SNS COLLEGE OF TECHNOLOGY

An Autonomous Institution
Coimbatore-35

Department of Computer Science & Engineerin

23ITB202 – Object Oriented Programming

I B.E CSE/ II SEMESTER

UNIT I :Introduction To OOPS

Topic : constructors

Constructors

Constructors have the same name as the class and do not have a return type.

A **default constructor** is automatically created by Java only if you do not define any constructor.

A **parameterized constructor** helps initialize objects with different values.

A **copy constructor** is useful when you want to duplicate an object.

Comparison of Constructors in Java

re	Default Constructor	Parameterized Constructor	Copy Constructor
ition	Constructor with no parameters	Constructor with parameters	Constructor that takes another object of same
se	Initializes object with default values	Initializes object with user-defined values	Creates a new object b copying values of anot object
neters	No	Yes	Yes (object reference)
ded by Java?	Yes (if no constructor is written)	No (must be written by programmer)	No (must be written manually)
ple Call	Student s1 = new Student();	Student s2 = new Student(101, "Ram");	Student s3 = new Student(s2);

```
ss Student {

id;
ng name;
. Default Constructor
dent() {
= 0;
me = "Default Student";

. Parameterized Constructor
dent(int i, String n) {
= i;
me = n;

. Copy Constructor
dent(Student s) {
= s.id;
me = s.name;

Method to display values
d display() {
tem.out.println("ID: " + id + " Name: " + name);

public static void main(String args[]) {

// Default constructor object
Student s1 = new Student();

// Parameterized constructor object
Student s2 = new Student(101, "Arun");

// Copy constructor object
Student s3 = new Student(s2);

System.out.println("Default Constructor Output:");
s1.display();

System.out.println("Parameterized Constructor
Output:");
s2.display();
System.out.println("Copy Constructor Output:");
s3.display();
}}
```

Output

```
Default Constructor Output:
ID: 0 Name: Default Student
Parameterized Constructor Output:
ID: 101 Name: Arun
Copy Constructor Output:
ID: 101 Name: Arun
```

```
class Main {

  int a;
  boolean b;

  public static void main(String[] args) {

    // calls default constructor
    Main obj = new Main();

    System.out.println("Default Value:");
    System.out.println("a = " + obj.a);
    System.out.println("b = " + obj.b);
  }
}
```

```
Default Value:
a = 0
b = false
```

Here, we haven't created any constructors.

Hence, the Java compiler automatically creates the default constructor.

The default constructor initializes any uninitialized instance variables with default values.

Assessment

1. **List the types of constructors.**
2. **What is default constructor? Give example.**
3. **What is parameterized constructor? Give example.**
4. **What is copy constructor? Give example.**

References

- https://www.geeksforgeeks.org/command-line-arguments-in-java/
- https://docs.oracle.com/en/java/
- https://www.w3schools.com/java/


Thank
You