Java Group Assignment (Java – 004)

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Instructions

All assignments will be created in a root folder:
`java_training/assignements/java_004/`

1. Ensure all assignments can compile
2. Ensure all assignments have comments
3. Each assignment will be a folder/project of their own, to be included in the above root folder
4. You will be working in pairs (groups of 2) as assigned by the instructor.
5. One student will be the ‘senior’ and the other a ‘junior’
6. Ensure that in your README.md file, you mention that this was a group assignment and all participants name are included in the file

Assignment 1: Thread Control via Keyboard

Overview

To manage multiple threads via keyboard

Specifications

- You will be creating an app which will allow you to control up to 5 threads
- All threads will start automatically
- As they function, they will periodically output the message
    - "executing thread 1"
    - "executing thread 2"
    - "executing thread 3"
    - "executing thread 4"
    - "executing thread 5"
- By default, none of the threads can be stopped or paused at launch time
- To control a thread, press keys 1 – 5 respectively
- A message "controlling thread X" will appear
- Note: all other threads will still keep messaging
- If you press the same thread key again, it will say"
- "pausing thread x"
- If you toggle again, it will say
- "resuming thread x"
- and then it's typical message "executing thread x" will start displaying again
- As long as you are in control of this thread, you can do a few things
    - you could stop it permanently by press "S" (see more instructions on this)
    - You could change its priority
        - you could make it a top priority, by pressing "T"
        - you could make it a low priority by pressing "L"
        - you could make it a normal priority by pressing "N"

    - This will have the net effect of changing the frequency of your threads
- For any thread in control, you will press “S” to stop it
    - this will display the message “Permanently stopping the execution of Thread X”
    - this will also display the message of available threads and their current state

        “Available threads are”:

        - “thread 2”: “running” – Press Key 2 to control
        - “thread 3”: “paused” – Press Key 3 to control
        - “thread 5”: “running” – Press Key 5 to control
- When all threads have been “stopped”, the app will display a final message:
    - “this app is not exiting, all threads have been stopped"

Suggestions for Development

- See if you can get to control 1 thread with all the features required
- Then see if you can get to control 2 threads with all the features required
- Finally, keep pushing until you have 5 threads

Save Project Name as: **`Assignment01_ThreadControl`**