

OPERATING SYSTEMS ASSIGNMENT-2

GAURAV MAHAJAN SEC C PES1UG20CS150

```
1 #include <stdio.h>
2 #include <string.h>
3 #include <fcntl.h>
4 #include <sys/stat.h>
5 #include <sys/types.h>
6 #include <unistd.h>
7
8 #define buf 100
9 #define READ_END 0
10 #define WRITE_END 1
11
12 int main()
13 {
14     int count = 0;
15     int fd[2];
16     pid_t pid;
17     char writestring[buf] = "";
18     char readstring[buf] = "";
19
20     if (pipe(fd) == -1)
21     {
22         printf("Pipe failed\n");
23         return 1;
24     }
25     pid = fork();
26     if (pid > 0)
27     {
28         char c;
29         FILE* fr = fopen("input.txt", "r");
30         close(fd[READ_END]);
31         int i = 0;
32         while ((c = fgetc(fr)) != EOF)
33         {
34             writestring[i] = c;
35             i++;
36         }
37         write(fd[WRITE_END], writestring, strlen(writestring) + 1);
38         close(fd[WRITE_END]);
39         //wait(NULL);
40     }
41     else if (pid == 0)
42     {
43         close(fd[WRITE_END]);
44         read(fd[READ_END], readstring, buf);
45         printf("Child Process Read : %s\n", readstring);
46         for (int i = 0; readstring[i] != '\0'; i++)
47         {
48             if (readstring[i] == ' ' || readstring[i] == '\n' || readstring[i] == '\t')
49             {
50                 count++;
51             }
52         }
53         printf("\n The Total Number of Words in this String : %d", count);
54         close(fd[READ_END]);
55     }
56     else
57     {
58         printf("Fork failed\n");
59         return 1;
60     }
61 }
62 }
```

input.txt

```
1 Hello world! My name is Gaurav! I study in Section C
2
```

gaurav@gaurav-VirtualBox: ~/Desktop

```
gaurav@gaurav-VirtualBox:~/Desktop$ gcc pipe_assignment.c
gaurav@gaurav-VirtualBox:~/Desktop$ ./a.out
gaurav@gaurav-VirtualBox:~/Desktop$ Child Process Read : Hello world! My name is
Gaurav! I study in Section C

The Total Number of Words in this String : 12
```