Python Assignment - I

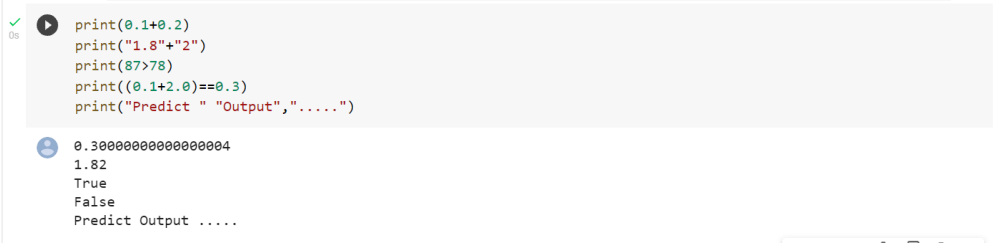
Instructions to students:

1. Solve the given problems and upload results into canvas account (screenshot of code and solution in pdf format)
2. Refer lecture material (PPT and code file uploaded), if you have any queries?
3. Submit your assignment with in deadline ,on or before 06-10-2021

Assignment 1:

1. Predict the output for the following code snippets:

```
print(0.1+0.2)
print("1.8"+"2")
print(87>78)
print((0.1+0.2)==0.3)
print("Predict " "Output" ,".....")
```



2. Predict the output for the following code snippets

```
print("Prints","multiple ","messages\n")

print("Concatenate "+" two strings\n")

print(5+6+" adds two numbers\n")
```

```
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print("Concatenate "+" two strings\n")
print(5+6+" adds two numbers\n")
```

```
Prints multiple  messages

Concatenate  two strings

---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-4-178da60a74e1> in <module>()
      1 print("Prints","multiple ","messages\n")
      2 print("Concatenate "+" two strings\n")
----> 3 print(5+6+" adds two numbers\n")

TypeError: unsupported operand type(s) for +: 'int' and 'str'

SEARCH STACK OVERFLOW
```

3. Correct the given code snippets (only one change is allowed)

```
print("ba""na"*2)    # use appropriate operator to print banana

print("C:\naresh\raju\abhi") # correct the code to print C:\naresh\raju\abhi
```

```
print("ba","na"*2)
print("C:\\naresh\\raju\\abhi")
```

```
ba nana
C:\naresh\raju\abhi
```

4. Correct the given code snippets

```
'Welcome to Python traing program'[-14:24:-4]   # should print 'g anytoW'

'A series of characters designated as one object known as a string'[::]
                                # should print substring --    sscc
```

```
st='Welcome to Python traing program'
print(st[-4::-4])
a='A series of characters designated as one subject known as string'
print(a[2:-41:5])
```

```
g anytoW
sscc
```

5. Predict the output for the given code snippet and justify the result.

```
print( 'A series of characters designated as one object known as a string'[::-1][4::3] )

print("-----------")

print( 'Welcome to Python traing program'[3:10][::-1] )
```

```
print('A series of characters desginated as one object known as a string'[::-1][4::3])
print("--------------")
print("Welcome to Pyhton traing program"[3:10][:-1])
```

```
taawkcbe  tiestrcoeeA
--------------
come t
```

For the first statement we do reverse of it and later from 4 index with jumps of 3 we print it. It also counts the spaces.The reverse is:
gnirts a sa nwonk tcejbo eno sa detanigsed sretcarahc fo seires A
For the second statement we print from index 3 to 10 and later on that substring we print from -1.

6. Predict the output for the given code snippet and justify the result

a.

```
str1=True
x= 5 > 3
print(str1==x)
y= 5 > 8
print(str1==y)
```

```
str1=True
x=5>3
print(str1==x)
y=5>8
print(x==y)
```

```
True
False
```

As 5>3 is true its stored in x and is compared with str1 which has true value in it. When both compared if true then it prints true. Next statement says 5>8,its false so printed false.

b.

```
num=7
Name = "Michael Jackson"
sear_num = Name.find('el')
print(num > sear_num )
```

```
num=7
Name="Michael Jackson"
sear_num=Name.find('el')
print(num>sear_num)
```

```
True
```

Here ‘el’ is found in “Michael Jackson” so it returns true. Num has 7 value in it. So, num>sear_num

