Variables – Basics

1.) What is a variable in Python?

A variable is a name that refers to a value stored in memory.

2.) How do you declare a variable in Python?

We declare a variable by writing a name and assigning a value to it. Example: x=10

3.) Can you change the value of a variable after declaring it in Python?

We can change the value of a variable anytime just by assigning a new value, like x = 20

4.) Does Python require declaring the variable type?

We need not have to declare the type of a variable. Python uses dynamic typing.

5.) What will happen if you use a variable before assigning a value to it?

If we try to use a variable without assigning it first, Python will give an error saying it's not defined.

6.) Is Python a case-sensitive language for variable names?

Python is case-sensitive.

7.) Can a variable name start with a number in Python?

Variable names can’t start with a number.

8.) What symbols are allowed in variable names apart from letters and numbers?

Only the underscore.

9.) Is my_var the same as My_Var in Python?

No, they are different due to case sensitivity.

10.) What is the difference between assignment = and equality == in Python?

= assigns a value to a variable, == checks if two values are equal.

Variables – Data Types & Examples

1.) How do you assign an integer value to a variable?

x = 24

2.) How do you assign a floating-point value to a variable?

y = 2.24

3.) How do you assign a string value to a variable?

z = “hello”

4.) What is the type of variable x = True ?

The type of x is Boolean.

5.) How do you check the type of a variable?

To check the type of any variable, we use the type() function.

6.) Can a variable change its type after assignment?

Yes

7.) What will be the type of x = 3 + 4.5 ?

Float

8.) Give an example of assigning multiple variables in one line.

Example : abc = bcd = cde = def = efg = ”Friends”

9.) What is dynamic typing in Python?

Dynamic typing means it decides the variable’s type when the code runs.

10.) What will happen if you assign x = "5" and then do x = x + 2 ?

It will cause an error because we can’t add a string and a number directly.

Strings – Basics

1.) How do you define a string in Python?

We define a string using single quotes or double quotes. Example : y = “Hello” or y = ‘Hello’

2.) What is the difference between single and double quotes in strings?

There is no difference in functionality between single and double quotes.

3.) How do you create a multi-line string?

We use triple quotes: """This is a multi-line string""" or ‘’’This is a multi line string’’’

4.) How do you find the length of a string?

We use len() function. Example : len(string_name)

5.) How do you access the first character of a string?

We use indexing like string[0].

6.) What is string slicing?

Extracting a portion of the string using [start:end] syntax.

7.) What does my_str[0:3] return if my_str = "Python" ?

O/p : “Pyt”

8.) How do you concatenate two strings?

To join two strings, you use + symbol. Example : "Hello" + "World" => o/p "HelloWorld"

9.) What is the result of "Hello" * 3 ?

Repeats the string three times, it gives "HelloHelloHello"

10.) Are strings mutable or immutable in Python?

Strings in Python are immutable.

Type Casting – Basics

1.) What is type casting in Python?

Type casting means converting one data type to another.

2.) How do you convert a string "123" to an integer?

We use int("123")

3.) How do you convert a float 3.5 to an integer?

We use int(3.5)

4.) How do you convert an integer 5 to a string?

We use str(5)

5.) What happens if you try to convert a string "abc" to an integer?

Python will give an error because it’s not a number.

6.) How do you convert a string "3.14" to a float?

We use float("3.14")

7.) What will be the result of int(3.99) ?

o/p : 3

8.) How do you check if a variable can be converted to a number safely?

We can use try and except function

9.) What is the difference between str() and repr() in Python?

str() gives a readable version of the object, while repr() gives a detailed representation of the object.

10.) How do you convert a boolean True to an integer?

int(True)