PYTHON – WORKSHEET 1

Q1 to Q8 have only one correct answer. Choose the correct option to answer your question.

1. Which of the following operators is used to calculate remainder in a division?
   A) # B) &
   C)% D) $
   Answer:a]#
2. In python 2//3 is equal to?
   A) 0.666 B) 0
   C) 1 D) 0.67
   Answer:b]0
3. In python, 6<<2 is equal to?
   A) 36 B) 10
   C) 24 D) 45
   Answer:c]24
4. In python, 6&2 will give which of the following as output?
   A) 2 B) True
   C)False D) 0
   Answer:a]2
5. In python, 6|2 will give which of the following as output?
   A) 2 B) 4
   C)0 D) 6
   Answer:d]6
6. What does the finally keyword denotes in python?
   A) It is used to mark the end of the code
   B) It encloses the lines of code which will be executed if any error occurs while executing the lines of code in the try block.
   C) the finally block will be executed no matter if the try block raises an error or not.
   D) None of the above
   Answer:c]The finally block will be executed no matter if the try block raises an error or not.
7. What does raise keyword is used for in python?
   A) It is used to raise an exception. B) It is used to define lambda function
   C)it's not a keyword in python. D) None of the above
   Answer:a]it is used to raise an exception
8. Which of the following is a common use case of yield keyword in python?
   A) in defining an iterator B) while defining a lambda function
   C)in defining a generator D) in for loop.
   Answer:c] In defining a generator

Q9 and Q10 have multiple correct answers. Choose all the correct options to answer your question.

9. Which of the following are the valid variablenames?
   A) _abc B) 1abc
   C)abc2 D) None of the above
   Answer:d] None of the above
10. Which of the following are the keywords in python?
    A) yield B) raise
    C)look-in D) all of the above
    Answer:a]Yield

Q11 to Q15 are programming questions. Answer them in Jupyter Notebook.

11. Write a python program to find the factorial of a number.

Answer:

```
import math


def factorial (n):
    return (math.factorial (n))
num=5
print("factorial of",num,"is",factorial(num))
```

Factorial of 5 is 120

12. Write a python program to find whether a number is prime or composite.

Answer :

```
from math import sqrt
 n = 0
while n < 2:
    n = int(input())

prime = True

i = 2
while i <= sqrt(n):
    if n % i == 0:
        prime = False
        break
    i += 1

if prime:
    print("It's a prime number")
else:
    print("This is a composite number"
```

13. Write a python program to check whether a given string is palindrome or not.

Answer:

```
# function to check string is
# palindrome or not
def isPalindrome(s):

    # Using predefined function to
    # reverse to string print(s)
    rev = ''.join(reversed(s))

    # Checking if both string are
    # equal or not
    if (s == rev):
        return True
    return False

# main function
s = "malayalam"
ans = isPalindrome(s)

if (ans):
    print("Yes")
else:
    print("No")
```

14. Write a Python program to get the third side of right-angled triangle from two given sides.

Answer:

```
def pythagoras(opposite_side,adjacent_side,hypotenuse):
    if opposite_side == str("x"):
        return ("Opposite = " + str(((hypotenuse*2) - (adjacent_side2))*0.5))
    elif adjacent_side == str("x"):
        return ("Adjacent = " + str(((hypotenuse*2) - (opposite_side2))*0.5))
    elif hypotenuse == str("x"):
        return ("Hypotenuse = " + str(((opposite_side*2) + (adjacent_side2))*0.5))
    else:
        return "You know the answer!"

print(pythagoras(3,4,'x'))
print(pythagoras(3,'x',5))
print(pythagoras('x',4,5))
print(pythagoras(3,4,5))
```

15. Write a python program to print the frequency of each of the characters present in a given string.

Answer:

```
# Python3 code to demonstrate
# each occurrence frequency using
# naive method

# initializing string
test_str = "GeeksforGeeks"

# using naive method to get count
# of each element in string
all_freq = {}

for i in test_str:
    if i in all_freq:
        all_freq[i] += 1
    else:
        all_freq[i] = 1

# printing result
print("Count of all characters in GeeksforGeeks is :\n "
     + str(all_freq))
```