CONSTRUCTORS IN JAVA

Definition

A constructor in Java is a special method used to initialize objects. It is automatically called when an object is created.

Features of Constructors

- Constructor name must be the same as the class name.
- Constructors do not have a return type.
- It is called automatically during object creation.
- Used to initialize data members of an object.

Syntax

```
class ClassName {
   ClassName() {
      // constructor body
   }
}
```

Types of Constructors

1. Default Constructor

A constructor without parameters is called a default constructor.

Example

```
class Student {
   Student() {
      System.out.println("Default Constructor Called");
   }

   public static void main(String[] args) {
      Student s1 = new Student();
   }
}
```

Output

```
Default Constructor Called
```

2. Parameterized Constructor

A constructor with parameters is called a parameterized constructor.

Example

```
class Student {
   int id;
   String name;

   Student(int i, String n) {
      id = i;
      name = n;
   }

   void display() {
      System.out.println(id + " " + name);
   }

   public static void main(String[] args) {
      Student s1 = new Student(101, "Rahul");
      s1.display();
   }
}
```

Output

101 Rahul

Uses of Constructors

- To initialize object values.
- To reduce the need for separate setter methods.
- To create objects with different initial values.

Difference Between Method and Constructor

Constructor	Method
Same name as class	Any valid name
No return type	Has return type
Called automatically	Called explicitly
Used to initialize objects	Used to perform operations

Advantages of Constructors

- Easy object initialization
- Improves code readability
- Saves programming time