MCQs BANK

Object Oriented Programming

Topic: Class,Objects, Conditional Statements

MCQs BANK No.: 3

Instructions:

This MCQs Bank contains question and solution on adjacent(even-odd) pages. First try to solve the MCQ by yourself, then look for the solution.

Best viewed in “single page view” in PDF viewer.

MCQ No: 1

A _____ is the blueprint from which individual objects are created. Fill in the blank.

a) class
b) object
c) instance
d) structure

MCQ No: 1 (Solution)

Ans: a) class

Explanation:

A class is the blueprint from which individual objects are created. In object-oriented terms, we say that the object you create is an instance of the class of objects.

MCQ No: 2

Fill in the following blanks:-
Member variables in a class—these are called _____ .
Variables in a method or block of code—these are called _____ .
Variables in method declarations—these are called _____.

a) parameters, fields, local variables
b) fields, local variables, parameters
c) local variables, parameters, fields
d) parameters, local variables, fields

MCQ No: 2 (Solution)

Ans: b) fields, local variables, parameters

Explanation:

Member variables in a class—these are called fields.

Variables in a method or block of code—these are called local variables.

Variables in method declarations—these are called parameters.

MCQ No: 3

The _____ keyword is a Java operator that creates the object. Fill in the blank.

a) const
b) new
c) static
d) import

MCQ No: 3 (Solution)

Ans: b) new

Explanation: The *new* keyword is a Java operator that creates the object. The *new* operator is followed by a call to a constructor, which initializes the new object. Example: **Bicycle bike1 = new Bicycle();** it creates an object of the Bicycle class.

The *new* operator instantiates a class by allocating memory for a new object and returning a reference to that memory. The *new* operator also invokes the object constructor.

MCQ No: 4

The phrase "instantiating a class" means the same thing as _____ . Fill in the blank.

a) "creating an class."
b) "declaring a reference."
c) "creating an object."
d) "rename an object."

MCQ No: 4 (Solution)

Ans: c) "creating an object."

Explanation:

The phrase "instantiating a class" means the same thing as "creating an object." When you create an object, you are creating an "instance" of a class, therefore "instantiating" a class.

If you declare a reference like this: *class ref;* the value of "ref" will be undetermined until an object is actually created and assigned to it. Simply declaring a reference variable does not create an object.

MCQ No: 5

A _____ can be recognized easily, because its declaration uses the same name as the class and it has no return type. Fill in the blank.

a) method
b) constructor
c) destructor
d) reference

MCQ No: 5 (Solution)

Ans: b) constructor

Explanation: Consider the following class:-

```
class Point {
    public int x = 0;
    public int y = 0;
    //constructor
        Point(int a, int b) {
        x = a;
        y = b;
    }
}
```

This class contains a single constructor. You can recognize a constructor because its declaration uses the same name as the class and it has no return type.

MCQ No: 6

If a class has multiple constructors, they must have different signatures. True or False

a) True

b) False

MCQ No: 6 (Solution)

Ans: a) True

Explanation:

If a class has multiple constructors, they must have different signatures. The Java compiler differentiates the constructors based on the number and the type of the arguments.

MCQ No: 7

All classes have at least one constructor. If a class does not explicitly declare any, the Java compiler automatically provides a no-argument constructor, called the default constructor. True or False

a) True
b) False

MCQ No: 7 (Solution)

Ans: a) True

Explanation:

All classes have at least one constructor. If a class does not explicitly declare any, the Java compiler automatically provides a no-argument constructor, called the default constructor. This default constructor calls the class parent's no-argument constructor, or the Object constructor if the class has no other parent. If the parent has no constructor (Object does have one), the compiler will reject the program.

MCQ No: 8

The data type of the value returned by the method,(or void if the method does not return a value) is called _____. Fill in the blank.

a) return type
b) method name
c) parameters list
d) method signature

MCQ No: 8 (Solution)

Ans: a) return type

Explanation: The return type—the data type of the value returned by the method, or void if the method does not return a value.

The parameter list in parenthesis—a comma-delimited list of input parameters, preceded by their data types, enclosed by parentheses, (). If there are no parameters, you must use empty parentheses.

Two of the components of a method declaration comprise the method signature—the method's name and the parameter types. Example: *calculateAnswer(double, int, double, double)*

MCQ No: 9

Typically, a method has a unique name within its class. However, a method might have the same name as other methods due to _____ . Fill in the blank.

a) method overriding
b) method overloading
c) both (a) and (b)
d) lack of new method name

MCQ No: 9 (Solution)

Ans: c) both (a) and (b)

Explanation: Typically, a method has a unique name within its class. However, a method might have the same name as other methods due to method overloading.

If a subclass provides the specific implementation of the method that has been declared by one of its parent class, it is known as method overriding.

MCQ No: 10

The Java programming language supports overloading methods, and Java can distinguish between methods with different _____ . Fill in the blank.

a) method return type
b) method names
c) method signatures
d) method body

MCQ No: 10 (Solution)

Ans: c) method signatures

Explanation: The Java language supports overloading methods, and Java can distinguish between methods with different method signatures. This means that methods within a class can have the same name if they have different parameter lists. Overloaded methods are differentiated by the number and the type of the arguments passed into the method. You cannot declare more than one method with the same name and the same number and type of arguments, because the compiler cannot tell them apart. The compiler does not consider return type when differentiating methods, so you cannot declare two methods with the same signature even if they have a different return type.

