Python Fundamentals Quiz: Master the Basics and Strengthen Your Skills

---

Here's a comprehensive set of multiple-choice questions (MCQs) based on the Python topics covered so far. These questions cover key concepts including Python syntax, input/output, and script execution.

Quiz 1: Python Basics

1. **What is Python?**
   a) A high-level, compiled programming language
   b) A high-level, interpreted programming language
   c) A low-level programming language
   d) A scripting language used only for web development
   Answer: b) A high-level, interpreted programming language

2. **Which of the following is NOT a key feature of Python?**
   a) Easy to learn and use
   b) Dynamically typed
   c) Requires strict indentation
   d) Compiled language
   Answer: d) Compiled language

3. **What is the purpose of the # symbol in Python?**
   a) It defines a function
   b) It marks the beginning of a comment
   c) It is used for arithmetic operations
   d) It is used to define a block of code
   Answer: b) It marks the beginning of a comment

4. **Which of the following is a valid Python variable name?**
   a) 123abc
   b) _variableName
   c) my-variable
   d) 1variable

Answer: b) _variableName

In Python, what is the result of the following code?

print(2 * 3)

5. a) 23
   b) 6
   c) Error
   d) None
   Answer: b) 6

Quiz 2: Writing and Running Python Scripts

1. **Which file extension is used for Python scripts?**
   a) .txt
   b) .py
   c) .java
   d) .html
   Answer: b) .py

2. **How do you execute a Python script from the terminal?**
   a) python run script.py
   b) python3 script.py
   c) run script.py
   d) execute script.py
   Answer: b) python3 script.py

What will the following code output?

print("Hello", "World", sep="-", end="!!!")

3. a) Hello-World!!!
   b) Hello World!!!
   c) HelloWorld!!!
   d) Hello-World
   Answer: a) Hello-World!!!

4. **True or False: In Python, comments are executed by the interpreter.**
   a) True

b) False
Answer: b) False

Quiz 3: Input and Output

1. **Which function is used to get user input in Python?**
    a) input()
    b) read()
    c) scan()
    d) get_input()
    Answer: a) input()

What will the following code print?

```
name = input("Enter your name: ")
print("Hello, " + name + "!")
```

2. a) Hello, !
    b) Enter your name: Hello!
    c) Hello!
    d) Error
    Answer: a) Hello, !

3. **Which Python function is used to display output to the user?**
    a) print()
    b) output()
    c) display()
    d) echo()
    Answer: a) print()

4. **How do you convert input to an integer?**
    a) int()
    b) str()
    c) float()
    d) convert()
    Answer: a) int()

What will the following code do if the user enters a non-numeric value?

```
age = int(input("Enter your age: "))
```

5. a) It will print an error message
   b) It will convert the value to a string
   c) It will raise a `ValueError`
   d) It will ask the user to input again
   Answer: c) It will raise a `ValueError`

Quiz 4: String Formatting and Operations

How do you format the following output using f-string?

```
name = "Alice"
print("Hello, {}".format(name))
```

1. a) print(f"Hello, {name}")
   b) print(f"Hello, name")
   c) print("Hello, name")
   d) print("Hello, {}".format(name))
   Answer: a) print(f"Hello, {name}")

What is the output of the following code?

```
print("Python", "is", "fun", sep="*")
```

2. a) Python-is-fun
   b) Python*is*fun
   c) Python* is *fun*
   d) *Python is fun*
   Answer: *b) Python*is*fun*

3. **Which character is used to indicate a new line in the `print()` function?**
   a) `\n`
   b) `\t`
   c) `\r`
   d) `\s`
   Answer: a) `\n`

4. **True or False: `input()` always returns a string in Python.**
   a) True
   b) False

Quiz 5: Code Output Prediction

What will the following code output?

```python
print("A", "B", "C", sep="-", end="***")
print("D")
```

1. a) A-B-C**D**
   b) A B CD
   c) A-B-C D
   d) A B C D
   Answer: a) A-B-C***D

What will the following code output?

```python
x = input("Enter a number: ")
print(type(x))
```

2. a) <class 'int'>
   b) <class 'float'>
   c) <class 'str'>
   d) Error
   Answer: c) <class 'str'>

What will happen if the user enters abc when running the following code?

```python
num = int(input("Enter a number: "))
print(num * 2)
```

3. a) It will print `abc * 2`
   b) It will raise a `ValueError`
   c) It will ask the user to enter a number again
   d) It will convert `abc` to a number
   Answer: b) It will raise a `ValueError`

What is the error in the following code?

if True
    print("Valid")

4. a) Missing `print()` function
    b) Missing parentheses
    c) Missing colon at the end of the `if` statement
    d) No error
    Answer: c) Missing colon at the end of the `if` statement

These MCQs provide a thorough review of the Python basics, input/output, and code execution. They should help you test and reinforce your understanding of the concepts discussed. Let me know if you'd like more questions or explanations!