Assessment  
  
1. What is a variable in Python?  
A variable is a name that stores the value in memory. It can be of any datatype like integer, float, string etc.

2. How do you declare a variable in Python?

In python we don’t need to specify the data type. Declaring the variable is as follows:

x = 10

name = "Shreya"

price = 99.9

bool\_variable = True

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

Yes, variables can be changed after declaring:

x = 10

x = 40

4. Does Python require declaring the variable type?  
no, it uses dynamic typing where there is no need to declare the datatype of the variable.

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

We will get name error as the value is not assigned  
ex: if we use print(x) before assigning the value to the variable x.

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

Yes. “shreya” and “Shreya” are different.

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

No, it must start with a letter or underscore.

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

== 🡪 compares values

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

x = 5

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

y = 3.14

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

name = "Shreya"

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

Boolean

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

We can use type() in built function to check for the type of the variable.

X=12

Print(type(x))

6.Can a variable change its type after assignment?

Yes we can change the type as follows  
x = 5

x = "hello"

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

Float

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

a=b=c=12 or  
a, b, c = 1, 2, 3

9.What is dynamic typing in Python?

You don’t declare types – Python assigns datatype itself.

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

Type Error, because we can't add string and integer.

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1. How do you define a string in Python?

We use quotes like double quotes or single quotes as follows:  
s = "Hello"

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

No difference, but sometimes if we want double quotes to be printed then we can use double quotes inside single quotes.

3.How do you create a multi-line string?  
by using triple quotes we can create multi-line strings

s = """This

is

multi-line"""

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

We can use thr inbuilt function len() for finding length of the string

len("hello")

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

String is considered as an array so we can use “variable[position]” to get the character of the string.

s=”hello”  
print(s[0])

6.What is string slicing?

Extracting a substring using [start : stop] index.

s[1:4]

7.What does my\_str[0:3] return if my\_str = "Python" ?

Pyt

8.How do you concatenate two strings?

Print("Hello" + "World”)

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

Result: "HelloHelloHello"

10.Are strings mutable or immutable in Python?

Immutable.  
Immutability means once a string is created, it cannot be modified in place.

s = "hello"

s[0] = 'H  
gives type error

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1.What is type casting in Python?

Converting one data type to another

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

int("123")

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

int(3.5)

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

str(5)

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

Raises ValueError

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

float(“3.14”)

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

The result will be “3” because python removes the decimal part of the number.

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

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

x = "Hello"

print(str(x))  
  
it gives output as Hello

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

int(True) which gives 1

int(False) gives 0