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The `super` Keyword in Java

1. Introduction

`super` keyword in Java **parent class er members ke access korte** use hoy.
Eta **inheritance er context** e important, jekhane **child class parent class er variable, method, or constructor access** korte pareI

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2. Uses of `super` Keyword

1. **Access parent class variable**
2. **Call parent class method**
3. **Invoke parent class constructor**

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3. Access Parent Class Variable

```java
class Parent {
    int num = 100;
}

class Child extends Parent {
    int num = 200;

    void display() {
        System.out.println("Child num: " + num);
        System.out.println("Parent num: " + super.num);
    }
}

public class TestSuperVariable {
    public static void main(String[] args) {
        Child c = new Child();
        c.display();
    }
}
```

Output:

```
Child num: 200
Parent num: 100
```

4. Call Parent Class Method

```java
class Parent {
    void show() {
        System.out.println("Parent class method");
    }
}

class Child extends Parent {
    void show() {
        System.out.println("Child class method");
    }

    void display() {
        show();          // Child method
        super.show();   // Parent method
    }
}

public class TestSuperMethod {
    public static void main(String[] args) {
        Child c = new Child();
        c.display();
    }
}
```

Output:

```
Child class method
Parent class method
```

5. Call Parent Class Constructor

```java
class Parent {
    Parent() {
        System.out.println("Parent constructor called");
```

```java
        }
    }

class Child extends Parent {
    Child() {
        super(); // Call parent constructor
        System.out.println("Child constructor called");
    }
}

public class TestSuperConstructor {
    public static void main(String[] args) {
        Child c = new Child();
    }
}
```

Output:

```
Parent constructor called
Child constructor called
```

6. Summary Table

Use Case	Example	Purpose
Access parent variable	`super.num`	Resolve variable shadowing
Call parent method	`super.show()`	Call overridden method
Call parent constructor	`super()`	Initialize parent object

7. Points to Remember

1. `super` keyword **child class theke parent class access er jonno** use hoyা
2. `super()` must be **first statement in child constructor**া
3. `super` only refers to **immediate parent class**া
4. `super` is **not required for static members** (use class name instead)া