**Module 14. Polymorphism**

**TRUE/FALSE**

1. Polymorphism allows different objects to respond to the same method call in different ways.

Answer: True

1. The len() function in Python is not polymorphic.

Answer: False

1. In Python, only strings and lists support the len() function.

Answer: False

1. Polymorphism is a concept only applicable to object-oriented programming.

Answer: True

1. The len() function can return the length of dictionaries.

Answer: True

1. In Python, polymorphism requires explicit type checking using type() or isinstance().

Answer: False

1. The move method in the Car class outputs "Car moves on roads."

Answer: True

1. Polymorphism enhances code modularity and flexibility.

Answer: True

1. Only subclasses can override methods from the superclass in polymorphism.

Answer: True

1. The move() method in the Vehicle class prints "Vehicle moves."

Answer: False

1. The move() method is an example of function polymorphism.

Answer: False

1. The isinstance() function checks if an object is an instance of a specific class.

Answer: True

1. Polymorphism is not related to inheritance in Python.

Answer: False

1. In the given document, Car, Ship, and Airplane classes inherit from the Vehicle class.

Answer: True

1. Polymorphism allows different classes to implement the same method in different ways.

Answer: True

**MULTIPLE CHOICE**

1. What does polymorphism in programming refer to?

A. The ability of different objects to respond to the same message in different ways

B. The process of converting one data type to another

C. The ability to define multiple functions with the same name

D. The use of operators to perform different operations

Answer: A

1. Which of the following functions is used to check if an object is an instance of a specified class?

A. type()

B. isinstance()

C. issubclass()

D. id()

Answer: B

1. In Python, which of the following data types does the len() function support?

A. Strings

B. Lists

C. Dictionaries

D. All of the above

Answer: D

1. What is the purpose of polymorphism in object-oriented programming?

A. To allow methods to accept objects of a superclass and have subclasses provide their own implementations

B. To create multiple classes with the same name

C. To restrict methods to specific classes only

D. To use the same class multiple times

Answer: A

1. Which of the following is NOT a benefit of polymorphism?

A. Improved code flexibility

B. Easier code maintenance

C. Increased redundancy

D. Enhanced modularity

Answer: C

1. Which of the following is true about function polymorphism in Python?

A. It allows functions to operate on different data types

B. It restricts functions to specific data types

C. It creates multiple functions with the same name

D. It prevents function overriding

Answer: A

1. What does the len() function return when applied to a dictionary?

A. The number of keys

B. The number of values

C. The number of key-value pairs

D. The length of the longest key

Answer: C

1. Which keyword is used to create a subclass in Python?

A. class

B. extends

C. inherits

D. super

Answer: A

1. Which of the following is NOT a type of polymorphism?

A. Function polymorphism

B. Operator polymorphism

C. Class polymorphism

D. Method polymorphism

Answer: B

1. What does the len() function return when applied to a string?

A. The number of characters in the string

B. The number of words in the string

C. The number of lines in the string

D. The number of vowels in the string

Answer: A

1. What does the term "dynamic dispatch" refer to?

A. The process of resolving method calls at runtime

B. The process of defining multiple methods with the same name

C. The process of converting one data type to another

D. The process of defining a class within another class

Answer: A

1. How is the len() function an example of polymorphism?

A. It can operate on different types of objects

B. It can only operate on strings and lists

C. It has multiple definitions in Python

D. It requires explicit type checking

Answer: A