**WORKSHEET 2**

**PYTHON**

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

1. Which of the following is not a core datatype in python?

**Answer:** C) set

2. Which of the following is an invalid variable name in python?

**Answer:** C) 1\_no

3. Which one of the following is a keyword in python?

**Answer:** A) in

4. In which of the following manner are the operators of the same precedence executed in python?

**Answer:** D) None of these

5. Arrange the following in decreasing order of the precedence when they appear in an expression in python?

i) Multiplication ii) Division iii) Exponential iv) Parentheses

**Answer:** C) iv – iii – ii – i

6. (28//6)\*\*3/3%3 = ?

**Answer:** C) 0.3333…

7. Which of the following is not equal to x16 ?

**Answer:** D) (x\*\*4)\*\*4

8. a = input(“Enter an integer”). What will be the data type of a?

**Answer:** A) int

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

9. Which of the following statements are correct?

**Answer:** A) Division and multiplication have same precedence in python

D) In case of operators’ having same precedence, the one on the left side is executed first.

10. Which of the following is(are) valid statement(s) in python?

**Answer:** A) abc = 1,000,000

C) a,b,c = 1000, 2000, 3000

**Q11 to Q13 are subjective questions, answer them briefly**

11. Differentiate between a list, tuple, set and dictionary.

**Answer:**

| **LIST** | **SET** | **TUPLE** |
| --- | --- | --- |
| Lists is Mutable | Set is Immutable | Tuple is Immutable |
| It is Ordered collection of items | It is Unordered collection of items | It is Ordered collection of items |
| Items in list can be replaced or changed | Items in set cannot be changed or replaced | Items in tuple cannot be changed or replaced |

12. Are strings mutable in python? Suppose you have a string “I+Love+Python”, write a small code to replace ‘+’ with space in python.

**Answer:** In Python, a string is immutable. You cannot overwrite the values of immutable objects.

However, you can assign the variable again.

13. What does the function ord() do in python? Explain with example. Also, write down the function for getting the datatype of a variable in python.

**Answer:** The ord() function in Python accepts a string of length 1 as an argument and returns the unicode code point representation of the passed argument. For example, ord('B') returns 66 in below examples.

print("The ASCII value of B is",ord('B'))

To check the type of any variable data type, we can use the **type()** function, example

a = 5

print(a, "is of type", type(a))

**Q14 and Q15 are programming questions. Answer them in Jupyter Notebook.**

14. Write a python program to solve a quadratic equation of the form 𝑎𝑥2 + 𝑏𝑥 + 𝑐 = 0. Where a, b and c are to be taken by user input. Handle the erroneous input, such as ‘a’ should not be equal to 0.

**Answer:**

import cmath

a = float(input('Enter a: '))

b = float(input('Enter b: '))

c = float(input('Enter c: '))

# calculate the discriminant

d = (b\*\*2) - (4\*a\*c)

# find two solutions

sol1 = (-b-cmath.sqrt(d))/(2\*a)

sol2 = (-b+cmath.sqrt(d))/(2\*a)

print('The solution are {0} and {1}'.format(sol1,sol2))

15. Write a python program to find the sum of first ‘n’ natural numbers without using any loop. Ask user to input the value of ‘n’.

**Answer:**

num = int(input("Enter the value of n: "))

hold = num

sum = 0

if num <= 0:

print("Enter a whole positive number!")

else:

while num > 0:

sum = sum + num

num = num - 1;

# displaying output

print("Sum of first", hold, "natural numbers is: ", sum)