**Module 3. Variables and Data Types**

**TRUE/FALSE**

1. The int data type in Python can store decimal numbers.

Answer: F

1. A variable in Python can be reassigned to a different data type.

Answer: T

1. Python strings can be enclosed in either single or double quotes.

Answer: T

1. The float data type is used for whole numbers in Python.

Answer: F

1. The complex data type in Python includes a real part and an imaginary part.

Answer: T

1. The type() function is used to determine the data type of a variable.

Answer: T

1. Lists in Python are immutable.

Answer: F

1. The bool data type can only have the values True or False.

Answer: T

1. The str data type in Python can contain numeric values.

Answer: T

1. The bytes data type is used for storing text data.

Answer: F

1. The NoneType is used to represent the absence of a value.

Answer: T

1. The input() function in Python returns data as a string.

Answer: T

1. The random module in Python can generate random integers.

Answer: T

1. In Python, 3.0 is considered an integer.

Answer: F

1. The + operator can be used for string concatenation.

Answer: T

1. The float() function can convert a string containing a floating-point number to a float.

Answer: T

1. Boolean values can be combined using logical operators like and, or, and not.

Answer: T

1. Python allows the creation of variables without initializing them.

Answer: F

1. The print() function in Python can display variables of any data type.

Answer: T

1. The dict data type is used for creating ordered sequences of elements.

Answer: F

1. The int() function can convert a floating-point number to an integer by truncating the decimal part.

Answer: T

1. A Python string can be sliced using indices.

Answer: T

1. The range data type represents an immutable sequence of numbers.

Answer: T

1. The set data type can contain duplicate elements.

Answer: F

1. The memoryview type allows you to access the internal data of an object that supports the buffer protocol.

Answer: T

**MULTIPLE CHOICE**

1. Which of the following is a numeric data type in Python?

a. str

b. list

c. int

d. bool

Answer: C

1. What is the correct way to create a floating-point number in Python?

a. x = "3.14"

b. x = 3

c. x = 3.14

d. x = '3.14'

Answer: C

1. Which function is used to determine the data type of a variable in Python?

a. type()

b. isinstance()

c. id()

d. dir()

Answer: A

1. What data type does the input() function return by default?

a. int

b. float

c. str

d. bool

Answer: C

1. How do you create a variable with the numeric value 10 in Python?

a. x = "10"

b. x = 10

c. x = 10.0

d. x = '10'

Answer: B

1. What is the output of the following code?

x = 5

y = 2

print(x // y)

a. 2.5

b. 2

c. 3

d. 2.0

Answer: B

1. Which data type is immutable?

a. list

b. dict

c. set

d. tuple

Answer: D

1. What will be the output of the following code?

x = "Hello"

y = "World"

print(x + " " + y)

a. HelloWorld

b. Hello World

c. HelloWorld

d. "Hello World"

Answer: B

1. Which of the following is not a valid numeric type in Python?

a. int

b. float

c. complex

d. str

Answer: D

1. What is the result of bool("") in Python?

a. True

b. False

c. None

d. Error

Answer: B

1. Which method can be used to convert a string to a float in Python?

a. str()

b. int()

c. float()

d. bool()

Answer: C

1. What will be the output of the following code?

x = 10

y = 20

print(x > y)

a. True

b. False

c. None

d. Error

Answer: B

1. Which of the following operators is used for exponentiation in Python?

a. \*

b. \*\*

c. //

d. ^

Answer: B

1. What is the data type of the variable z in the following code?

z = 1j

a. int

b. float

c. str

d. complex

Answer: D

1. How do you declare a multiline string in Python?

a. Using single quotes

b. Using double quotes

c. Using triple quotes

d. Using backticks

Answer: C

1. What is the output of the following code?

a = "Hello"

b = a[1:4]

print(b)

a. Hel

b. ello

c. ell

d. lo

Answer: C

1. Which keyword is used to define a function in Python?

a. func

b. def

c. function

d. define

Answer: B

1. Which of the following is a Boolean operator in Python?

a. &

b. |

c. and

d. not

Answer: C

1. How do you comment a single line in Python?

a. //

b. #

c. /\*

d. '''

Answer: B

1. What is the result of the following code?

x = 10

y = 3

print(x % y)

a. 1

b. 3

c. 10

d. 7

Answer: A

1. Which data type is used to store true/false values in Python?

a. str

b. int

c. bool

d. float

Answer: C

1. What will be the output of the following code?

print(2 \*\* 3)

a. 6

b. 8

c. 9

d. 10

Answer: B

1. How do you check the length of a string s in Python?

a. len(s)

b. length(s)

c. size(s)

d. count(s)

Answer: A

1. What is the result of the following code?

print(bool(0))

a. True

b. False

c. None

d. Error

Answer: B

1. Which of the following is a valid string concatenation in Python?

a. 'Hello' + 'World'

b. 'Hello' \* 'World'

c. 'Hello' - 'World'

d. 'Hello' / 'World'

Answer: A

1. What will be the output of the following code?

x = 5.0

y = int(x)

print(y)

a. 5.0

b. 5

c. Error

d. None

Answer: B

1. Which of the following can be used to create a dictionary in Python?

a. []

b. ()

c. {}

d. <>

Answer: C

1. What does the following code print?

x = 3

y = "3"

print(x == y)

a. True

b. False

c. Error

d. None

Answer: B

1. Which of the following methods can be used to convert an integer to a string in Python?

a. int()

b. float()

c. str()

d. bool()

Answer: C

1. What will be the output of the following code?

a = 10

b = 3

print(a / b)

a. 3

b. 3.0

c. 3.3333333333333335

d. Error

Answer: C