**Python Data Types - Beginner Questions**

1.What is a data type in Python?

A. Data Type is a collection of information .

#Tells you how well the information or data is stored/organized.

1. List all the data types that we have in Python?

There are 4 data types in python:

1.Numeric Data Type

2.Sequence Data Type

3.dictionary Data Type

4.NONE Data Type

1. What is the difference between mutable and immutable data types?

>Mutable data type: mutable objects are those where we can change list anytime.

We can modify the data or remove elements widout changing its identity. Eg:list,dictionary,set etc.

>Immutable:where the data once created we cannot make any changes to it. Item assigning is not possible but we can reassign the data and any modifications creates a new object in the memory. Eg: int,string,float,bool,byte,set.

1. What is the difference between int, float, and complex?

Int: integers always tends to start from 0 and goes till infinity

. it can either be positive or negative

.no decimals are seen here.eg:4,5,6

Float: A float is type of data type were its reminder is always in the form of decimals.

It can also be either positive or negative. Eg:3.24,3.14 etc.

Complex: Complex are the imaginary numbers where they are represented in the form of a+bj wr a=real part,b=imaginary part.

4.Which data type is used to represent text in Python?

A. basically a string is used to represent text in python as it is defined as a sequence of characters inside ‘’ and “” quotes.

1. What is the output of type(521) and type("521")?

type1=521

print(type(type1))

output:

<class ‘int’

type1="521"

print(type(type1))

output:

<class ‘str’>

1. What is the difference between list, tuple, and set?

List: a list is a collection of objects.

Represented by sequence brac

Heterogenous collection of data

It is mutable .wr we can change its data anytime. Eg:[1,2,3,’hello’,’hi’]

Tuple: tuple is a form of list were data once assigned cant be changed hence it is immutable.

Represented by basic bracs

Eg:(1,2,3,-4,5)

Set: a set is a character of set of unordered,unique,finite elements.

Index cant be done cuz it is unordered.

Set is mutable.

{1,2,’hello’}

1. How is a dictionary different from a list?

A dictionary has key value pairs and here keys are unique and cant be repeated but values can be repeated .

Eg:roll number=name

1. What is the default data type of a number with a decimal point?

Float

<class ‘float’>

1. Declare variables of type int, float, string, and complex.

#integer :

a = 5 here a=int(whole number)

print(type(a))

#<class ‘int’>

#float:

a = 5.5 here a=float(decimal number)

print(type(a))

# <class ‘float’>

#string:

a = “hello”

print(type(a))

# <class ‘str’>

#complex:

a = 3+4j

print(type(a))

# <class ‘complex’>

1. Take any 3 datatypes examples and check type of each variable using the type() function.

X = 25

Print(type(x))

# <class ‘int’>

Y=5.5

Print(type(y))

#<class ‘float’>

Z=2+3j

Print(type(a))

#<class ‘complex’>

1. What happens if you try to add a string and an integer?

When we try to add string and integer it will throw an error

TypeError: can only concatenate str (not “int”) to str.

1. What is the output of:
   1. x = [1, 2, 3]

x=[1,2,3]

print(type(x))

#<class ‘list’>

* 1. y = (1, 2, 3)

y=(1,2,3)

print(type(y))

#<class ‘tuple’>

* 1. z = {1, 2, 3}

print(type(z))

#<class ‘set’>

* 1. print(type(x), type(y), type(z))

#<class ‘int’ , class ‘tuple’ , class ‘set’ >

1. Can you change a value in a tuple once it is defined? Why or why not?

As tuple is immutable a value when defined in a tuple it cannot b changed.

1. Is reassignment possible for immutable datatypes?

Yes ,reassignment is possible for immutable data types as we are trying to refer other number or string but we aren’t disturbing the previous or existing string/number hence reassigning is possible for immutable data types.