1)What is main class?

Java main method is the entry point of any java program. Its syntax is always public static void main(**String**[] args) .

2)How to run java using command line and ide.

* Open a command prompt window and go to the directory where you saved the java program (MyFirstJavaProgram.java).
* Type 'javac MyFirstJavaProgram.java' and press enter to compile your code. If there are no errors in your code, the command prompt will take you to the next line.
* Now, type ' java MyFirstJavaProgram ' to run your program.
* Now we will be able to see the result printed on the window.

3)What is class and object.

**Class:** A class is a group of objects which have common properties. It is a blueprint from which objects are created.

* Fields
* Methods
* Constructors
* Blocks
* Nested class and interface

4)Variable declaration and initialization.

Variables are used to represent values that may be changed in the program. In Java, all variables must be declared before they can be used. The basic form of a variable declaration is shown here:

**type identifier [ = value][, identifier [= value] ...] ;**

* The type is one of Java’s primitive types or the name of a class or interface.
* The identifier is the name of the variable. You can initialize the variable by specifying an equal sign and a value. Keep in mind
* You can initialize the variable by specifying an equal sign and a value. Keep in mind that the initialization expression must result in a value of the same (or compatible) type as that specified for the variable.
* To declare more than one variable of the specified type, use a comma-separated list.

**int Variable Declaration and Variable Initialization in two steps:**

Save Source File Name as : IntExample1.java

To compile :  javac IntExample1.java  
To Run :  java  IntExample1

**Example :**

Class IntExample1{

public static void main(String args[])

{

int age;

age=20;

System.out.println(age);

}

}

**Variable Delcaration:**

**Examples of how to declare variables of all the primitive data types in Java.**

**Syntax:** data\_type variable \_name;

byte myByte;

short myShort;

**Examples of how to declare variables of the object types in Java.**

**byte myObjectByte;**

**short myObjectShort;**

**Variable initialization:**

**Examples of how to variables are initialize to all the primitive data types in Java.**

myByte = 21;

myShort=22;

myChar=’a’;

**Examples of how to initialize variables of the object types in Java.**

myObjectByte = 21;

myObjectShort = 22;

myObjectChar = ‘A’;

**5)Creating an Object**

A class provides the blueprints for objects. So basically, an object is created from a class. In Java, the new keyword is used to create new objects.

There are three steps when creating an object from a class −

* **Declaration** − A variable declaration with a variable name with an object type.
* **Instantiation** − The 'new' keyword is used to create the object.
* **Initialization** − The 'new' keyword is followed by a call to a constructor. This call initializes the new object.

Following is an example of creating an object

**Example:**

public class Apple {

public Apple(String name) {

System.out,println(“Passed name is:”+name);

}

public static void main(String[] args){

Apple myApple=new Apple(“jam”);

}

}

**6)Conditions:**

**If-** if statement to specify a block of Java code to be executed if a condition is true.

**Syntax:**

if(condition){

//block of code to be executed

}

**Examples:**

int a=10;

int b=20;

if(a>b)

{

System.out.println(“a is greater than b”);

}

**Else-**else statement to specify a block of code to be executed if the condition is false.

Syntax:

If(condition) {

//block of code to be executed

}

else {

//block of code to be executed

}

**Example:**

int a=10;

if(a<8){

System.out.prinltn(“Good morning”);

}

else {

System.out.prinltn(“Good Evening”);

}

**else if-** else if statement to specify a new condition if the first condition is false.

**Syntax:**

if(condition 1){

//block of code to be executed

} else if {

//block of code to be executed

} else {

//block of code to be executed }

**Example:**

int a=10;

if(a<8){

System.out.prinltn(“Good morning”);

}

else if {

System.out.prinltn(“Good Afternoon”);

} else {

System.out.prinltn(“Good Evening”);

}

**Ternary-** It is also called as if else.It consists of three operands. It can be used to replace multiple lines of code with a single line. It is often used to replace simple if else statements.

**Syntax:**

Variable=(condition)? expressionTrue : expressionFalse;

**Example:**

int time =20;

String result = (time<18)? ”Good Morning”: “Good Evening”;

System.out.println(result);

# **Switch-** Use the switch statement to select one of many code blocks to be executed.

**Syntax:**

switch(expression){

case x:

//code to be executed

break;

case y:

//code to be executed

break;

default:

//code to be executed

}

**7)Loops**

* Loops can execute a block of code as long as a specified condition is reached.
* Loops are handy because they save time, reduce errors, and they make code more readable.

**For loop-** It is When you know exactly how many times you want to loop through a block of code.

**Syntax:**

for(statement 1 ; statement 2 ; statement 3){

//block of code to be executed

}

**Example:**

for(int i=0;i<5;i++){

System.out.println(i);

}

**While loop:**

The while loop loops through a block of code as long as a specified condition is true.

**Syntax:**

while(condition){

//block of code to be executed

}

**Example:**

int i=0;

while(i<5){

System.out.println(i);

i++;

}