MCQ No: 11

A _____ is a special method that is used to initialize a newly created object and is called just after the memory is allocated for the object. It can be used to initialize the objects ,to required ,or default values at the time of object creation.

a) destructor
b) new
c) constructor
d) static

MCQ No: 11 (Solution)

Ans: c) constructor

Explanation:

A constructor is a special method that is used to initialize a newly created object and is called just after the memory is allocated for the object. It can be used to initialize the objects ,to required ,or default values at the time of object creation. It is not mandatory for the coder to write a constructor for the class. If no user defined constructor is provided for a class, compiler initializes member variables to its default values.

MCQ No: 12

In order to create a Constructor observe the following rules

1. It has the same name as the class
2. It should not return a value not even void

a) Both rules are TRUE
b) Only the rule 1 is TRUE
c) Only the rule 2 is TRUE
d) Both rules are FALSE

MCQ No: 12 (Solution)

Ans: a) Both rules are TRUE

Explanation:

In order to create a Constructor observe the following rules

1. It has the same name as the class
2. It should not return a value not even void

If no user defined constructor is provided for a class, compiler initializes member variables to its default values.

MCQ No: 13

Constructor overloading is a technique in Java in which a class can have any number of constructors that differ in _____. Fill in the blank.

a) return type
b) parameter lists
c) constructor body
d) constructor name

MCQ No: 13 (Solution)

Ans: b) parameter lists

Explanation:

Constructor overloading is a technique in Java in which a class can have any number of constructors that differ in parameter lists. The compiler differentiates these constructors by taking into account the number of parameters in the list and their type.

Examples of valid constructors for class Account are

Account(int a);

Account (int a,int b);

Account (String a,int b);

MCQ No: 14

Java allows you to control access to classes, methods, and fields via so-called _____. Fill in the blank.

a) encapsulation
b) constructors
c) access specifiers
d) polymorphism

MCQ No: 14 (Solution)

Ans: c) access specifiers

Explanation:

One of the techniques in object-oriented programming is encapsulation. It concerns the hiding of data in a class and making this class available only through methods. In this way the chance of making accidental mistakes in changing values is minimized. Java allows you to control access to classes, methods, and fields via so-called access specifiers. Java offers four access specifiers, listed below in decreasing accessibility:

- public
- protected
- default (no specifier)
- private

MCQ No: 15

_____ classes, methods, and fields can be accessed from everywhere. Fill in the blank.

a) private
b) public
c) protected
d) default

MCQ No: 15 (Solution)

Ans: b) public

Explanation: public classes, methods, and fields can be accessed from everywhere. The only constraint is that a file with Java source code can only contain one public class whose name must also match with the filename. You use public classes, methods, or fields only if you explicitly want to offer access to these entities and if this access cannot do any harm.

If you do not set access to specific level, then such a class, method, or field will be accessible from inside the same package to which the class, method, or field belongs, but not from outside this package.

MCQ No: 16

_____ access level when it is appropriate for a class's subclasses to have access to the method or field, but not for unrelated classes. Fill in the blank.

a) default
b) protected
c) public
d) private

MCQ No: 16 (Solution)

Ans: b) protected

Explanation:

protected methods and fields can only be accessed within the same class to which the methods and fields belong, within its subclasses, and within classes of the same package, but not from anywhere else. You use the protected access level when it is appropriate for a class's subclasses to have access to the method or field, but not for unrelated classes.

MCQ No: 17

_____ methods and fields can only be accessed within the same class to which the methods and fields belong. Fill in the blank.

a) private
b) public
c) protected
d) default

MCQ No: 17 (Solution)

Ans: a) private

Explanation:

private methods and fields can only be accessed within the same class to which the methods and fields belong. private methods and fields are not visible within subclasses and are not inherited by subclasses. So, the private access specifier is opposite to the public access specifier. It is mostly used for encapsulation: data are hidden within the class and accessor methods are provided.

MCQ No: 18

The conditional expression of an if-statement in java must be a _____ . Fill in the blank.

a) Arithmetic expression
b) Boolean expression
c) Non- Zero value
d) Zero value

MCQ No: 18 (Solution)

Ans: b) Boolean expression

Explanation:

The if statement executes a block of code only if the specified expression is true. If the value is false, then the if block is skipped and execution continues with the rest of the program. Note that the conditional expression must be a Boolean expression, which must give TRUE or FALSE value. Any other value(Zero or Non-Zero value) will give compilation error.

MCQ No: 19

The switch statement code block in Java includes a _____ label to use in cases where there are no matches are found. Fill in the blank.

a) outer
b) default
c) inner
d) continue

MCQ No: 19 (Solution)

Ans: b) default

Explanation:

The switch case statement, also called a case statement is a multi-way branch with several choices. A switch is easier to implement than a series of if/else statements. The default level is used to execute statements when no matches are found.

MCQ No: 20

When executing a switch statement, the program falls through to the next case. Therefore, if you want to exit in the middle of the switch statement code block, you must insert a _____ . Fill in the blank.

a) case statement
b) default statement
c) break statement
d) continue statement

MCQ No: 20 (Solution)

Ans: c) break statement

Explanation:

When executing a switch statement, the program falls through to the next case. Therefore, if you want to exit in the middle of the switch statement code block, you must insert a break statement, which causes the program to continue executing after the current code block.