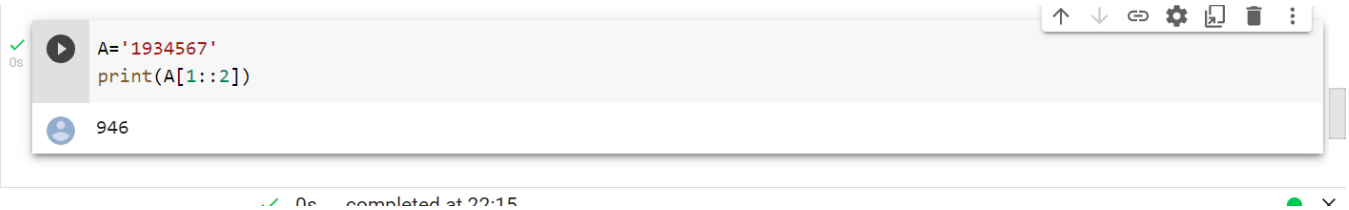
7. Write a python code to get desired output

   Input string : p_phrase = "was it a car or a cat I saw"

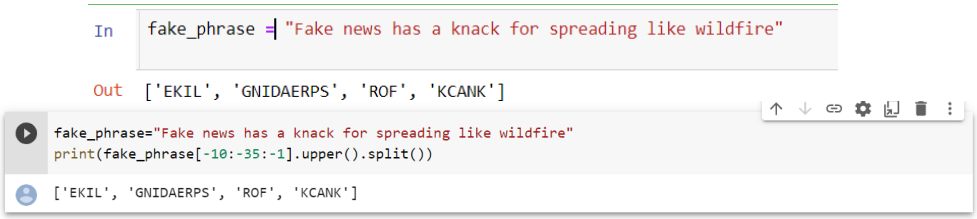
   Output string : WAS I TAC A RO RAC A TI SAW

8. Write a python code to print integer value : 946

   Input string : A='1934567'



9. Write a python code to get desired output



10. Write a python code to get desired output

    msg1 = " Facebook already uses AI to Filter Fake stories from the feeds of users "

    out = [Facebook , already, uses, AI, to, Filter, Fake, stories, from, the, feeds, of, users]

11. Predict the output for given code snippet .Justify the result.

```
msg2 = "Welcome to sr engineering college"
x =   #write logic to count the occurance of o in msg2   - expected 3
y =   #write logic to  count the occurance of r in msg2   - expected  2
msg2[y**x:(x**y+x+y):][::-1]  # evaluate given expression
```

```
msg2="Welcome to sr engineering college"
x=msg2.count('o') #3
y=msg2.count('r') #2
print(msg2[y**x:(x**y+x+y):][::-1])
#          2**3: (3**2+3+2) [::-1]
#          8:14
```

```
 rs ot
```

X=3,y=2 so when we evaluate it becomes[8:14][::-1]where [8:14] gives to sr then [::-1] is applied.

12. Predict the output for given code snippet .Justify the result

a.

```
num1,num2 = "94","30"
data="As per Census 2011, Gender ratio of India is 943 females per 1000 males"
num1+num2[0] in data
```

```
num1,num2="94","30"
data="As per census 2011,Gender ratio of India is 943 females per 1000 males"
num1+num2[0] in data
```

```
True
```

Here num1 is 94 and num2[0] is 3. So, num1+num2 is 943 which in present in the data.

b.

```
print(data[:45],print(int(num1)+int(num2)))
```

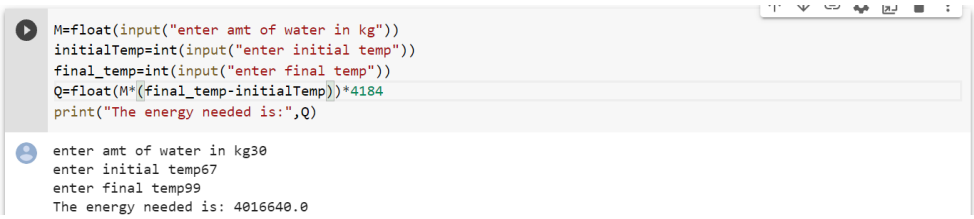
```
[9]  print(data[:45],print(int(num1)+int(num2)))

     124
     As per census 2011,Gender ratio of India is 9 None
```

Here data[:45] prints “As per census 2011,Gender ratio of India is 9” when num1+num2 it gives “124”.

13. Develop a program that calculates the energy needed to heat water from an initial temperature to a final temperature. Your program should prompt the user to enter the amount of water in kilograms and the initial and final temperatures of the water. The formula to compute the energy is

Q = M * (finalTemperature – initialTemperature) * 4184.

