Python Variables: Concepts and MCQs

# 🔰 What is a Variable in Python?

A variable in Python is a named location in memory used to store data. You can think of it as a container that holds a value. The value stored in a variable can be changed during program execution.

## Example 1:

name = "Alice"  
print(name)

## Example 2:

score = 95  
score = score + 5  
print(score) # Output: 100

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## 1️⃣ Rules for Naming Variables

- A variable name must start with a letter or an underscore (\_)  
- It cannot start with a number.  
- It can contain letters, digits, and underscores.  
- Variable names are case-sensitive (Age and age are different).  
- Reserved keywords cannot be used (e.g., class, for, if).

### Example 1:

student\_name = "John"  
marks\_2024 = 85

### Example 2:

\_total = 100  
name1 = "Sam"

## 2️⃣ Assigning Values to Variables

You assign a value to a variable using the '=' operator.

### Example 1:

city = "New York"  
temperature = 25.5

### Example 2:

x = 10  
y = x + 5  
print(y) # Output: 15

## 3️⃣ Multiple Assignments

You can assign multiple variables in one line.

### Example 1:

a, b, c = 5, 10, 15  
print(a, b, c)

### Example 2:

x = y = z = 100  
print(x, y, z)

## 4️⃣ Delete a Variable Using del Keyword

You can remove a variable from memory using the 'del' keyword.

### Example 1:

num = 50  
del num  
# print(num) # Will raise NameError

### Example 2:

message = "Hello"  
del message

# ✅ MCQ Questions (with Answers)

1. ❓ Q1. Which of the following are valid variable names in Python?

* A) age
* B) 123name
* C) \_value
* D) class

✅ Answer: A, C

1. ❓ Q2. What will be the output?  
   x = 5  
   y = 10  
   x, y = y, x  
   print(x, y)

* A) 5 10
* B) 10 5
* C) Error
* D) x y

✅ Answer: B

1. ❓ Q3. Which of the following are Python keywords and cannot be used as variable names?

* A) for
* B) while
* C) Name
* D) False

✅ Answer: A, B, D

1. ❓ Q4. Which of the following lines assign the same value to three variables?

* A) x = y = z = 50
* B) a, b, c = 10, 10, 10
* C) m = 10; n = 20; o = 30
* D) i = j = k = "done"

✅ Answer: A, B, D

1. ❓ Q5. Which of the following option is correct?  
   name = "Python"  
   del name  
   print(name)

* A) Python
* B) Error: name is not defined
* C) None
* D) name

✅ Answer: B

1. ❓ Q6. What does the del keyword do in Python?

* A) Deletes files
* B) Deletes a function
* C) Deletes a variable from memory
* D) Deletes Python installation

✅ Answer: C

1. ❓ Q7. Which assignment is invalid in Python?

* A) x = 10
* B) 10 = x
* C) x, y = 1, 2
* D) name = "Alice"

✅ Answer: B

1. ❓ Q8. Which of the following option is correct regarding this code?  
   x = y = z = "Code"  
   print(x, y, z)

* A) Output: Code Code Code
* B) Output: x y z
* C) Error: Assignment not allowed
* D) Output: None

✅ Answer: A

1. ❓ Q9. Which of the following can start a variable name in Python?

* A) Letter
* B) Digit
* C) Underscore
* D) Dollar sign

✅ Answer: A, C

1. ❓ Q10. Which one of the following is a correct assignment in Python?

* A) 1value = 100
* B) name@123 = "Alex"
* C) user\_name = "Ava"
* D) def = "Function"

✅ Answer: C