MCQs BANK

Object Oriented Programming

Topic: Basic OOP concepts

MCQs BANK No.: 2

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

When you program for the Java platform, you write source code in _____ files. Fill in the blank.

a) .class
b) .cpp
c) .java
d) .html

MCQ No: 1 (Solution)

Ans: c) .java

Explanation:

When you program for the Java platform, you write source code in .java files and then compile them.

MCQ No: 2

The java compiler checks your java code against the language's syntax rules, then writes out bytecodes in _____ files. Fill in the blank.

a) .class
b) .java
c) .exe
d) .obj

MCQ No: 2 (Solution)

Ans: a) .class

Explanation: The compiler checks your code against the language's syntax rules, then writes out bytecodes in .class files.

MCQ No: 3

Which of the following files the JVM(Java virtual machine) reads and interprets?

a) .class
b) .java
c) .exe
d) .obj

MCQ No: 3 (Solution)

Ans: a) .class

Explanation:

At run time, the JVM reads and interprets .class files and executes the program's instructions on the native hardware platform for which the JVM was written.

MCQ No: 4

Identify the correct match combination.

1) JVM	w) Implicit memory management
2) Garbage collection	x) Bytecode
3) Objects	y) Pool of memory
4) Heap	z) Instance variables

a) 1-x, 2-w, 3-z, 4-y
b) 1-w, 2-x, 3-z, 4-y
c) 1-x, 2-w, 3-y, 4-z
d) 1-y, 2-w, 3-z, 4-x

MCQ No: 4 (Solution)

Ans: a) 1-x, 2-w, 3-z, 4-y

Explanation: At run time, the JVM reads and interprets Bytecode (in .class files) and executes the program's instructions on the native hardware platform for which the JVM was written.

When your Java application creates an object instance at run time, the JVM automatically allocates memory space for that object from the heap, which is a pool of memory set aside for your program to use. The Java garbage collector runs in the background, keeping track of which objects the application no longer needs and reclaiming memory from them. This approach to memory handling is called implicit memory management because it doesn't require you to write any memory-handling code. Data field members of an object is called instance variables.

MCQ No: 5

Which of the following process is used by objects for communication and coordination.

a) method calling
b) shared memory
c) stack
d) interpreter

MCQ No: 5 (Solution)

Ans: a) method calling

Explanation: Objects talk to other objects by sending messages (method calls in the Java language).

MCQ No: 6

_____ access means the object's attributes are accessible only within the object itself. Fill in the blank.

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

MCQ No: 6 (Solution)

Ans: a) private

Explanation:

On the Java platform, you can use access specifiers to vary the nature of object relationships from public to private.

Public access is wide open, whereas private access means the object's attributes are accessible only within the object itself.

MCQ No: 7

OOP introduces the concept of inheritance, where a subclass can "copy" the attributes and behavior of the super class. If some of those attributes or behaviors need to changed in subclass, then you need to _____ them. Fill in the blank.

a) overload
b) override
c) delete
d) integrate

MCQ No: 7 (Solution)

Ans: b) override

Explanation:

Overriding is a feature that allows a subclass or child class to provide a specific implementation of a method that is already provided by one of its super-classes or parent classes. You only change what you need to change in order to create specialized objects.

MCQ No: 8

Which of the following is a fundamental feature of object-oriented programming language?

a) automatic garbage collection
b) creating objects and manipulating objects
c) platform independence
d) all of the above

MCQ No: 8 (Solution)

Ans: b) creating objects and manipulating objects

Explanation:

Object-oriented programming is centered on creating objects, manipulating objects, and making objects work together.

This allows you to create modular programs and reusable code. It is the fundamental feature of Object-oriented programming languages.
Automatic garbage collection and platform independence are features specific to java(not present in all OOP language, such as C++).

MCQ No: 9

Which of the following gives platform independence to java programs?

a) Bytecode
b) JVM
c) Both (a) and (b)
d) None of these

MCQ No: 9 (Solution)

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

Explanation: JVM is needed in order to run Java programs. The programs are compiled into Java Virtual Machine code called bytecode.

The bytecode is machine independent and is able to run on any machine that has a Java Virtual Machine. With Java, the program need only be compiled once, and the bytecode generated by the Java compiler can run on any platform.

MCQ No: 10

_____ is the capability for a program to perform several tasks simultaneously within a program. Fill in the blank.

a) Polymorphism
b) Multithreading
c) Exception Handling
d) Platform Independence

MCQ No: 10 (Solution)

Ans: b) Multithreading

Explanation:

Multithreading is the capability for a program to perform several tasks simultaneously within a program. In Java, multithreaded programming has been smoothly integrated into it, while in other languages, operating system-specific procedures have to be called in order to enable multithreading. Multithreading is a necessity in visual and network - programming.

MCQ No: 11

Consider the following 2 statements(S1 and S2).
(S1) byte data type is a 8-bit signed two's complement integer.
(S2) Default value is 0.

Which of the following is correct.

a) S1 is TRUE and S2 is FALSE
b) S1 is FALSE and S2 is TRUE
c) Both S1 and S2 are TRUE
d) Both S1 and S2 are FALSE

MCQ No: 11 (Solution)

Ans: c) Both S1 and S2 are TRUE

Explanation:

byte data type is a 8-bit signed two's complement integer.

Minimum value is -128 (-2^7)

Maximum value is 127 (inclusive)(2^7 -1)

Default value is 0

MCQ No: 12

byte data type in java is used to save space in large arrays, mainly in place of integers, since a byte is _____ times smaller than an int. Fill in the blank.

a) two
b) three
c) four
d) eight

MCQ No: 12 (Solution)

Ans: c) four

Explanation:

Byte data type is used to save space in large arrays, mainly in place of integers, since a byte is four times smaller than an int.

