Q1. Difference between SDK, JRE and JDK.

SDK stands for the software development kit and is described as a set of software tools used worldwide to create an application or a program. There are various platforms to develop an application, and every forum has its SDK. For example, for iOS application development, the developers use iOS SDK. The SDK tools include processes, API, libraries, compiler, debugger, code samples, guides etc.

JDK stands for the Java development kit. JDK can be defined as a software development kit for writing a program in java. It is one of the three core technology packages used by java, i.e. JVM, JRE and JDK. JDK consist of a set of development tools that help develop java-based software. It has various versions, but the most commonly used version is Java 8.

JRE is an acronym for Java Runtime Environment. It is used to provide runtime environment. It is the implementation of java virtual machine (JVM). It contains set of libraries and other files that JVM uses at runtime.

Q2. Can we have an else condition without if condition?

Ans – No

Q3. Other than Boolean can we use anything in an if condition?

Ans– Only an expression which returns a Boolean as a result can be used in an ‘IF’ condition.

Q4. What is difference b/w constructor and function in the class?

Constructor: - Constructor is a block of code that initializes a newly created object. Constructor has the same name as class name. Constructor has no return type not even void.

Function: - Function requires a valid return type. Function is a group of statements that can be called at any point in the program using its name to perform a specific task. Function should have a different name than class name.

Q5. Who gives default constructor?

Ans - The compiler automatically provides a no-argument, default constructor for any class without constructors. This default constructor will call the no-argument constructor of the superclass.

Q6. What are other responsibilities if JVM In java call by reference or call by value?

Ans - There is only call by value in java, not call by reference. If we call a method passing a value, it is known as call by value. The changes being done in the called method, is not affected in the calling method.

Q7. What happens if a final keyword is applied on variable, class and function?

Ans - If we initialize a variable with the final keyword, then we cannot modify its value. If we declare a method as final, then it cannot be overridden by any subclasses. And, if we declare a class or constructor as final, we restrict the other classes or constructor to inherit or extend it.

Q8. Why string is passed in main method?

Because by passing String arrays , we can pass all the necessary parameters like options/arguments related to the program in the form of String easily. There can be several parameters. Also, all the other datatypes can be easily converted from String.

Q9. Who provides extra functions in main method?

Ans - It is a default signature which is predefined in the JVM. It is called by JVM to execute a program line by line and end the execution after completion of this method

Q10. difference b/w java 8 and java7?

· Java SE 7 was the first and the major update to the programming language under the ownership and stewardship of Oracle Corporation after it acquired Sun Microsystems in 2010. Java 8, on the other hand, was the next biggest update after Java 7 which accommodates some major features and enhancements to the Java model.

· One of the most notable features added in the Java 7 is the JVM support for dynamically-typed languages plus small language enhancements (Project Coin). Java 8 is a major update to the programming language which introduced a significant upgrade to the functional programming called the Lambda Expressions.

· Java 8 also gets a new and improved Date/Time API, an enhanced JavaScript engine, new streaming API. Concurrent accumulators, secure random generation, and much more. Java 7 had improved class-loader architecture, enhanced Managed Beans, multiple exceptions handling support, etc.

· Java 7 added a language support for String in switch so users can rewrite codes more efficiently and easily. This helps users write better readable codes. The Lambda Expressions in Java 8 allow you to code local functions as method arguments.

· Oracle stopped dispersing security updates for Java SE 7 effective April 2015, however existing downloads as remain accessible from the Java Archive. Java 8 public downloads will reportedly be stopped after Sept 2018.

Q11. Why collections were use?

Ans- Collections are used to store, retrieve, manipulate, and communicate aggregate data.

Q12. Difference b/w collection and collections?

|  |  |
| --- | --- |
| Collection | Collections |
| It is an interface. | It is a utility class. |
| It is used to represent a group of individual objects as a single unit. | It defines several utility methods that are used to operate on collection. |
| The Collection is an interface that contains a static method since java8. The Interface can also contain abstract and default methods. | It contains only static methods. |

Q13. What is agile?

