Task 5: Thread Pools and Concurrency Utilities

Create a fixed-size thread pool and submit multiple tasks that perform complex calculations or I/O operations and observe the execution.

```java
import java.util.concurrent.ExecutorService;

import java.util.concurrent.Executors;

class Task implements Runnable {

private int taskId;

public Task(int taskId) {

this.taskId = taskId;

}

@Override

public void run() {

System.out.println("Task " + taskId + " started.");

try {

Thread.sleep(2000);

} catch (InterruptedException e) {

e.printStackTrace();

}

System.out.println("Task " + taskId + " completed.");

}

}

public class FixedThreadPoolDemo {

public static void main(String[] args) {

int n=5;

int p=3;

ExecutorService executor = Executors.newFixedThreadPool(p);

for (int i = 1; i <= n; i++) {

Task task = new Task(i);

executor.submit(task);

}

executor.shutdown();

}
```

}