

## Parallel and Concurrent Programming - CS3D666 - Hour 3 - More Pipes and Redirection

- 1. Ensure that you have completed at least questions 1, 2, 5 and 6 in the previous weeks tutorial (other questions should also be attempted but these give the basics of `execl()` and `pipe()`).
- 2. Go through the lecture slides and test the code. Make sure you are happy with the mechanics of how `dup`, `pipe` and `close` work.
- 3. Modify the program on slide 17 to create another child (so two in total) and redirect a new pipe to this child. Both children must use the same program to receive messages from the pipe. Send messages down the pipes from the parent to each child.
- 4. Modify the program on slide 17 so that the child sends messages to the parent. Hint: Be careful where in your program you redirect `stdout` otherwise your parent process will send its data to the pipe and not the console window so you won't see any output.

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- 5. Can you create a program that passes data to its child, which the child modifies and then send back to the parent?