

Basic Thread Handling

This lesson shows various thread handling methods with examples.

Joining Threads

A thread is always created by another thread except for the main application thread. Study the following code snippet. The `innerThread` is created by the thread which executes the `main` method. You may wonder what happens to the `innerThread` if the main thread finishes execution before the `innerThread` is done?

```
1 class Demonstration {
2     public static void main( String args[] ) throws InterruptedException {
3     |
4     |     ExecuteMe executeMe = new ExecuteMe();
5     |     Thread innerThread = new Thread(executeMe);
6     |     innerThread.setDaemon(true);
7     |     innerThread.start();
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10    }
11
12    class ExecuteMe implements Runnable {
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```

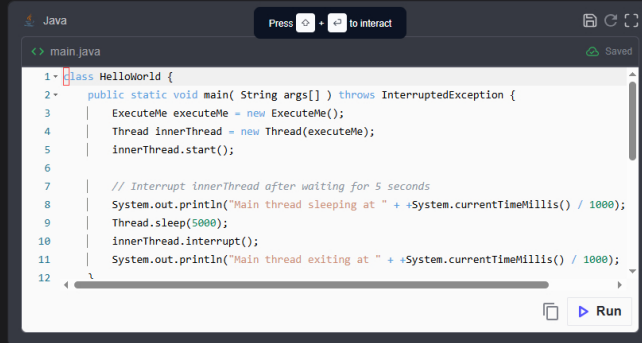
```
14 | | | system.out.println( "Hello, innerThread going to sleep ");
```

Run

In the above example, the `innerThread` is made to sleep for 1 second and from the output of the program, one can see that main thread exits only after `innerThread` is done processing. If we remove the join statement on line-6, then the main thread may print its statement before `innerThread` is done executing.

Interrupting Threads

In the previous code snippets, we wrapped the calls to join and sleep in try/catch blocks. Imagine a situation where if a rogue thread sleeps forever or goes into an infinite loop, it can prevent the spawning thread from moving ahead because of the join call. Java allows us to force such a misbehaved thread to come to its senses by interrupting it. An example appears below.



```
1 class HelloWorld {
2     public static void main( String args[] ) throws InterruptedException {
3         ExecuteMe executeMe = new ExecuteMe();
4         Thread innerThread = new Thread(executeMe);
5         innerThread.start();
6
7         // Interrupt innerThread after waiting for 5 seconds
8         System.out.println("Main thread sleeping at " + System.currentTimeMillis() / 1000);
9         Thread.sleep(5000);
10        innerThread.interrupt();
11        System.out.println("Main thread exiting at " + System.currentTimeMillis() / 1000);
12    }
```

← Back lesson

Completed

Next →

Setting-up Threads

Executor Framework