OS LAB MANUAL

(CS23431)

Lab:3

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EX.NO:5

System Calls Programming

Aim: To experiment system calls using fork(), execlp() and pid() functions.

Program:

```
#include <stdio.h>

#include <unistd.h>

#include <sys/types.h>

#include <sys/wait.h>

int main() {

  pid_t pid;

  pid = fork();

  if (pid < 0) {

    perror("Fork failed");

    return 1;

  }

  if (pid == 0) {

    printf("THIS LINE EXECUTED TWICE\n");

    printf("Child Process ID: %d\n", getpid());

    printf("Parent Process ID: %d\n", getppid());

    execlp("/bin/ls", "ls", "-l", (char *)NULL);

    perror("execlp failed");
```

```c
        return 1;

    } else {

        printf("THIS LINE EXECUTED TWICE\n");

        printf("Parent Process ID: %d\n", getpid());

        printf("Parent's Parent Process ID: %d\n", getppid());

        wait(NULL);

        printf("IT CAN BE EXECUTED TWICE\n");

    }

    return 0;

}
```

OUTPUT:

```
THIS LINE EXECUTED TWICE
Parent Process ID: 6166
Parent's Parent Process ID: 6165
THIS LINE EXECUTED TWICE
Child Process ID: 6170
Parent Process ID: 6166
total 20
-rwxr-xr-x 1 runner37 runner37 16256 Apr 19 19:46 a.out
-rw-r--r-- 1 runner37 runner37   895 Apr 19 19:46 main.c
IT CAN BE EXECUTED TWICE
```