Task 03

```java
public class SummationThread extends Thread {
    private int start;
    private int end;
    private int sum;

    public SummationThread(int start, int end) {
        this.start = start;
        this.end = end;
    }

    public int getSum() {
        return sum;
    }

    @Override
    public void run() {
        sum = 0;
        for (int i = start; i <= end; i++) {
            sum += i;
        }
    }

    public static void main(String[] args) throws InterruptedException {
        int number = 100; // Change this to the desired non-negative integer

        int mid = number / 2;

        SummationThread thread1 = new SummationThread(1, mid);
        SummationThread thread2 = new SummationThread(mid + 1, number);

        thread1.start();
        thread2.start();

        thread1.join();
        thread2.join();

        int totalSum = thread1.getSum() + thread2.getSum();
        System.out.println("Summation of " + number + " is: " + totalSum);
    }
}
```

Output

```
C:\java>javac SummationThread.java

C:\java>java SummationThread
Summation of 100 is: 5050

C:\java>
```

Discussion

We create a SummationThread class that extends the thread class. Then create instance variables for the start and end values and sum result. The run() method calculates the summation by iterating over the range and updating the sum variable.

We create two instances of SummationThread, thread1 and thraed2. Then we use the join() method to ensure that the main thread waits for both thread1 and thread2 to complete their execution before proceeding further.

After using the getSum() method to calculate the total sum. Then print the total sum.