**WORKSHEET 2 PYTHON Solutions**

Q1. Which of the following is not a core datatype in python?

A) list B) struct C) tuple C) set

Ans. (B)

Q2. Which of the following is an invalid variable name in python?

A) \_init\_ B) no\_1 C) 1\_no D) \_1

Ans. (C)

Q3. Which one of the following is a keyword in python?

A) in B) \_init\_ C) on D) foo

Ans. (A)

Q4. In which of the following manner are the operators of the same precedence executed in python? A) Left to Right B) BODMAS C) Right to Left D) None of these

Ans. (B) (For mathematical operators)

Q5. 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

A) iii – iv – ii – i B) iii – iv – i – ii C) iv – iii – ii – i D) iii – ii – i – iv

Ans. (None) (I think it should: iv – iii – i – ii (PEMDAS))

Q6. (28//6)\*\*3/3%3 = ?

A) 7.1111… B) 0 C) 0.3333… D) 1

Ans. (C)

Q7. Which of the following is not equal to x16 ?

A) x\*\*4\*\*4 B) x\*\*16 C) x^16 D) (x\*\*4)\*\*4

Ans. (C) (A also be currect)

Q8. a = input(“Enter an integer”). What will be the data type of a?

1. int B) str C) float D) double

Ans. (B)

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

Q9. Which of the following statements are correct?

A) Division and multiplication have same precedence in python B) Python’s operators’ precedence is based on PEDMAS C) Python’s operators’ precedence is based on VBODMAS D) In case of operators’ having same precedence, the one on the left side is executed first.

Ans. (B,D)

Q10. Which of the following is(are) valid statement(s) in python?

1. abc = 1,000,000 B) a b c = 1000 2000 3000 C) a,b,c = 1000, 2000, 3000 D) a\_b\_c = 1,000,000

Ans. (A,C,D)

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

Q11. Differentiate between a list, tuple, set and dictionary.

Ans.

* **List:** A list is a *mutable*, ordered sequence of items. As such, it can be indexed, sliced, and changed. Each element can be accessed using its position in the list. Lists can be used for any type of object, from numbers and strings to more lists. List variables are declared by using brackets [ ] following the variable name.  
  list1 = [2, 4, 'john']
* **Tuples:** Tuples are *immutable* like strings i.e. you cannot modify tuples. Tuples are used to hold together multiple objects. Tuple is declared in parentheses ().  
  tuple1 = (1, 2, 3, 4)
* **Dictionary:** Dictionary in python are *mutable*. A dictionary is a **key:value** pair, similar to an associative array found in other programming languages. A dictionary is like an address-book where you can find the address or contact details of a person by knowing only his/her name i.e. we associate *keys* (name) with *values* (details). Note that the key must be unique.  
  my\_dict = {1: 'one', 2: 'two', 3: 'three'}
* **Set:** A set is an unordered collection of items. Every set element is unique (no duplicates) and must be *immutable* (cannot be changed). Sets can also be used to perform mathematical set operations like union, intersection, symmetric difference, etc.   
  my\_set = {1.0, "Hello", (1, 2, 3)}

Q12. Are strings mutable in python? Suppose you have a string “I+Love+Python”, write a small code to replace ‘+’ with space in python.

Ans. No string are not mutable, strings are *immutable* in python.

def remove(string):

return string.replace("+", " ")

string = 'I+Love+Python'

print(remove(string))

Q13. 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.

Ans.

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

print("The ASCII value of 9 is",ord('9'))

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

def get\_data\_type(data):

print(type(data))

get\_data\_type(78.00)

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

Q14. Write a python program to solve a quadratic equation of the form 𝑎𝑥 2 + 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.

Ans.

import cmath

a, b, c = map(int, input("Enter three values: ").split())

if a!=0:

# 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))

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

else:

print(" a (First value) value can't be Zero, pls re-enter the values right values")

Q15. 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’.

Ans.

n = int(input("Enter number to calculate sum of first n natural numbers "))

sum = n \* (n+1) / 2

print("Sum of the Ffirst ", n, "natural numbers using formula is: ", sum )