

```
num1=int(input("Enter the first number :"))          #input first number
num2=int(input("Enter the second number :"))         #input second number
num3=int(input("Enter the third number :"))          #input third number
if (num1>num2):
    if(num1>num3):
        print(num1,"is the largest of three")
    else :
        print(num3,"is the largest of three")
else:
    if(num2>num3):
        print(num2,"is the largest of three")
    else :
        print(num3,"is the largest of three")
```

OUTPUT :

```
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter the first number :34
Enter the second number :34
Enter the third number :23
34 is the largest of three
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter the first number :45
Enter the second number :3
Enter the third number :56
56 is the largest of three
>>>
```

Q 10. WAP to print all the even numbers between 10 to 20 .

SOURCE CODE :

```
for i in range(10,21,2):    #loop for find and print even number between 10 to 20
    print(i)
```

OUTPUT :

```
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
10
12
14
16
18
20
>>>
```

Q 11. WAP to print the sum of all even and odd numbers .

SOURCE CODE :

```
se=0
so=0
for i in range(10,21):
    if (i%2==0):
        se+=i
    else :
        so+=i
```

```
print("The sum of even numbers between 10 to 20 is", se)
print("The sum of odd numbers between 10 to 20 is", so)
```

OUTPUT :

```
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
The sum of even numbers between 10 to 20 is 90
The sum of odd numbers between 10 to 20 is 75
>>>
```

Q 12. WAP to input a number and find its factorial .

SOURCE CODE :

```
fact=1
num=int(input("Enter the number :"))
for i in range(1,num+1):
    fact*=i
print("The factorial of ",num, 'is',fact)
```

OUTPUT :

```
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py ====
Enter the number :3
The factorial of  3 is 6
>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py ====
Enter the number :5
The factorial of  5 is 120
```

Q 13. WAP to print fibonacci series using for loop .

SOURCE CODE :

```
n = int(input("Enter the number of terms: "))
a, b = 0, 1
if n == 1:
    print(a)
else:
    print(a)
    print(b)
```

```
    for i in range(2, n):
        c = a + b
        print(c)
        a, b = b, c
```

OUTPUT :

```
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
Enter the number of terms: 4
0
1
1
2
>>>
```

Q 14. WAP to print th following series "1/1!+1/2!+1/3!+1/4!...1/n!"

SOURCE CODE :

```
ss=0
n=int(input("enter the number of terms :"))
for i in range(1,n+1):
    j=i
    for j in range(1,j+1):
        fact=1
        fact*=j
    ss+=1/fact
print("The result is : ",ss)
```

OUTPUT :

```
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
enter the number of terms :3
The result is :  1.8333333333333333
>>>
===== RESTART: C:\Users\dell\AppData\Local\Programs\Python\Python310\w1.py =====
enter the number of terms :5
The result is :  2.283333333333333
>>>
```

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