**1 .Explain about the main method in java?**

Main() method is the entry point of any standalone java application. The syntax of main method is public static void main(String args[]). Main method is public and static so that java can access it without initializing the class. The input parameter is an array of String through which we can pass runtime arguments to the java program.

public: Public is an access modifier, which is used to specify who can access this method. Public means that this Method will be accessible by any Class.

static: It is a keyword in java which identifies it is class based i.e it can be accessed without creating the instance of a Class.

void: It is the return type of the method. Void defines the method which will not return any value.

main: It is the name of the method which is searched by JVM as a starting point for an application with a particular signature only. It is the method where the main execution occurs.

String args[]: It is the parameter passed to the main method.

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**2. What are the different Control flow Statements available in java?**

The control flow statements in Java allow you to run or skip blocks of code when special conditions are met.

if Statement:

The “if” statement in Java works exactly like in most programming languages. With the help of “if” you can choose to execute a specific block of code when a predefined condition is met. The structure of the “if” statement in Java looks like this:

If (condition){

// execution code

}

if else Statement:

With this statement you can control what to do if the condition is met and what to do otherwise.

If (condition){

// execution code

}else{

// execution code

}

switch Statement:

In some cases you can avoid using multiple if-s in your code and make your code look better.

Switch(variable) {

Case value1:

//statements

Break;

Case value2:

//statements

Break;

Default: (optional)

//statements

Break;

}

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**3. What is the difference between Break and Continue Statements in Java?**

Both “break” and “continue” are the ‘jump’ statement, that transfer control of the program to another part of the program. Java supports three jump statements ‘break’ ‘continue’ and ‘return’. The main difference between break and continue is that break is used for immediate termination of loop whereas, continue terminate current iteration and resumes the control to the next iteration of the loop.

Break:

1. It terminates the execution of remaining iteration of the loop
2. 'break' resumes the control of the program to the end of loop enclosing that 'break'.
3. It causes early termination of loop.
4. 'break' stops the continuation of loop.
5. 'break' can be used with 'switch', 'label'.

Continue:

1. It terminates only the current iteration of the loop.
2. 'continue' resumes the control of the program to the next iteration of that loop enclosing 'continue'
3. It causes early execution of the next iteration.
4. 'continue' do not stops the continuation of loop, it only stops the current iteration.
5. 'continue' can not be executed with 'switch' and 'labels'.

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**4. What is an Array? How will you declare an array in java?**

a) Array is a collection of similar data types.

b) It can not have different data type. It can hold both primitive types (int, float, double) and object references.

c) It is fixed in length i.e static in nature.

d) Arrays are created on the heap memory not on the stack.

e) Accessing an invalid index of an Array will cause exception.

An array can be declared in by this way:

dataType[] arrayVariableName = new dataType[arraySize];

For example: for String data type, you can declare an int array as :

String[] text = new String[5];

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**5. When will you get ArrayIndexOutOfBoundsException?**

ArrayOutOfBoundsException is thrown when an attempt is made to access the Array with illegal index. For example, illegal index means if the index is either negative or greater than or equal to the size of the Array.

For example:

public class ExceptionExample{

public static void main(String args[]) {

int[] rollNumber = { 23, 17, 20, 29, 30 };

/\* Index below is greater than the size

of the given Array \*/

int element = rollNumber[6];

System.out.println(element);

}

}

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**6. Define the Syntax to create an object for a class? What are the naming conventions to be followed while creating a class, method and a variable. Explain with examples.**

Create an object for a class:

<classname> reference name = new <constructername()>;

Name convention:

Classname: should start with uppercase letter and be a noun e.g. String, Color, Button, System, Thread and etc.

MethodName: should start with lowercase letter and be a verb e.g. Main(), gettext(), println() and etc.

VariableName: should start with lowercase letter e.g. Firstname, lastname and etc.

Ex:ChromeDriver driver = new ChromeDriver();

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**7. What is Variable? How will you declare a variables in java?**

A variable is a container which holds the value while the Java program is executed. A variable is assigned with a data type. There are three types of variables in java: local, instance and static.

A variable is declared as below.

public String name;

public int age;

A variable is initialized as below.

public String name = "TestLeaf";

public String age = "10";

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**8. What is String in java? Is it a Data Type?**

String is a Java Class (part of JDK) and it is not data type like int, boolean, char etc. It is a sequence of characters and enclosed with the double quotes (" ").

For example:

String text = "TestLeaf";

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**9. What are the different ways to create the String Object in java?**

There are two ways to create the string object, by string literal and by new keyword.

i) String as literal like:

String s = "TestLeaf";

ii) String as Object like:

String s = new String("TestLeaf");

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**10. What is the Difference between .Equals and ==?**

Both equals() and “==” operator in Java are used to compare objects to check equality. But there are certain differences between them.

a) .equals() is a method and == is an operator.

b) == operator is used for reference comparison (address comparison) and .equals() method for content comparison i.e., == checks if both objects point to the same memory location whereas .equals() evaluates to the comparison of values in the objects.

c) If a class does not override the equals method, then by default it uses equals(Object o) method of the closest parent class that has overridden this method.

Eg:

public class Test {

public static void main(String[] args)

{

String s1 = new String("TEST LEAF");

String s2 = new String("TEST LEAF");

System.out.println(s1 == s2);

System.out.println(s1.equals(s2));

}

}

Output:

false

true

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