JAVA PROGRAMMING LAB – Q BATCH

Date : 24 03 2025

MULTITHREADING & COLLECTIONS & GENERICS

1. Write a java program for the following scenario.

   Maintain a bank account of customers. Several transactions, such as deposit some amount to an account and withdraw some amount from an account etc. are possible. Now, for a given account, if two or more transactions come simultaneously then only one transaction should be allowed at a time instead of simultaneous transaction processing so that data inconsistency will never occur.

2.
   a. Create two threads named 'Hare' and 'Tortoise'. The threads created should run 100 meters and the thread which finishes first 'wins the race'. When one of the threads wins the race, stop the second thread.
      Start both the threads and observe which thread finishes first.
   b. Since the Hare is faster than Tortoise, set a high priority to Hare thread and observe the results.
   c. Now modify the program so that the 'Hare' thread 'sleeps' for 1000 milliseconds after running 60 meters. Observe which thread wins the race.

3.
   You need to maintain the details of all employees of an Organization.
   The following details of the employee needs to be maintained

   First Name
   Last Name
   Mobile Number
   Email
   Address

   There is no higher limit to store the number of employee in our application. Get the number of employees first before getting all the employee details.

   Collect all employee details and store them in an appropriate collection type, so that when the collection is printed, it prints the employee details sorted by their first name.

   Use Generics.

Sample Output:
Enter the Number of Employees
2
Enter Employee 1 Details:
Enter the Firstname
Janani
Enter the Lastname
Velmurugan
Enter the Mobile
7890123
Enter the Email
janani.velmurugan@gmail.com
Enter the Address
Chennai

Employee List:

FirstName	SecondName	MobileNumber	Email	Address
Anitha	Ramesh	9906699224	anitha.ram@gmail.com	Bangalore
Janani	Velmurugan	7890123000	janani.vel@gmail.com	Chennai