Q1. Create one variable containing following type of data: (i) string (ii) list (iii) float (iv) tuple

**Answer:-**

**var = [ ‘saurabh’, [1,2,3,4,5], 2.5, (1,2,3,4,5) ]**

Q2. Given are some following variables containing data:

(i) var1 = ‘ ‘

(ii) var2 = ‘[ DS , ML , Python]’

(iii) var3 = [ ‘DS’ , ’ML’ , ‘Python’ ]

(iv) var4 = 1.

What will be the data type of the above given variable.

**Answer:-**

**(i) str**

**(ii) str**

**(iii) list**

**(iv) float**

Q3. Explain the use of the following operators using an example:

(i) /

(ii) %

(iii) //

(iv) \*\*

**Answer:-**

**(i) / - use for divide two value.**

**10 / 2 = 5.0**

**(ii) % - use for find remainder of two value**

**5 % 2 = 1**

**(iii) // - use for floor division**

**15 // 2 = 7**

**(iv) \*\* - use for find the power of value**

**2\*\*3 = 8**

Q4. Create a list of length 10 of your choice containing multiple types of data. Using for loop print the element and its data type.

**Answer:-**

**var = [1, 2.5, 3.5,’ 50’, ’sam’, (1,5,8,9), True, [2,5,8,9], False, 98]**

**for i in var:**

**print( i)**

**print(type(i))**

Q5. Using a while loop, verify if the number A is purely divisible by number B and if so then how many times it can be divisible.

Answer:-

**A = int(input('Enter the value of A '))**

**B = int(input('Enter the value of B '))**

**count = 0**

**if A % B == 0:**

**while B <= A:**

**count +=1**

**A -= B**

**print(count)**

**else:**

**print("the number A is not purely divisible by number B")**

Q6. Create a list containing 25 int type data. Using for loop and if-else condition print if the element is divisible by 3 or not.

**Answer:-**

**var = [5,8,9,4,852,9,912,94,3,15,25,34,647,51,65,67,62,67,39,20,578,22,23,24,27]**

**for i in var:**

**if i % 3 == 0:**

**print (str(i)+ ‘ divisible by 3’)**

**else:**

**print (str(i)+ ‘ not divisible by 3’)**

Q7. What do you understand about mutable and immutable data types? Give examples for both showing this property.

**Answer:-**

**mutable data types – Mutable data types are the objects that can be modified and altered means adding new elements , replacing an elements even after creating an object.**

**Example:-**

**List, Dictionary, set, Array**

**# Creating variable**

**var = [1,'sam','orange',2.5]**

**print(var)**

**# Update Value**

**var[2] = 'apple'**

**print(var)**

**immutable data types – Immutable data types are the objects that cannot be modified and altered means adding new elements , replacing an elements even after creating an object.**

**Example:-**

**String , Tupple**

**# Creating variable**

**var = ‘Apple’**

**print(var)**

**# Update Value**

**var[2] = 'O’**

**print(var) # its generating error**