Int data type is a 32-bit signed two's complement integer in java.

MCQ No: 13

Consider the following 2 statements(S1 and S2).
(S1) short data type is a 16-bit signed two's complement integer.
(S2) Default value is 1.
Which of the following is correct.

a) S1 is TRUE and S2 is FALSE
b) S1 is FALSE and S2 is TRUE
c) Both S1 and S2 are TRUE
d) Both S1 and S2 are FALSE

MCQ No: 13 (Solution)

Ans: a) S1 is TRUE and S2 is FALSE

Explanation:

Short data type is a 16-bit signed two's complement integer.
Minimum value is -32,768 (-2^15)
Maximum value is 32,767(inclusive) (2^15 -1)
Default value is 0.
Example :
short s= 10000 , short r = -20000

MCQ No: 14

Short data type can also be used to save memory as byte data type. A short is _____ times smaller than an int. Fill in the blank.

a) 2
b) 3
c) 4
d) 8

MCQ No: 14 (Solution)

Ans: a) 2

Explanation:

Short data type can also be used to save memory as byte data type. A short is 2 times smaller than an int.

int is of 32 bit whereas *short* is of 16 bit.

MCQ No: 15

Long data type is a _____ signed two's complement integer. Fill in the blank.

a) 8 bit
b) 16 bit
c) 32 bit
d) 64 bit

MCQ No: 15 (Solution)

Ans: d) 64 bit

Explanation:

Long data type is a 64-bit signed two's complement integer. This type is used when a wider range than int is needed.

MCQ No: 16

Consider the following 2 statements(S1 and S2).
(S1) int data type is a 32-bit signed two's complement integer.
(S2) Default value is 1.
Which of the following is correct.

a) S1 is TRUE and S2 is FALSE
b) S1 is FALSE and S2 is TRUE
c) Both S1 and S2 are TRUE
d) Both S1 and S2 are FALSE

MCQ No: 16 (Solution)

Ans: a) S1 is TRUE and S2 is FALSE

Explanation:

Int data type is a 32-bit signed two's complement integer.

Int is generally used as the default data type for integral values unless there is a concern about memory.

The default value is 0.

Example :

int a = 100000, int b = -200000

MCQ No: 17

Which among the following data types in JAVA has the largest memory size?

a) int
b) short
c) byte
d) long

MCQ No: 17 (Solution)

Ans: d) long

Explanation:

Long data type is a 64-bit signed two's complement integer. This type is used when a wider range than int is needed. Short is 16 bit in size. Byte 8 bit and int is 32 bit in size.

MCQ No: 18

Consider the following 2 statements(S1 and S2).
(S1) float data type is a single-precision 32-bit floating point.
(S2) double data type is a double-precision 64-bit floating point.
Which of the following is correct.

a) S1 is TRUE and S2 is FALSE
b) S1 is FALSE and S2 is TRUE
c) Both S1 and S2 are TRUE
d) Both S1 and S2 are FALSE

MCQ No: 18 (Solution)

Ans: c) Both S1 and S2 are TRUE

Explanation:

Float data type is a single-precision 32-bit floating point.
Float is mainly used to save memory in large arrays of floating point numbers.
Default value is 0.0f.
Example : float f1 = 234.5f

double data type is a double-precision 64-bit floating point.
This data type is generally used as the default data type for decimal values.
generally the default choice.
Default value is 0.0d.
Example : double d1 = 123.4

MCQ No: 19

Consider the following 2 statements(S1 and S2).
(S1) boolean data type represents one bit of information
(S2) There are only two possible values of boolean data type : true and false.
Which of the following is correct.

a) S1 is TRUE and S2 is FALSE
b) S1 is FALSE and S2 is TRUE
c) Both S1 and S2 are TRUE
d) Both S1 and S2 are FALSE

MCQ No: 19 (Solution)

Ans: c) Both S1 and S2 are TRUE

Explanation:

boolean data type represents one bit of information.

There are only two possible values : true and false.

This data type is used for simple flags that track true/false conditions.

Default value is false.

Example : boolean one = true

MCQ No: 20

char data type in java is a single _____ Unicode character.
Fill in the blank.

a) 8-bit
b) 16-bit
c) 32-bit
d) 64-bit

MCQ No: 20 (Solution)

Ans: b) 16-bit

Explanation: char data type is a single 16-bit Unicode character.
Minimum value is '\u0000' (or 0).
Maximum value is '\uffff' (or 65,535 inclusive).
Char data type is used to store any character.
Example . char letterA ='A'.

Unicode is a 16-bit character encoding standard and is capable to represent almost every character of well-known languages of the world. Before Unicode, there were multiple standards to represent character encoding − ASCII - for the United States.

MCQ No: 21

What is the default value of boolean data type in Java?

a) 1
b) 0
c) true
d) false

MCQ No: 21 (Solution)

Ans: d) false

Explanation:

boolean data type represents one bit of information.

There are only two possible values : true and false.

This data type is used for simple flags that track true/false conditions.

Default value is false.

MCQ No: 22

What is the default value of a reference variable in java?

a) Garbage Value
b) Null Value
c) Zero
d) One

MCQ No: 22 (Solution)

Ans: b) Null Value

Explanation:

Reference variable is used to point object/values. Classes, interfaces, arrays, enumerations, and, annotations are reference types in Java. In simple words, a reference variable holds a reference to information related to that variable. A reference is an address that indicates where an object's variables and methods are stored.

Default value of any reference variable is null.