## **Files Details**

[**MyTimer.java**](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html)**:**

This file defines the [MyTimer](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o "Go to definition) class, which sets up a periodic timer using Java's [Timer](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html) and [TimerTask](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o "Go to definition) classes.

* **Imports**:
  + [java.util.Timer](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html)
  + [java.util.TimerTask](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html)
  + [java.text.SimpleDateFormat](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html)
  + [java.util.Date](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html)
* **Class Definition**:
  + [MyTimer](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html) class contains a [Timer](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html) object and a constructor that initializes the timer as a daemon thread.
  + The constructor calculates the initial delay to the next 5-minute mark using the [getInitialDelay](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o "Go to definition) method.
  + It schedules a [TimerTask](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o "Go to definition) to print the current time every 5 minutes.
* **Methods**:
  + [getInitialDelay()](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html): Calculates the delay to the next 5-minute mark from the current time.

[**TimerTest.java**](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html)**:**

This file defines the [TimerTest](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html) class, which contains the [main](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html) method to run the timer.

* **Class Definition**:
  + [TimerTest](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html) class contains the [main](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html) method.
* **Main Method**:
  + Creates an instance of [MyTimer](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o "Go to definition).
  + Keeps the main thread alive in an infinite loop to allow the [TimerTask](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o "Go to definition) to run.
  + Uses [Thread.sleep(1000)](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o "Go to definition) to sleep for 1 second in each iteration of the loop, catching and printing any [InterruptedException](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o "Go to definition).

**Summary**

* [**MyTimer.java**](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html): Defines the periodic timer and its behavior.
* [**TimerTest.java**](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html): Runs the timer and keeps the main thread alive to allow the timer task to execute.

## **Lesson Learnt**

Several key concepts related to Java programming and working with timers:

1. **Using Java's Timer and TimerTask**:
   * How to create and schedule tasks using the [Timer](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html) and [TimerTask](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o "Go to definition) classes.
   * How to schedule tasks at fixed intervals using [scheduleAtFixedRate](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o "Go to definition).
2. **Working with Dates and Time**:
   * How to format dates using [SimpleDateFormat](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o "Go to definition) and [Date](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html) classes.
3. **Daemon Threads**:
   * How to create and use daemon threads in Java, which are background threads that do not prevent the JVM from exiting when the program finishes.
4. **Calculating Delays**:
   * How to calculate the initial delay to the next 5-minute mark using the [getInitialDelay](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o "Go to definition) method.
5. **Keeping the Main Thread Alive**:
   * How to keep the main thread alive to allow background tasks to run, demonstrated in the [TimerTest](vscode-file://vscode-app/c:/Users/n/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-sandbox/workbench/workbench.html" \o "Go to definition) class.

These concepts are fundamental for understanding how to manage periodic tasks and background processing in Java applications.