Where **M** is the weight of water in kilograms, temperatures are in degrees Celsius, and energy **Q** is measured in joules.



```
M=float(input("enter amt of water in kg"))
initialTemp=int(input("enter initial temp"))
final_temp=int(input("enter final temp"))
Q=float(M*(final_temp-initialTemp))*4184
print("The energy needed is:",Q)
```

```
enter amt of water in kg30
enter initial temp67
enter final temp99
The energy needed is: 4016640.0
```

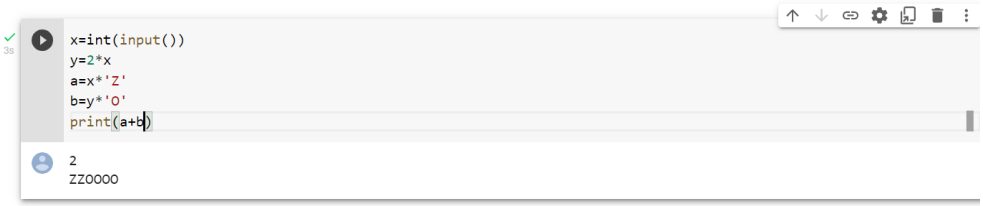
14. You are required to generate a word similar to **ZOO**, X and Y that denote the number of **Z**s and **O**s respectively. The generated word similar to **ZOO** where Y= 2 * X.

Input X= 2

Output ZZOOOO

Input X= 5

Output ZZZZZOOOOOOOOOO



```
x=int(input())
y=2*x
a=x*'Z'
b=y*'O'
print(a+b)
```

```
2
ZZOOOO
```

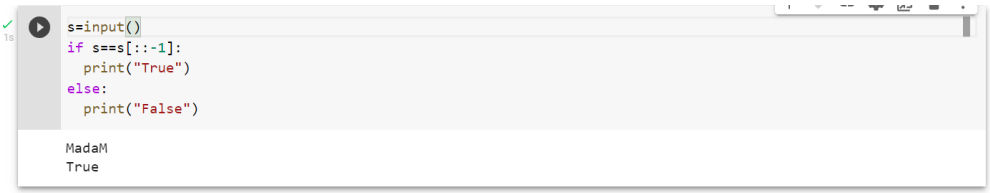
15.A. Check given string is palindrome or not, if yes print True, otherwise False (Don’t use conditional and looping constructs)

Input : MadaM

Output : True

Input : Ramu

Output : False



```
s=input()
if s==s[::-1]:
  print("True")
else:
  print("False")
```

```
MadaM
True
```

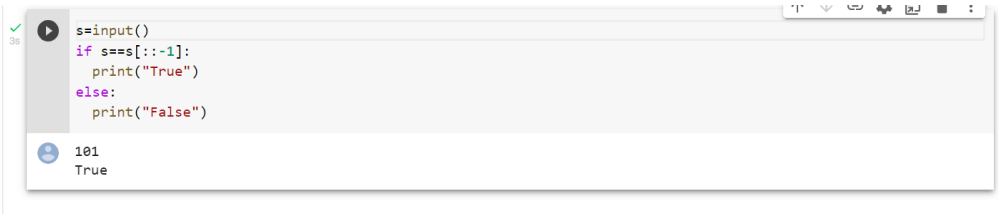
B. Check given number is palindrome or not, if yes print True, otherwise False (Don't use conditional and looping constructs)

Input : 987656789

Output : True

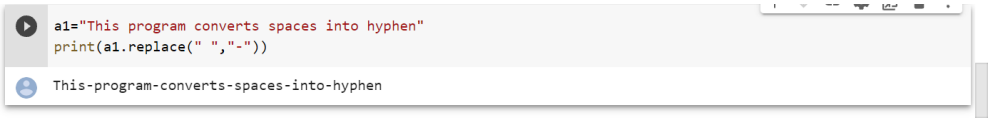
Input : 34544

Output : False



16. Space To Hyphen problem

Take a string as input, and replaces spaces " " with hyphens "-", and returns a string. " This program converts spaces into hyphen" becomes " This-program-converts-spaces-into-hyphen"



17. Unique Sort problem

Take a string as input that accepts a comma separated sequence of words as input and prints the unique words in sorted form (alphanumerically).

Input: orange, white, red, cyan, green, magenta, cyan, pink, white

Output: cyan, green, magenta, orange, pink, red, white