

COMP 630 Self-Check

This is a short quiz over undergraduate OS basics, intended for students who are not sure whether they should take COMP 630 or 530. This is not a comprehensive examination, nor does it cover all of the background you will need to succeed in COMP 630. but if you cannot answer at least half of the questions without the aid of google, you are not prepared to take this class. This quiz will not be collected or graded — it is for your benefit; the instructor will review it with you if you are not sure whether your answers are correct.

Where is the “elevator algorithm” typically used?

What resource is a process in the “READY” or “RUNNABLE” state waiting for?

Name at least three data in an inode.

What does a TLB do?

What is a condition variable?

What is a “context switch”?

What is a “system call”?

What does the “two-handed clock” refer to?

What does the `unlink` system call do?

What does the `ln -s` command do?

What does this command do? `gcc -Wall main.c -o bar -lwrap`

Here’s a sample kernel C code snippet. It could be used by parts of the kernel which create new processes, and needs to assign a process ID (PID) to a new process/task. There are several serious bugs and some smaller problems in this code. Identify as many as you can. You may sketch out new code below.

```
#define MAX 1024
int process_list[MAX];
int get_new_process_id()
{
    int i;
    for (i = 0; i <= MAX; i++) {
        if (process_list[i] = 0)
            process_list[i] = 1;
        return(i);
    }
}
```