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Batch Code: ANP-C6315

Lab Assignment – 15

Thread

Question 1:

1. **Create two thread.one thread is finding the average of the first 10 numbers and another thread is printing the square of the number stored in array arr={1,20,50,15,30} and make sure both threads can execute one by one.**

Input:

```
public class ThreadExample {


   public static void main(String[] args) {
      // Shared data
      int[] arr = {1, 20, 50, 15, 30};
      ResultContainer resultContainer = new ResultContainer();


      // Create threads
      Thread averageThread = new Thread(() -> {
         int sum = 0;
         for (int i = 0; i < 10; i++) {
            sum += i + 1;  // Adding the first 10 numbers
         }
         double average = sum / 10.0;
         resultContainer.setAverage(average);
         System.out.println("Average: " + average);
      });


      Thread squareThread = new Thread(() -> {
```

```
            for (int num : arr) {
                int square = num * num;
                resultContainer.addSquare(square);
                System.out.println("Square of " + num + ": " + square);
            }
        });

        // Start the threads
        averageThread.start();
        try {
            averageThread.join(); // Wait for the first thread to finish
        } catch (InterruptedException e) {
            e.printStackTrace();
        }

        squareThread.start();
        try {
            squareThread.join(); // Wait for the second thread to finish
        } catch (InterruptedException e) {
            e.printStackTrace();
        }
    }
}

class ResultContainer {
    private double average;
    private List<Integer> squares = new ArrayList<>();

    public synchronized void setAverage(double average) {
        this.average = average;
    }
```

```
    public synchronized void addSquare(int square) {
        squares.add(square);
    }
}
```

Output:

Average: 5.5

Square of 1: 1

Square of 20: 400

Square of 50: 2500

Square of 15: 225

Square of 30: 900