HOMEWORK BASED ON FUNCTIONS IN PYTHON

1 Identify the errors, underline it and correct the errors

a) def Sum(a=1,b)
    return a+b
    print ("The sum =" Sum(7,-1)

b) def main ( )
        print ("hello")

(c) def func2() :
        print (2 + 3)
     func2(5)

2. Find the output of the following numbers:
```
Num = 20
Sum = 0
for I in range (10, Num, 3)
    Sum+=i
    if i%2==0:
        print i*2
     else:
        print i*3
```

3. Find the output of the following
```
Text="gmail@com"
L=len(Text)
ntext=" "
for i in range (0,L):
    If   text[i].isupper():
      ntext=ntext+text[i].lower()
   elif text[i].isalpha():
       ntext=ntext+text[i].upper()
  else:
      ntext=ntext+'bb'
```

4. def power (b , p):
          r = b ** P
          return r

   def calcSquare(a):
       a = power (a, 2)
       return a

   n = 5
   result = calcSquare(n)
   print (result)

5. Find the output of the following-
          import math
          print (math. floor(5.5))

6. Find the output

```python
def gfg(x,L=[]):
    for i in range(x):
        L.append(i*i)
    print(L)
gfg(2)
gfg(3,[3,2,1])
gfg(3)
```

7.
```python
count =1
def  dothis():
        global count
         for I in (1,2,3)
                count+=1
    dothis()
    print count
```

8.
```python
def addem(x,y,z):
        Print(x+y+z)
    def prod(x,y,z):
        return x*y*z
    A=addem(6,16,26)
    B=prod(2,3,6)
    Print(a,b)
```

9.
```python
    def Func(message,num=1):
            print(message*num)
        Func('python')
        Func('Jaipur',3)
```

10.
```python
def Check(n1=1,n2=2)
    n1=n1+n2
    n2+=1
    print(n1,n2)

Check()
Check(2,1)
Check(3)
```

11.
```python
a=10
def call():
global a
a=15
b=20
    print(a)
call()
```

12. Write a function GenNum(a, b) to generate odd numbers between a and b (including b)

13. Write definition of a method/function **AddOdd(VALUES)** to display sum of odd values   from the list of VALUES.

14. Write definition of a Method MSEARCH(STATES) to display all the state names from a list of STATES, which are starting with alphabet M.
For example:
If the list STATES contains
["MP',"UP","MH","DL","MZ","WB"]
The following should get displayed
MP
MH
MZ

15. Write a python function generatefibo(n) where n is the limit, using a generator function
Fibonacci (max)(where max is the limit n) that produces Fibonacci series.

16. Write a definition of a method COUNTNOW(PLACES) to find and display   those place names, in which
There are more than7 characters. For example: If the list PLACES contains.

["MELBORN","TOKYO","PINKCITY","BEIZING","SUNCITY"
            The following should get displayed: PINKCITY

17. Write a function DISPLAY() in python to count the number of vowels in a line of string. The function should take line of string as parameter.

 18. Write a function DISPLAY() in python to read and count the word 'this' from line of string. The function should take line of string as parameter and return the count of word.

19. Write a function "perfect()" that determines if parameter number is a perfect number.

[An integer number is said to be "perfect number" if its factors, including 1(but not the number itself), sum to the number. E.g., 6 is a perfect number because 6=1+2+3].

20. Write a function in Python COPY(Arr), where Arr is a Python List of numbers. From this list, copy all numbers divisible by 5 into dumy List. Display the duy List if it has at least one element, otherwise display appropriate error message.

21. Write a function in Python ThreeSquare(a,b,c) that accept 3 integer values and it will return a tuple of square of 3 integer. For example is user provide 3, 5, 8 then the function should return (9,25,64) as return values

22. Write a function BigSmall() that will accept a list of integers and it will print the largest and smallest number of the list

23. Write a python Function that accepts a string and calculates the number of uppercase letters and lowercase letters.
Sample String : Python ProgrammiNg
Expected Output:
Original String : Python ProgrammiNg
No. of Upper case characters 3
No. of Lower case characters :1

24. Write a Python program to find the number of words in string. String should be passed as parameter and number of words should return from function.

25. Write a Python program to find the number of words in string which ends with letter 'a'. String should be passed as parameter and number of words should return from function.

26. Write a method/function DoubletheOdd(Nums) to add and display twice of odd values from the list of Nums.
For example :
If the Nums contains [25,24,35,20,32,41] The function should display Twice of Odd Sum: 202

27. Find Output of following program
```
def Change(P ,Q=30):
      P=P+Q
      Q=P-Q
      print( P,"#",Q)
      return (P)
R=150
S=100
R=Change(R,S)
print(R,"#",S)
S=Change(S)
print(R,"#",S)
```

28. Find and write the output of the following python code:
```
def fun(s):
      k=len(s)
      m=" "
      for i in range(0,k):
            if(s[i].isupper()):
                  m=m+s[i].lower()
            elif s[i].isalpha():
                  m=m+s[i].upper()
            else:
                  m=m+'bb'
      print(m)
fun('School2@com')
```

29. Differentiate between actual parameter(s) and a formal parameter(s) with a suitable example for each.

30. Explain the use of global key word used in a function with the help of a suitable example.