

ParallelUniverseExplorer6.java

```
1 package assignments;
2 import java.util.concurrent.*;
3 public class ParallelUniverseExplorer6 {
4     private static final ForkJoinPool pool = new ForkJoinPool();
5     public static void main(String[] args) {
6         System.out.println("Initializing Parallel Universe Explorer...\n");
7         ExplorerInitializationTask task =
8             new ExplorerInitializationTask(1, 5);
9         pool.invoke(task);
10        System.out.println("\nExplorer Initialization Completed.");
11    }
12    static class ExplorerInitializationTask extends RecursiveAction {
13        private final int start;
14        private final int end;
15        ExplorerInitializationTask(int start, int end) {
16            this.start = start;
17            this.end = end;
18        }
19        @Override
20        protected void compute() {
21            if (end - start <= 1) {
22                System.out.println("Initializing Universe " + start +
23                    " | Thread: " + Thread.currentThread().getName());
24            } else {
25                int mid = (start + end) / 2;
26                ExplorerInitializationTask task1 =
27                    new ExplorerInitializationTask(start, mid);
28                ExplorerInitializationTask task2 =
29                    new ExplorerInitializationTask(mid, end);
30                invokeAll(task1, task2);
31            }
32        }
33    }
34 }
```

Console

```
<terminated> ParallelUniverseExplorer6 [Java Application] C:\Program Files\Java\jdk-21\bin\j
Initializing Parallel Universe Explorer...

Initializing Universe 3 | Thread: ForkJoinPool-1-worker-2
Initializing Universe 4 | Thread: ForkJoinPool-1-worker-3
Initializing Universe 1 | Thread: ForkJoinPool-1-worker-1
Initializing Universe 2 | Thread: ForkJoinPool-1-worker-4

Explorer Initialization Completed.
```