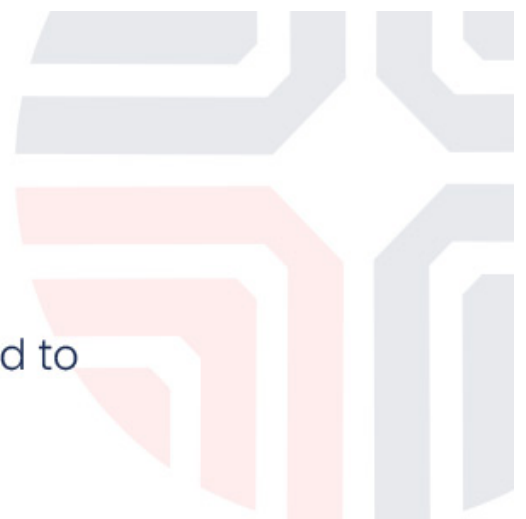


Java



# CERTIFICATE OF ACHIEVEMENT



This certificate is proudly presented to

**Lutho Mtyelwa**

> For: **Java**

> With a score of: **18/30 (60%)**

> Date: **November 4, 2024**



CAPACITI

## Report Summary

Name	: <b>Lutho Mtyelwa</b>
Your Score	: 18 out of 30 (60%)
Correct Answers	: <b>18 Questions</b>
Incorrect Answers	: <b>12 Questions</b>
Unanswered	: 0 Questions
Required Passing Grade (%)	: 50%
Time Taken	: 17 mins 35 secs
Date	: Nov 04, 2024
Your Result	: <b>Pass</b>
Email	: Lutho.Mtyelwa@capaciti.org.za

## Your Answers

### Correct

Q1) What is Java?

- A. A programming language (Your Answer)(Correct)
- B. A type of coffee
- C. A type of dessert
- D. A breed of dog

Explanation:Java is a high-level programming language known for its portability and versatility in building applications.

### Incorrect

Q2) What is the main principle of object-oriented programming (OOP)?

- A. Inheritance (Your Answer)(Incorrect)
- B. Encapsulation (Correct)
- C. Abstraction
- D. Polymorphism

Explanation:Encapsulation is the principle of bundling data and methods that operate on the data into a single unit, known as a class.

### Correct

Q3) What is a class in Java?

- A. A blueprint for creating objects (Your Answer)(Correct)
- B. A mathematical equation
- C. A type of function
- D. A type of loop

Explanation:A class in Java serves as a blueprint for creating objects, defining properties and behaviors that the objects will have.

### Correct

Q4) What keyword is used to create an object in Java?

- A. new (Your Answer)(Correct)
- B. create
- C. initialize
- D. object

Explanation: The 'new' keyword is used in Java to create a new instance of a class, known as an object.

Incorrect

Q5) What is the default access modifier in Java?

- A. Package-private (Correct)
- B. Public (Your Answer)(Incorrect)
- C. Private
- D. Protected

Explanation: In Java, if no access modifier is specified, the default modifier is package-private, allowing access within the same package.

Incorrect

Q6) What is the parent class of all classes in Java?

- A. Object (Correct)
- B. Main (Your Answer)(Incorrect)
- C. Parent
- D. Root

Explanation: The 'Object' class is the parent class of all classes in Java and provides common methods for all objects.

Correct

Q7) Which keyword is used for method overriding in Java?

- A. Override (Your Answer)(Correct)
- B. Virtual
- C. Super
- D. Final

Explanation: The 'Override' keyword is used in Java to indicate that a method is being overridden from the superclass.

Correct

Q8) What does the 'this' keyword refer to in Java?

- A. Current object (Your Answer)(Correct)
- B. Superclass object
- C. Subclass object
- D. None of the above

Explanation: In Java, the 'this' keyword refers to the current object instance within a class or method.

Correct

Q9) Which of the following is not a principle of OOP?

