A variable is a name given to memory location. There are three types of variables in java.

- Local Variable.
- Instance Variable.
- Static variable

1. Local Variables: A variable that is defined inside a block, method body, or constructor is called a local variable. These variables are created when the methods are called and they get destroyed when the methods are executed and return to the caller.
The initialization of the local variable is mandatory. If you don't initialize the variable before use, the compiler will give a compile-time error.

Example:

```
public class Addition {


   // Function to add two numbers
   public void add() {


      // Local variables
      int a = 10;
      int b = 20;
      int c = a + b;


      // Printing the sum
      System.out.println(c);
   }


   // Driver Code
   public static void main(String args[]) {
      // Creating an object of Addition class
      Addition obj = new Addition();
      // Function Call
      obj.add();
   }
}
```

Output:

```
30
```

2. Instance Variables: A variable that is declared inside the class but outside the method body, block, or constructor is known as an instance variable. It is a non-static variable. These variables are created when an instance (object) of the class is created and are destroyed when the object is destroyed. Initialization of the instance variable is not mandatory. **Even If you don't initialize the instance variable, it has a default value in it**. Instance variables can be accessed only by creating the object of the class.

Example:

```
class Student {

        // These are instance variables
        // these are declared inside the
        // class but outside the method body
        String name;
        int rollno;
}


public class StudentRecords {
        public static void main(String args[]) {

        // Creating Student class object
        Student obj = new Student();

       // Assigning values in the variables
        obj.name = "Ram";
        obj.rollno = 10;

        // Printing name and rollno
        System.out.println(obj.name);
        System.out.println(obj.rollno);
        }
}
```

Output:

```
Ram
10
```

3. Static Variables: A variable that is declared as static is known as a static variable. It is also known as a class variable. These variables are created at the beginning of the program execution and destroyed automatically when the program execution ends. We can create only a single copy of a static variable. To access the static variables, we don't need to create the object of the class. We can simply access the static variable as

```
class_Name.variable_Name;
```

Example:

```
class Student {


        // static variables
        public static int rollno;
        public static String name = "Ram";
}


public class StudentDemo {
        public static void main(String args[])
        {


                // accessing static variable without creating object
                Student.rollno = 10;
                System.out.println(Student.name + " 's rollno is :" + Student.rollno);
        }
}
```

Output:

```
Ram's rollno is 10
```