WORKSHEET 2 PYTHON

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

Answer→ B) struct

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→ A) Left to Right

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

Answer→ B) str

8. Which of the following statements are correct?

Answer→ A) Division and multiplication have same precedence in python

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

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

Answer→ A) abc= 1,000,000

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

D) a_b_c = 1,000,000

10. Which of the following is not equal to x16 in

python?

Answer→ A) x**4**4

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

Answer→

List - lists are mutable it can be changed after creation. List cannot be used as key in dictionary because dictionary itself are immutable.

Tuples - tuples are immutable it cannot be changed after creation, but it can be used in dictionary as tuples and dictionary both are immutable.

-Sets - A set is a collection of unique keys. it is similar to dictionary, but it only holds single value not like Key: Value Pair.

Dictionary - A dictionary is a collection of key: value pair. Eg{'A':1} it is mutable and have unordered collection. whereas list and tuples are ordered collection of items.

LIST	TUPLE	DICTIONARY	SETS
Allows duplicate members	Allows duplicate members	No duplicate members	No duplicate members
Mutable	Immutable	Mutuble/ Indexed	Immutable but can be added / Non Indexed .
Ordered	Ordered	Unordered	Unordered
Square Brackets [ ]	Round Brackets ( )	Curly Brackets { }	Curly Brackets { }

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→

text="I+Love+Python"

- result=text.replace("+"," ")

- print(result)

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

Answer→

- The ord() function returns the number representing the unicode code of a specified character.
- type() function is used to fetch the datatype of a variable.
- eg. type(a) // 'a' being any input

14. 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.

Answer→

In [3]:

```
import cmath
try:
    a = int(input("Enter a Number - A : "))
    b = int(input("Enter a Number - B : "))
    c = int(input("Enter a Number - C : "))

    if a != 0:
        d = (b**2) - (4*a*c) #discriminant
        if d > 0:
            ans1 = (-b-cmath.sqrt(d) ) / (2*a)
            ans2 = (-b+cmath.sqrt(d) ) / (2*a)
            print(f"Answer is {ans1} and {ans2}")
        elif d == 0:
            ans = (-b+cmath.sqrt(d) ) / (2*a)
            print ("This equation has one solutions: ",ans)
        else:
            print ("This equation has no real solution")
    else:
        print("Values of A is equal to 0")
except:
    print("Invalid Number. Please Try Again !")
```

```
Enter a Number - A : 9
Enter a Number - B : 7
Enter a Number - C : 5
This equation has no real solution
```

In [6]:

```python
import cmath
try:
    a = int(input("Enter a Number - A : "))
    b = int(input("Enter a Number - B : "))
    c = int(input("Enter a Number - C : "))

    if a != 0:
        d = (b**2) - (4*a*c) #discriminant
        if d > 0:
            ans1 = (-b-cmath.sqrt(d) ) / (2*a)
            ans2 = (-b+cmath.sqrt(d) ) / (2*a)
            print(f"Answer is {ans1} and {ans2}")
        elif d == 0:
            ans = (-b+cmath.sqrt(d) ) / (2*a)
            print ("This equation has one solutions: ",ans)
        else:
            print ("This equation has no real solution")
    else:
        print("Values of A is equal to 0")
except:
    print("Invalid Number. Please Try Again !")
```

```
Enter a Number - A : 13
Enter a Number - B : 15
Enter a Number - C : 3
Answer is (-0.8964086101122336+0j) and (-0.2574375437339202+0j)
```

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

Answer→

In [8]:

```python
def recur_sum(n):
    if n <= 1:
        return n
    else:
        return n + recur_sum(n-1)  # Recrusive Function

num = int(input("Enter the count of natural numbers\n"))

if num < 0:
    print("Enter a positive number")
else:
    print(recur_sum(num))  # Function Call
```

```
Enter the count of natural numbers
11
66
```