

HashSet

A university wants to maintain a record of students registering for a particular course. However, duplicate registrations should be avoided, meaning a student can register for a course only once.

Write a Java program using HashSet to:

Note: Use a switch case to give the choices such as 1. Register Student, 2. Check Registration, 3. Display All Registrations and 4. Exit. (Use Scanner class)

1. Allow students to register for a course by entering their student ID and duplicate registrations with a message the student is already registered.
2. Allow checking whether a student is already registered.
3. Display the list of all registered students.

LinkedHashSet

A museum wants to maintain a log of visitors entering their premises. The log should:

- Store the visitor IDs in the order they arrived.
- Ensure no duplicate visitor IDs are recorded.
- Allow checking whether a visitor has already entered.
- Display the list of visitors in their order of arrival.

TreeSet

A school wants to maintain a sorted list of student roll numbers for administrative purposes. The system should:

- Store student roll numbers in a sorted order.
- Ensure no duplicate roll numbers are added.
- Allow checking if a roll number is already registered.
- Display all roll numbers in ascending order.
- Find the next higher roll number after a given roll number.

Use switch case with following choice

1. Register Student Roll Number
2. Check Roll Number
3. Display All Roll Numbers
4. Find Next Roll Number
5. Exit

Note: Use Scanner Class