

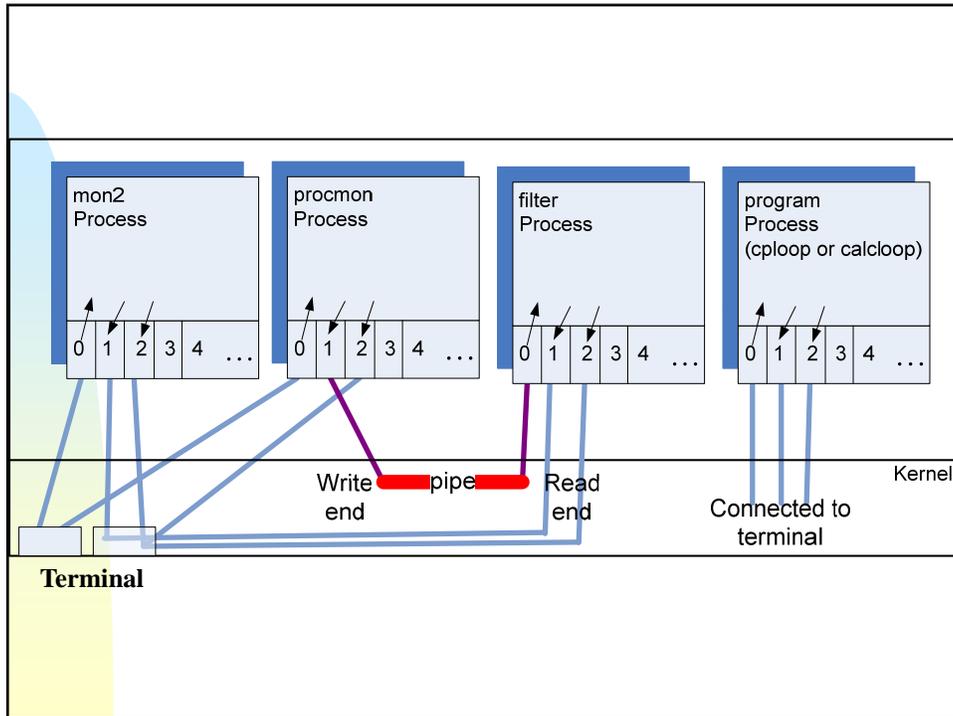
CSI3131 – Lab 2

Part A - InterProcess
Communication with Pipes

Part B – Java Threads

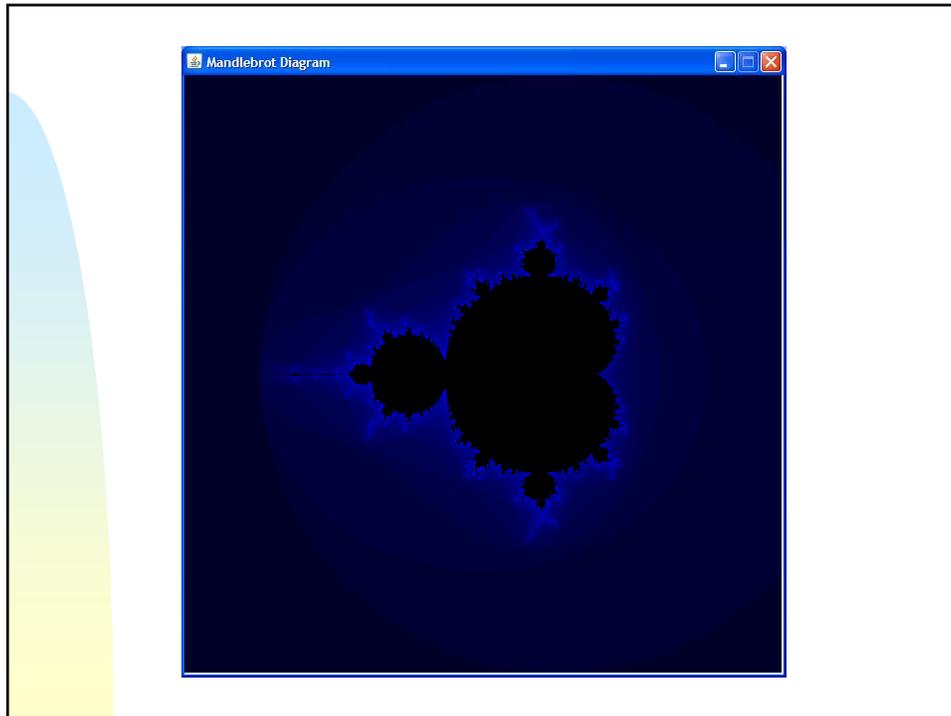
Objective of the lab – Part A

- In Part A of the lab, you will revise the *mon.c* program to create *mon2.c* to explore the use of pipes.
- A new program “*filter*” has been added to the set of the files from lab 1 (please use the new version of all programs – some minor changes were made to the original software).
- A template for *mon2.c* has been provided.
 - You will be able to port much of the code from *mon.c* to *mon2.c*
- The *mon2* program should add the following features to the original *mon* program:
 - Create a pipe.
 - Create a third process to run *filter* (*filter* is a program that reduces the number of lines output from *procmon*)
 - The pipe should be attached to the standard output of the process running *procmon* and the standard input of the process running *filter*
- The next slide provide a diagram of all processes expected to run when *mon2* is executed.



Objective of the lab – Part B

- **In the second part of the lab, you will experiment with Java Threads**
 - This part of the lab can be completed using the Java SDK (version 6) on the lab PCs
 - Use your preferred development environment: Dr Java, Eclipse, or even “*javac*”
 - Code has been provided to fill in a image in a window that reflects the MandelBrot set (see the next slide)
 - The image is created in the Window by painting small rectangles separately
 - The provided code uses a recursive method to determine the size of the small rectangles to paint (see `MBCanvas.java`).
 - Each rectangle is painted using a separate call to a method.
 - You will change the code so that each rectangle is painted by a separate thread.
 - This will allow you to visually see the execution of threads.
 - You will also experiment with a thread pool.



- **You have this week and next week to complete the lab, so take your time to understand what you are doing.**
 - Follow the instructions in the lab writeup.
 - The TAs shall circulate in the room to help answer any questions
- **Good luck.**