Ans - The Agile methodology is a way to manage a project by breaking it up into several phases. It involves constant collaboration with stakeholders and continuous improvement at every stage. Once the work begins, teams cycle through a process of planning, executing, and evaluating.

Q14. What is scrum call?

Ans - The daily scrum, also called the standup, is a short daily meeting designed to let the team plan out its work for the day and identify any obstacles that could impact that work.

Q15. What is the difference between C++ and java access specifiers?

|  |  |
| --- | --- |
| C++ | Java |
| Has 3 access specifiers | Has 4 access specifiers |
| **private** - members cannot be accessed (or viewed) from outside the class | **private** - accessible within the class where defined |
| **protected** - members cannot be accessed from outside the class, however, they can be accessed in inherited classes. | **protected** - accessible only to classes that subclass your class directly within the current or different package |
| **public** - members are accessible from outside the class | **public** - accessible from any class |
| Has no default access specifiers(when no access specifier is specified it is private) | **default** - package-private (when no access specifier is specified) |

Q16. Predifined functions in collection.

Q17. What data structure does LinkedList and ArrayList uses internally?

Ans - LinkedList is implemented using Doubly Linked List Data Structure and ArrayList uses an Array of Object to store the data internally.

Q18. Advantages and disadvatages of ArrayList.

Ans- Advantages:

* ArrayList is variable length.
* Add any type of data into ArrayList.
* Traverse in both directions.
* Insert and remove elements also at particular position of ArrayList.
* ArrayList allows multiple null values.
* ArrayList allows to add duplicate elements.
* ArrayList has many methods to manipulate stored objects.
* When ArrayList exceeds its capacity, then its size increases by 50%.
* Retrieval is faster in ArrayList

Disadvantages:

* If a data entry is added to or removed from an array-based list, data needs to be shifted to update the list.

Q20. What are iterators and cursors?

Ans - Iterator is an interface available in Collection framework in java.util package. It is a Java Cursor used to iterate a collection of objects.

Q21. The naming conventions in java.

Ans - The Java naming convention is to always start with a lowercase letter and then capitalize the first letter of every subsequent word. Variables in Java are not allowed to contain white space, so variables made from compound words are to be written with a lower camel case syntax.

Q22. What are the 10 OWSAP?

* Injection
* Broken Authentication
* Sensitive Data Exposure
* XML External Entities (XXE)
* Broken Access Control
* Security Misconfiguration
* Insecure Deserialization
* Using Components With Known Vulnerabilities
* Insufficient Logging And Monitoring

Q23. Can catch block be written without try block in java?

Ans – No, Try block is required for a catch block

Q24 – Can try block be written inside catch block in java?

Ans – Yes

Q25. can finally be written without try catch in java?

Ans - finally should have atleast a try block, catch is optional.

Q26. Difference b/w comparable and comparator in java?

Ans -

|  |  |
| --- | --- |
| Comparable | Comparator |
| Comparable provides a single sorting sequence. | The Comparator provides multiple sorting sequences. |
| Comparable affects the original class, i.e., the actual class is modified. | Comparator doesn't affect the original class, i.e., the actual class is not modified. |
| Comparable provides compareTo() method to sort elements. | Comparator provides compare() method to sort elements. |
| Comparable is present in java.lang package. | A Comparator is present in the java.util package |
| We can sort the list elements of Comparable type by Collections.sort(List) method. | We can sort the list elements of Comparator type by Collections.sort(List, Comparator) method. |

Q27. What is Debugging?

Ans - Debugging is the process of finding bugs within computer programs, software, or systems.

Q28. What are the default packages present in java?

Ans - Java compiler imports java. lang package internally by default. It provides the fundamental classes that are necessary to design a basic Java program.

Q29. What are the other roles of JVM?

Ans -

Roles of JVM-

* To permit Java programs to run on operating systems and any device.
* To manage and enhance program memory.

JVM performs the following functions -

* Verifies code
* Executes code
* Provides runtime environment
* Loads code