- A. Inheritance
- B. Encapsulation
- C. Iteration (Your Answer)(Correct)
- D. Polymorphism

Explanation: Iteration is a control flow statement used for repeating a block of code based on a condition, not a principle of OOP.

Correct

Q10) What is the purpose of constructor in Java?

- A. Initializing object (Your Answer)(Correct)
- B. Defining methods
- C. Managing memory
- D. Handling exceptions

Explanation: Constructors in Java are special methods used for initializing objects by setting initial values to their properties or variables.

Correct

Q11) What is the correct way to declare a class in Java?

- A. class MyClass() {}
- B. Class myClass {}
- C. class MyClass {} (Your Answer)(Correct)
- D. Class MyClass {}

Explanation: In Java, class names should start with an uppercase letter. The correct way to declare a class is 'class MyClass {}'.

## Correct

Q12) Which keyword is used to inherit a class in Java?

- A. super
- B. extends (Your Answer)(Correct)
- C. inherit
- D. implements

Explanation: 'extends' is used to inherit a class in Java. For example: 'class ChildClass extends ParentClass {}'.

## Incorrect

Q13) What is the output of the following code snippet: `System.out.println(10 == 10.0);`

- A. True (Correct)
- B. False (Your Answer)(Incorrect)
- C. Error
- D. 0

Explanation: Java automatically promotes the int value to a double value for comparison. So, 10 is equivalent to 10.0 which will return true.

## Correct

Q14) Which of the following is not a valid primitive data type in Java?

- A. int
- B. string (Your Answer)(Correct)
- C. double
- D. boolean

Explanation: 'string' is not a valid primitive data type in Java. It should be 'String' with an uppercase 'S'.

## Incorrect

Q15) What is the correct way to create an object of a class in Java?

- A. `Object obj = new Object();` (Your Answer)(Incorrect)
- B. `class obj = new class();`
- C. `MyClass obj = new MyClass();` (Correct)
- D. `int obj = new int();`

Explanation: The correct way to create an object of a class in Java is by using the class name followed by the object name and the 'new' keyword. For example: `'MyClass obj = new MyClass();'`.

Correct

Q16) What does OOP stand for in Java programming?

- A. Object-Oriented Programming (Your Answer)(Correct)
- B. Online Object Programming
- C. Object Oriented Protocol
- D. Object Override Programming

Explanation: OOP stands for Object-Oriented Programming, which is a programming paradigm based on the concept of objects.

Correct

Q17) Which keyword is used to prevent a method from being overridden in Java?

- A. `override`
- B. `final` (Your Answer)(Correct)
- C. `private`
- D. `static`

Explanation: The 'final' keyword is used to prevent a method from being overridden in Java. Once a method is declared as final, it cannot be overridden in any subclass.

Incorrect

Q18) What is the parent class of all classes in Java?

- A. `MainClass` (Your Answer)(Incorrect)
- B. `RootClass`
- C. `ParentClass`
- D. `Object` (Correct)

Explanation: The 'Object' class is the parent class of all classes in Java. Every class in Java is directly or indirectly derived from the Object class.

## Correct

Q19) What is encapsulation in Java?

- A. Combining data members and methods in a single class
- B. Hiding the implementation details of a class (Your Answer)(Correct)
- C. Inheriting properties from a parent class
- D. Creating multiple instances of a class

Explanation:Encapsulation in Java is the mechanism of wrapping the data (variables) and code (methods) acting on the data into a single unit or class. It is used to hide the implementation details of a class and to protect the data from outside interference.

## Incorrect

Q20) Which of the following is true about constructor in Java?

- A. A constructor can be inherited (Your Answer)(Incorrect)
- B. A constructor can be private
- C. A constructor can return a value
- D. A constructor can be overloaded (Correct)

Explanation:A constructor in Java can be overloaded, meaning a class can have multiple constructors with different parameters. This allows for different ways to initialize objects of the class.

