Lab 10

Part 1. Write a program that verifies that a parent and child process share the same file pointer and file pointer offset. Here are the steps you need to perform:

- The parent should open a text file and fork a child process.
- The child process should read from the text file and display what it has read. Use the read() system call to read. use the open() system call to open a file. Do "man 2 open" to see the use of open().
- When the child terminates, the parent process should then read from the same file and display what it has read. At this stage, you may need to use the sleep system call to synchronize (e.g, to make the child read before the parent) file access between the parent and child processes.

Part 2. Write a program that produces three zombie processes. Show using the output of the ps command, that these processes are truly generated and listed as defunct.

Part 3. Run all example programs under Laecture17, make sure you understand pipe, dup, and dup2 well. In the final exam, there will definitely be questions on these topics.

Part 4. Write a program where the parent makes a pipe, and then forks off one child, have the child read a message from stdin and send that message to the parent through the pipe. Then make the parent print that message.