

Sri Sairam Engineering College, Chennai-44

Department of Computer Applications

Subject Code / Name : MC 1705 – Internet Programming
Year / Semester : II / III

Java Fundamentals Unit – III

1. Why should the main method be static in a Java program?

The main() method must always be declared as static, since the interpreter uses this method before any objects are created.

2. What is the use of “extend” keyword?

One class can inherit another class by use of the keyword extends. An interface can inherit another by use of the keyword extends.

3. What is the use of “implement” keyword?

Once an interface has been defined, one or more classes can implement that inter. To implement an interface, include the implements clause in a class definition.

4. List out any 5 features of Java.

- Simple
- Robust
- Dynamic
- Portable
- Distributed.

5. What is Byte code?

Byte code is a highly optimized set of instructions designed to be executed by the Java Runtime System, which is called the JVM. Each Byte code instruction is one Byte in length. Using javac (compiler) we can get the byte code.

6. What is class?

It defines a new data type. Once defined, this new type can be used to create objects of that type. A class is a template for an object. An object is an instance of a class. It is the logical construct.

7. Define constructor.

A constructor that enables an object to initialize itself when it is created. Constructors have the same name as the class itself. They do not have a return type even void. Because implicit return type of a class ie., constructor type is the class type.

8. What is constructor overloading?

To create an overloaded constructor we have to provide several different constructor definitions in the class, all with the same name as the class, but with different parameter lists. The difference may either be in the number or type of arguments i.e., each parameter list must be unique.

9. What is method overriding?

The method in a subclass that has the same name, same arguments and same return type as the method in the super class. Then the method in the subclass is said to override the method in the super class.

10. What is the usage of 'this' keyword?

Sometimes a method will need to refer to the object that invoked it. To allow this, Java defines the 'this' keyword. 'this' can be used inside many method to refer to the current object.

11. What is package?

Packages are containers for classes that are used to keep the class name space. Packages are stored in a hierarchical manner and are explicitly imported into new class definitions. One of the way of achieving the reusability in Java is to use packages.

12. Define interfaces.

Interfaces are syntactically similar to classes but variables and methods are declared without any body. Once it is defined, any number of classes can implement an interface and also one class can implement any number of interfaces.

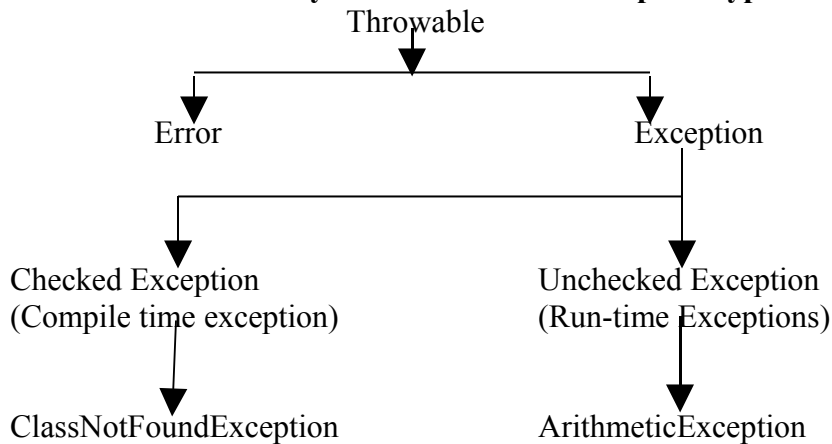
13. What is exception?

An exception is a run-time error. An exception is an abnormal condition that arises in a code sequence at runtime. Exceptions can be generated by the Java Run-Time system or they may be manually generated by our code.

14. What is exception handling?

If the exception object is not caught and handled properly, the interpreter will display an error message, and will terminate the program. If we want the program to continue with the execution of the remaining code, then we should try to catch the exception object thrown by the error condition and then display an appropriate message for taking corrective actions. This task is known as exception handling. The purpose of exception handling mechanism is to provide a means to detect and report an "exceptional circumstance" so that appropriate action can be taken.

15. Draw the hierarchy tree structure for exception types.



16. How do you handle an exception?

In Java exception is managed via 5 keywords.

They are,

- try
- catch
- throw
- throws
- finally

17. Define try.

try block can have one or more statements that could generate an exception. If any one statement generates an exception the remaining statements in the block are skipped and execution jumps to the catch block.

18. Define catch.

The catch block can have one or more statements that are necessary to process the exception. The catch statement is passed a single parameter which is reference to the exception object thrown by the try blocks.

19. Define throws.

Any exception that is thrown out of a method must be specified by the throws class.

20. Define finally.

Finally statement can be used to handle an exception that is not caught by any of the previous catch statement.

21. What is command line argument?

A command line argument is the information that directly follows the program's name on the command line when it is executed. To access the command line arguments inside a java program is quite easy. They are stored as strings in the string array passed to main().

22. How do you convert a string to an integer?

```
String a = "100";  
int n = Integer.parseInt(a);
```

23. What is the difference between overloaded and overridden methods?

Method Overloading	Method overriding
Method overloading is done by defining more than one method within the same class, with the same name, but with a different parameter list.	Method overriding is done by defining a method in the class with the same and type signature and return type as a method in its superclass.
The overloaded methods may have different return types	Return type should be same
It is determined at compile time	Determine at runtime(which method should be called)
	Overriding occurs only when the names and the type signatures of two methods are identical

24. Define the keyword static.

When a member is declared static, it can be accessed before any objects of its class are created, and without reference to any object. You can declare both methods and the most common example of a static member is main(). The main() method is declared as static because it must be called before any objects exist.

25. List out the rules when the methods are declared as static.

- Can only call other static methods
- Must only access static data
- Cannot refer to this or super anyway.

26. Define the keyword super.

Whenever a subclass need to refer to its immediate super class, it can do so by using the keyword super.

super has 2 general form:

- A subclass can call a constructor method defined by its super class by use of the following form:
Super(parameter list);
- super.member
Here member can be either a method or an instance variable.