

# OS LAB MANUAL

(CS23431)

Roll No:230701234

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");  
    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;  
}
```

INPUT:

```
pranav@Pranav:~$ vi five.c  
pranav@Pranav:~$ gcc five.c  
pranav@Pranav:~$ ./a.out
```

OUTPUT:

```
pranav@Pranav:~$ vi five.c
pranav@Pranav:~$ gcc five.c
pranav@Pranav:~$ ./a.out
THIS LINE EXECUTED TWICE
Parent Process ID: 377
Parent's Parent Process ID: 284
THIS LINE EXECUTED TWICE
Child Process ID: 378
Parent Process ID: 377
total 324
-rw-r--r-- 1 pranav pranav 2691 Apr  3 05:41 NINE.c
-rw-r--r-- 1 pranav pranav 1226 Apr 17 06:04 TENB.c
-rwxr-xr-x 1 pranav pranav 16256 Apr 17 13:34 a.out
-rwxr-xr-x 1 pranav pranav 16632 Apr  3 05:22 eight
-rw-r--r-- 1 pranav pranav 2051 Apr 17 06:09 eight.c
-rw-r--r-- 1 pranav pranav 456 Apr 17 08:16 emp.awk
-rw-r--r-- 1 pranav pranav 57 Apr 17 08:16 emp.dat
-rw-r--r-- 1 pranav pranav 1 Apr  1 06:11 empavgpay.c
-rw-r--r-- 1 pranav pranav 748 Apr 17 13:33 five.c
-rw-r--r-- 1 pranav pranav 457 Apr  1 06:15 foura.c
-rw-r--r-- 1 pranav pranav 17 Apr  1 06:00 kk.c
-rw-r--r-- 1 pranav pranav 195 Apr 17 08:00 marks.awk
-rw-r--r-- 1 pranav pranav 132 Apr 17 08:08 marks.dat
-rw-r--r-- 1 pranav pranav 206360 Apr  3 05:41 nine.c
-rw-r--r-- 1 pranav pranav 526 Apr  3 05:10 sevenreceiver.c
-rw-r--r-- 1 pranav pranav 578 Apr  3 05:09 sevensender.c
-rw-r--r-- 1 pranav pranav 1146 Apr 17 08:41 sixa.c
-rw-r--r-- 1 pranav pranav 1691 Apr 17 08:56 sixb.c
-rw-r--r-- 1 pranav pranav 1953 Apr 17 09:15 sixc.c
-rw-r--r-- 1 pranav pranav 2242 Apr  3 05:07 sixd.c
-rw-r--r-- 1 pranav pranav 1294 Apr 17 05:54 tena.c
-rw-r--r-- 1 pranav pranav 2210 Apr 17 06:02 tenb.c
-rw-r--r-- 1 pranav pranav 196 Apr 17 08:27 threeA.sh
-rw-r--r-- 1 pranav pranav 215 Apr 17 08:31 threeB.sh
IT CAN BE EXECUTED TWICE
pranav@Pranav:~$
```