

Variable Declaration

Variable declaration means **creating a variable by specifying its data type and name.**

Syntax:

```
dataType variableName;
```

Example:

```
int age;  
float salary;  
char grade;
```

Declaration with initialization:

```
int age = 20;
```

Rules for Variable Names

1. Must start with a **letter** or **underscore** (**_**)
2. Cannot start with a **number**
3. Can contain **letters, numbers, and underscore**
4. **No spaces** allowed
5. Cannot use **keywords** (like int, class, if)
6. Variable names are **case-sensitive**

Examples

✓ Valid:

```
total  
_sum  
marks1  
studentName
```

Simple Example

```
class AllVariables {  
  
    // Instance variable  
    int a = 10;  
  
    // Static variable  
    static int b = 20;  
  
    void show() {  
        // Local variable  
        int c = 30;  
  
        System.out.println("Instance variable a = " + a);  
        System.out.println("Static variable b = " + b);  
        System.out.println("Local variable c = " + c);  
    }  
  
    public static void main(String args[]) {  
        AllVariables obj = new AllVariables();  
        obj.show();  
    }  
}
```