

Queens College, CUNY, Department of Computer Science
Software Engineering
CSCI 370
Fall 2018

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due Sunday November 4, 2018

5 Project 5ab

5.1 Project 5a

- **Project 5a is solved, for practical purposes.**
- A student pointed out that Java has a “synchronized” feature.
- **This solved the problem, hence there is nothing for you to code.**
- This was a simple exercise to verify that you know how to write a multithreaded application and can justify that the threads behave correctly if they have to access a common resource.
- In the present case, the common resource is an output file.
- All threads must write their output correctly to the same file, without corruption of data.
- **Download and make sure you can run “ThreadWrite.java” and that you understand how/why it works.**
`https://venus.cs.qc.cuny.edu/~smane/cs370/projects/ThreadWrite.java`
- **Specifically, make sure you can run ThreadWrite.java on the Mars server.**
- Later on, you will be required to run programs on the Mars server.

5.2 Project 5b

- **Project 5b is about Java animation.**
- There *is* work for you to here *but it should be easy*.
- **Download “OrbitTracking.java” and make sure you can run it.**
`https://venus.cs.qc.cuny.edu/~smane/cs370/projects/OrbitTracking.java`
- The code contains commented out functions for mouse and keyboard events.
- **Implement “listeners” for mouse and keyboard events.**
- *This should be easy.*
- Then uncomment the functions.
 1. You will need to override additional functions.
 2. **They can all be empty functions.**
- If you do your work correctly, your code should display the following functionality.
 1. ESC key: exit the program.
 2. Mouse left/right: zoom in/out.
 3. Left/right/up/down arrow keys: move view left/right, etc.
 4. Key 0: restore origin to center and reset zoom scale factor to 1.
 5. Key 1, 2, 3: start new simulation for sextupole/octupole/combined.
 6. Key s (or S): save screen snapshot to file. *Edit the code for the file name.*