

Introduction to Python Programming Fundamentals

Topic: Python Programming | **Questions:** 10 | **Time:** 20 mins | **Passing:** 70%

Q1. Which of the following is the correct way to assign the value 10 to a variable named 'x' in Python?

Difficulty: easy | Topic: Variables & Assignment

- **A)** `x = 10`
- **B)** `x == 10`
- **C)** `int x = 10`
- **D)** `assign x to 10`

Answer: A

Explanation: In Python, the single equals sign (=) is used as the assignment operator to give a value to a variable. '==' is for comparison.

Q2. Python uses curly braces {} to define code blocks like functions and loops.

Difficulty: easy | Topic: Code Structure & Indentation

- **True)** True
- **False)** False

Answer: False

Explanation: Python uses indentation (whitespace) to define code blocks, not curly braces. This is a key distinguishing feature of Python's syntax.

Q3. In Python, single-line comments begin with the ___ symbol.

Difficulty: easy | Topic: Comments

Answer: #

Explanation: The '#' symbol is used to denote a single-line comment in Python. Any text following '#' on the same line is ignored by the interpreter.

Q4. What will be the output of the following Python code: my_list = [1, 2, 3]; my_list.append(4); print(my_list[0])?

Difficulty: medium | Topic: Lists & Indexing

• A) 1

• B) 4

• C) [1, 2, 3, 4]

• D) Error

Answer: A

Explanation: The `append(4)` method adds 4 to the end of `my_list`. However, `my_list[0]` accesses the element at index 0, which is the first element, so it prints 1.

Q5. How many times will the following loop execute: `for i in range(3): print('Hello')`?

Difficulty: medium | Topic: For Loops & Range

- A) 2
- B) 3
- C) 4
- D) 0

Answer: B

Explanation: The `range(3)` function generates a sequence of numbers from 0 up to (but not including) 3, which are 0, 1, and 2. The loop will iterate once for each of these numbers, totaling 3 executions.

Q6. Once a tuple is created in Python, its elements can be changed (it is mutable).

Difficulty: medium | Topic: Tuples & Immutability

- True) True
- False) False

Answer: False

Explanation: Tuples are immutable sequences in Python, meaning their elements cannot be changed, added, or removed after the tuple has been created. Lists, in contrast, are mutable.

Q7. The keyword used to define a function in Python is ____.

Difficulty: medium | Topic: Functions

Answer: def

Explanation: The `def` keyword is used to introduce a function definition, followed by the function name, parentheses for parameters, and a colon.

Q8. What value will 'x' have after this code executes: `x = 10; def func(): global x; x = 20; func(); print(x)`?

Difficulty: hard | Topic: Global Variables & Scope

• A) 10

• B) 20

• C) Error

• D) None

Answer: B

Explanation: The `global x` statement inside `func()` explicitly declares that the `x` being modified is the global variable `x`, not a new local variable. Therefore, the global `x` is updated to 20.

Q9. Which of the following will result in a `TypeError` in Python?

Difficulty: hard | Topic: Built-in Functions & Error Types

- A) `len("hello")`
- B) `len([1,2,3])`
- C) `len(5)`
- D) `len((1,2))`

Answer: C

Explanation: The `len()` function expects an object that has a length (e.g., strings, lists, tuples, dictionaries). An integer like 5 does not have a length, leading to a `TypeError`.

Q10. What is the result of `7 // 2` in Python?

Difficulty: medium | Topic: Operators

- A) 3.5
- B) 3
- C) 4

- D) 1

Answer: B

Explanation: The `//` operator performs floor division, which divides the first number by the second and then rounds the result down to the nearest whole number (integer). 7 divided by 2 is 3.5, and flooring it gives 3.
