Java:

In Java, variables are containers for storing data values. They are fundamental to programming and are used to hold data that your program can manipulate. Each variable in Java has a specific type, which determines the size and layout of the variable's memory, the range of values that can be stored within that memory, and the set of operations that can be applied to the variable.

**Types of Variables in Java**

1. **Local Variables**:
   * Declared inside a method, constructor, or block.
   * Only accessible within the method, constructor, or block where they are declared.
   * Do not have default values, so they must be initialized before use.

class Main {

public static void main(String[] args) {

int x=100;

System.out.println(x);

}

}

**2.Class Variables (Static Fields):**

* Declared with the static keyword inside a class but outside any method, constructor, or block.
* A single copy of the variable is shared among all instances of the class.
* Initialized to default values (e.g., 0 for int, null for objects).

class Main {

static int x=10;

public static void main(String[] args) {

int x=100;

System.out.println(x);

}

}

**3.Instance Variables (Non-static Fields)**:

* Declared inside a class but outside any method, constructor, or block.
* Each instance of the class has its own copy of the instance variable.
* Initialized to default values (e.g., 0 for int, null for objects).

class Main {

int x=10;

public static void main(String[] args) {

Main obj=new Main();

System.out.println(obj.x);

}

}