

National University of Computer and Emerging Sciences, Lahore Campus



Course:	Operating System	Course Code:	CS 2006
Program:	BS (CS)	Semester:	Spring 2023
Duration:	25 Minutes	Total Marks:	10
Paper Date:	15-Feb-2023	Weight	5 %
Section:	4J	Page(s):	2
Exam:	Quiz 1	Roll-No:	

Instruction/Notes: Honesty always gives fruit and Dishonesty is always harmful.

Question # 1:

Answer yes/no, and provide a brief explanation.

(a) Can two processes be concurrently executing the same program executable?

Yes, two processes can run the same program.

(b) Can two running processes share the complete process image in physical memory (not just parts of it)?

No, in general. (Only time this is possible is with copy-on-write during fork, and before any writes have been made.)

Question # 2:

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

int main()
{
    pid_t pid;

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

    if (pid < 0) { /* error occurred */
        fprintf(stderr, "Fork Failed");
        return 1;
    }
    else if (pid == 0) { /* child process */
        execlp("/bin/ls", "ls", NULL);
        printf("LINE J");
    }
    else { /* parent process */
        /* parent will wait for the child to complete */
        wait(NULL);
        printf("Child Complete");
    }

    return 0;
}
```

When will LINE J be reached? (Support your answer with a valid reason)

After exec system call child code is replaced by the new binary executable. Hence all the instructions after exec system call will be wipeout.



BEST OF LUCK!