Exercises

3.6 Describe the differences among short-term, medium-term, and long term scheduling.

3.7 Describe the actions taken by a kernel to context-switch betwee processes.

3.8 Construct a process tree similar to Figure 3.9. To obtain process informa tion for the UNIX or Linux system, use the command `ps -ael`. Use th command `man ps` to get more information about the `ps` command. O Windows systems, you will have to use the task manager.

3.9 Including the initial parent process, how many processes are created b the program shown in Figure 3.28?

3.10 Using the program in Figure 3.29, identify the values of `pid` at lines `A`, `C`, and `D`. (Assume that the actual pids of the parent and child are 260 and 2603, respectively.)

3.11 Give an example of a situation in which ordinary pipes are more suitab than named pipes and an example of a situation in which named pip are more suitable than ordinary pipes.

3.12 Consider the RPC mechanism. Describe the undesirable consequenc that could arise from not enforcing either the "at most once" or "exact once" semantic. Describe possible uses for a mechanism that has neith of these guarantees.

3.13 Using the program shown in Figure 3.30, explain what the output w be at `Line A`.

```
#include <stdio.h>
#include <unistd.h>

int main()
{
    /* fork a child process */
    fork();

    /* fork another child process */
    fork();

    /* and fork another */
    fork();

    return 0;
}
```

Figure 3.28 How many processes are created?