## Correct

Q21) What is the default value of an int type in Java?

- A. 0 (Your Answer)(Correct)
- B. 1
- C. null
- D. false

Explanation:The default value of an int type in Java is 0. This applies to instance variables as well as static variables of type int.

## Correct

Q22) Which of the following is not a feature of OOP?

- A. Inheritance
- B. Polymorphism

C. Procedural (Your Answer)(Correct)

D. Encapsulation

Explanation:'Procedural' is not a feature of OOP. Procedural programming is a different programming paradigm that focuses on the procedure or routine calls.

## Incorrect

Q23) What is the correct way to create a new instance of a StringBuilder object in Java?

A. `StringBuilder sb = new String();`

B. `StringBuilder sb = new StringBuilder;` (Your Answer)(Incorrect)

C. `StringBuilder sb = new StringBuilder();` (Correct)

D. `String sb = new StringBuilder();`

Explanation:The correct way to create a new instance of a StringBuilder object in Java is '`StringBuilder sb = new StringBuilder();`'.

## Correct

Q24) What is the purpose of the 'this' keyword in Java?

A. To refer to static variables

B. To refer to the current instance of a class (Your Answer)(Correct)

C. To create a new instance of a class

D. To access superclass methods

Explanation:The 'this' keyword in Java is used to refer to the current instance of a class. It is mainly used to differentiate between the instance variables and parameters with the same name.

## Correct

Q25) Which access modifier restricts access the most in Java?

A. `public`

B. `protected`

C. `private` (Your Answer)(Correct)

D. `package-private`

Explanation:'private' access modifier restricts access the most in Java. It limits the visibility of a field, method, or class only to the same class where it is declared.

## Correct



Q26) What does the 'super' keyword refer to in Java?

- A. The superclass of a class (Your Answer)(Correct)
- B. The subclass of a class
- C. A static method
- D. The current instance of a class

Explanation: The 'super' keyword in Java is used to refer to the superclass of a class. It is typically used to call the superclass constructor or to access superclass methods and fields.

Incorrect

Q27) Which of the following statements about an abstract class in Java is true?

- A. An abstract class can be instantiated (Your Answer)(Incorrect)
- B. An abstract class can have non-abstract methods (Correct)
- C. An abstract class must implement all its abstract methods
- D. An abstract class cannot have constructors

Explanation: An abstract class in Java can have non-abstract (concrete) methods along with abstract methods. An abstract class cannot be instantiated on its own and must be subclassed to provide implementations for the abstract methods.

Incorrect

Q28) Which keyword is used for method overloading in Java?

- A. override (Your Answer)(Incorrect)
- B. final
- C. overload
- D. static (Correct)

Explanation: In Java, method overloading is achieved by defining multiple methods in the same class with the same name but different parameters. The 'static' keyword is not directly related to method overloading, but it allows methods to be accessed without creating an instance of the class.

Incorrect

Q29) What is the output of the following code snippet: `System.out.println("Hello" + 1 + 2);`

- A. Hello1+2 (Correct)
- B. Hello3
- C. Compile Error

D. Hello12 (Your Answer)(Incorrect)

Explanation: In Java, the '+' operator is used for both adding numbers and concatenating strings. When concatenating, if the left operand is a string, the right operand is automatically converted to a string. So, the output will be 'Hello1+2'.

## Incorrect

Q30) What is the correct syntax to create a new instance of a class in Java?

- A. new Object(); (Correct)
- B. Object = new Object(); (Your Answer)(Incorrect)
- C. Object();
- D. Object = Object();

Explanation: In Java, the correct syntax to create a new instance of a class is using the 'new' keyword followed by the class constructor. So, the correct syntax is 'new Object();'. Option B is incorrect as it is missing the class name before the assignment operator. Option C is incorrect as it is missing the 'new' keyword. Option D is incorrect as it is missing the 'new' keyword and has syntax errors.