Lab 13 : Construct a simple Java program that demonstrates the concept of the Multiple threads by creating Main Thread, a single thread, and multiple threads

```
package Threads;

//Main class to demonstrate multiple threads
public class MultiThreadExample  {

 public static void main(String[] args) {
    // Displaying the current thread (main thread)
    System.out.println("Main Thread ID: " + Thread.currentThread().getId());

    // Creating a single thread
    SingleThread singleThread = new SingleThread();
    singleThread.start(); // Starts the single thread

    // Creating multiple threads
    for (int i = 1; i <= 3; i++) {
       MultiThread multiThread = new MultiThread(i);
       multiThread.start(); // Starts each of the multiple threads
    }

    // Main thread continues running
    System.out.println("Main Thread ends.");
 }
}

//Class for creating a single thread by extending the Thread class
class SingleThread extends Thread {
 @Override
 public void run() {
    System.out.println("SingleThread ID: " + this.getId() + " is running.");
    try {
       Thread.sleep(1000); // Simulating some work
    } catch (InterruptedException e) {
       e.printStackTrace();
    }
    System.out.println("SingleThread ID: " + this.getId() + " has finished.");
 }
}

//Class for creating multiple threads by extending the Thread class
class MultiThread extends Thread {
 private int threadNumber;
 // Constructor to assign thread number
 public MultiThread(int threadNumber) {
    this.threadNumber = threadNumber;
 }
```

```
 @Override
 public void run() {
    System.out.println("MultiThread #" + threadNumber + " ID: " + this.getId() + " is running.");
    try {
       Thread.sleep(1000); // Simulating some work
    } catch (InterruptedException e) {
       e.printStackTrace();
    }
    System.out.println("MultiThread #" + threadNumber + " ID: " + this.getId() + " has finished.");
 }
}
```

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```
Main Thread ID: 1
SingleThread ID: 14 is running.
MultiThread #1 ID: 15 is running.
MultiThread #2 ID: 16 is running.
Main Thread ends.
MultiThread #3 ID: 17 is running.
SingleThread ID: 14 has finished.
MultiThread #1 ID: 15 has finished.
MultiThread #2 ID: 16 has finished.
MultiThread #3 ID: 17 has finished.
```