



**Fatima Jinnah Women University**  
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# LAB 8

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**Section:** A

**Semester:** Third

**Course:** Operating System (LAB)

## Task # 1

- o Compute the Factorial of a number using IPC (PIPE implementation).
- o Parent creates pipe
- o Forks a child
- o Parent writes into pipe (the number whose factorial is to be calculated, take the number from the user)
- o Child reads from pipe and compute the Factorial of a number written by Parent

```
raifa.c
1 #include<stdio.h>
2 #include<unistd.h>
3 #include<sys/types.h>
4 #include<sys/wait.h>
5 int main()
6 {
7     int fd[2],t;
8     int n;
9     int fact=1;
10    pid_t p;
11    pipe(fd);
12    p=fork();
13    if(p>0)
14    {
15        printf("Enter the number;\n");
16        scanf("%d",&n);
17        write(fd[1],&n,sizeof(n));
18        close(fd[1]);
19    }
20    else // child
21    {
22        read(fd[0],&n,100);
23        close(fd[0]);
24        for(int i=1;i<=n;++i)
25        {
26            fact *= i;
27        }
28        printf("factorial %d\n",fact);
29    }
30 }
31 }
```

```
~$ nano raifa.c
~$ gcc raifa.c
~$ ./a.out
Enter the number;
10
factorial 3628800
;~$ █
```