2024 Operating Systems Assignment1

Chapter 3.

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

3.10   Including the initial parent process, how many processes are created by the program shown below?

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

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

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

        /* and fork another */
        fork();

        return 0;
}
```

3.11   Using the program below, identify the values of pid at lines A, B, C, and D. (Assume that the actual pids of the parent and child are 2600 and 2603, respectively.)

```c
#include <sys/types.h>
#include <stdio.h>
#include <unistd.h>

Int main() {
        pid_t pid, pid1;

        /* fork a child process */
        pid = fork();

        if (pid < 0) {     /* error occurred */
                fprintf(stderr, "Fork Failed");
                return 1;
        }
        else if (pid == 0) {       /* child process */
                pid1 = getpid();
                printf("child: pid = %d", pid);  /* A */
                printf("child: pid1 = %d", pid1);        /* B */
        }
        else {   /* parent process */
                pid1 = getpid();
                printf("parent: pid = %d", pid);         /* C */
                printf("parent: pid1 = %d", pid1);     /* D */
                wait(NULL);
        }

        return 0;
}
```