

Name: Devanshu Surana

Roll No.: 12

Panel: C, **Batch:** C1

OS Lab 2 Code:

Title: Process Management (Process Control)

FORK:

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

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

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

```
#include <stdlib.h>
```

```
/*pid_t : is a long integer type data type... prototype in types.h */
```

```
pid_t num_pid;
```

```
int main()
```

```
{
```

```
num_pid=fork(); /* return values of fork */
```

```
if(num_pid==0)
```

```
{
```

```
printf("This is child process id %d\n",getpid());
```

```
}
```

```
if(num_pid>0)
```

```
{
```

```
printf("This is parent process id %d\n",getpid());
```

```
}
```

```
exit (0);
```

```
}
```

OUTPUT:

```
Output
/tmp/Gk5e4H0mX4.o
This is parent process id 984
This is child process id 985
```

ORPHAN PROCESS:

```
#include <stdio.h>
#include <unistd.h>
#include <sys/types.h>
int main()
{
    int pid =fork();
    if(pid>0)
    {
        printf("parent process id %d\n",getpid());
        printf("child process id %d\n",pid); }

    else if(pid==0)
```

{

```
sleep(10);  
printf("child process id %d\n",getpid());  
printf("parent process id %d\n",getppid());  
}  
return 0;  
}
```

OUTPUT:

```
Output  
/tmp/Gk5e4H0mX4.o  
parent process id 5868  
child process id 5869
```

ZOMBIE PROCESS:

```
#include <stdio.h>  
#include <unistd.h>  
#include <stdlib.h>  
int main(void)  
{  
    pid_t pid;  
    if((pid=fork())< 0)  
        printf("\n\tfork error\n");  
    else  
        if(pid==0)
```

```
{  
printf("Child id is %d\n\n",getpid());
```

```

}
else
{
sleep(10);
system("ps -axj | more");
}
exit(0);
}

```

OUTPUT:

```

Child id is 839

```

| PPID | PID | PGID | SID | TTY | TPGID | STAT | UID | TIME | COMMAND |
|------|-----|------|-----|-------|-------|------|-------|------|-----------------------|
| 0 | 1 | 1 | 1 | pts/0 | 1 | Ss+ | 0 | 0:00 | /script/cinit |
| 0 | 65 | 65 | 65 | pts/2 | 65 | Ss+ | 0 | 0:00 | /bin/bash |
| 1 | 209 | 209 | 209 | ? | -1 | Zs | 14049 | 0:00 | [a.out] <defunct> |
| 1 | 315 | 315 | 315 | ? | -1 | Zs | 14049 | 0:00 | [a.out] <defunct> |
| 1 | 391 | 391 | 391 | ? | -1 | Zs | 14049 | 0:00 | [a.out] <defunct> |
| 0 | 685 | 685 | 685 | pts/1 | 834 | Ss | 14049 | 0:00 | /bin/bash |
| 1 | 764 | 764 | 764 | ? | -1 | Zs | 14049 | 0:00 | [a.out] <defunct> |
| 685 | 834 | 834 | 685 | pts/1 | 834 | Sl+ | 14049 | 0:00 | /script/tinit ./a.out |
| 834 | 835 | 835 | 835 | pts/3 | 835 | Ss+ | 14049 | 0:00 | ./a.out |
| 835 | 839 | 835 | 835 | pts/3 | 835 | Z+ | 14049 | 0:00 | [a.out] <defunct> |
| 835 | 840 | 835 | 835 | pts/3 | 835 | S+ | 14049 | 0:00 | sh -c ps -axj more |
| 840 | 841 | 835 | 835 | pts/3 | 835 | R+ | 14049 | 0:00 | ps -axj |
| 840 | 842 | 835 | 835 | pts/3 | 835 | R+ | 14049 | 0:00 | more |