**Assignment: 7a**

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Full duplex communication between two independent processes. First process accepts sentences and writes on one pipe to be read by second process and second process counts number of

characters, number of words and number of lines in accepted sentences, writes this output in a text file and writes the contents of the file on second pipe to be read by first process and displays on standard output.

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| // Roll number= T21279    #include <stdio.h>  #include <unistd.h> #include <fcntl.h>  #include <stdlib.h>  #include <sys/stat.h> #define MAX\_BUFF 1024 int main()  { int fd, fd1, c = 0; char \*myfifo1 = "myfifo1"; char \*myfifo2 = "myfifo2"; int res; char buff[MAX\_BUFF]; char str; res = mkfifo(myfifo1, 0777); printf("\nres=%d", res); if (res == -1)  { printf("\nPIPE 1 is not created\n"); exit(0);  } printf("\nEnter the sentence:(end with #)\n"); fd = open(myfifo1, O\_WRONLY); while ((str = getchar()) != '#') buff[c++] = str; buff[c] = '\0'; write(fd, buff, sizeof(buff)); close(fd);  fd1 = open(myfifo2, O\_RDONLY); read(fd1, &buff, MAX\_BUFF);  printf("\nContents of file:%s", buff); close(fd1); unlink(myfifo2); return 0;  }    7a2.c    #include <stdio.h>  #include <unistd.h> #include <fcntl.h>  #include <stdlib.h> #define MAX\_BUFF 1024 int main() |

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| --- |
| {  int words = 0, chars = 0, lines = 0; FILE \*fp; char buff[MAX\_BUFF]; int fd, fd1, i = 0; char \*myfifo1 = "myfifo1"; char \*myfifo2 = "myfifo2"; int res; res = mkfifo(myfifo2, 0777); if (res == -1)  { printf("\nPIPE 2 is not created\n"); exit(0);  } fd = open(myfifo1, O\_RDONLY); read(fd, buff, MAX\_BUFF); printf("\nFirst message received:%s\n", buff); while (buff[i] != '\0')  { if (buff[i] == ' ' || buff[i] == '\n')  { if (buff[i + 1] != '\0') words++;  } else { chars++;  } if (buff[i] == '\n') lines++; i++; } words++; lines++;  printf("\nNo. of lines:%d\n", lines); printf("\nNo. of words:%d\n", words); printf("\nNo. of characters:%d\n", chars); fp = fopen("a.txt", "w+");  fprintf(fp, "\nNo. of lines:%d\n", lines); fprintf(fp, "\nNo. of words:%d\n", words); fprintf(fp, "\nNo. of characters:%d\n", chars); fclose(fp); close(fd); unlink(myfifo1); fd1 = open(myfifo2, O\_WRONLY); system("cat a.txt>myfifo2"); close(fd1); return 0; |

}

// E:\assignment\OS\7a>gcc 7a.c -o 7a

// E:\assignment\OS\7a>7a

// res=1

// Enter the sentence:(end with #)

// Hello World this is Mayank#

//

// Contents of file:Hello World this is Mayank

//

//

// First message received:

// No. of lines:1

// No. of words:5

// No. of characters:26

// E:\assignment\Madiha\OS\7a>