

**SWT 12031: Practical for Object oriented Program****Lab Sheet No: 06****Constructors in Java****Time :- 09.30 am- 12.30 pm****Submission Due: 2023-06-15**

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**Title:** Constructors in Java.**Aim:** Getting practice to use constructors while writing java programs.**Tasks:**

- What is a constructor?
- The types of constructor.
- Including constructors in java programs.

**Exercise 01:**

1. Write a java program to demonstrate the Default Constructor.
  - a. Create a class Default.
  - b. Initialize two variables called 'x' and 'y'. Make a as the integer variable and b as the Boolean variable.
  - c. Create an object deconstructor.
  - d. Access the objects through reference variables.
2. Write a java program to demonstrate the Non Argument Constructor.
  - a. Create a class University.
  - b. Include a constructor to initialize a name for the object.
  - c. Modify the program to bring the main method to a separate class TestYourUniversity.
  - d. Create one object.
  - e. Access the object / Display the object.
3. Write a java program to demonstrate the Parameterized or User Defined Constructor.
  - a. Create a class Student with the attributes student number, marks and fees.
  - b. Include a constructor to initialize the user defined values for the object and display method to display the object values.
  - c. Create one object.
  - d. Bring the main method to a separate class MyStudent.

**Exercise 02:**

- a. Create the class Employee with the attributes employee number, basic salary, allowance and net salary.
- b. Create a constructor and initialize the employee object with the input data values (Employee number and basic salary).
- c. Include the methods to do the following.
  - Calculation() – To calculate the net salary with the following conditions.

Basic salary > 100,000

Allowance – 10%

Basic salary <= 100,000

- Display() – to display the calculation with employee number
- d. Create one object.
  - e. Bring the main method to a separate class TestEmployee.

**Exercise 03:**

- a. Create the class Student including the attributes number, name, marks for three subjects, total, average and grade.
- b. Create a constructor and initialize the student objects with the input data values (Number, name and three marks).
- c. A method to calculate the total. Average and grade (pass or fail).
- d. A method to display the calculations with the student number and name.
- e. Create one object.

**Discussion**

- ❖ Rules to follow while creating constructors in Java
- ❖ Default Constructor
- ❖ Parameterized Constructor
- ❖ Overloading Constructor