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#include <unistd.h>
#include <fcntl.h>
#include <stdlib.h>
#include <stdio.h>
#include <string.h>

int main() {

    int file_pipes1[2]; //Parent Pipe
    int file_pipes2[2]; //Child Pipe
    int pid,count=0;
    char filename[]="record.txt",msg1[]="This is
message1.\n",msg2[]="This is message2.\n";
    FILE *fptr;
    pipe(file_pipes1); //One Way Communication from Parent to
Child
    pipe(file_pipes2); //One Way Communication from Child to
Parent

    file_pipes1[0]=open(filename,O_RDONLY);
    file_pipes1[1]=open(filename,O_WRONLY);
    file_pipes2[0]=open(filename,O_RDONLY);
    file_pipes2[1]=open(filename,O_WRONLY);

    pid=fork();

    if(pid==0) { //Child Process

        close(file_pipes1[1]); // Close the unwanted write side
of parent
        close(file_pipes2[0]); // Close the unwanted read side of
child

        read(file_pipes1[0],msg1,sizeof(msg1));
        printf("\nIn Child (id %d): Reading from Pipe
1\n\n%s\n",getpid(),msg1);

        write(file_pipes2[1],msg2,sizeof(msg2));
        printf("\nIn Child (id %d): Writing to Pipe
2\n\n%s\n",getpid(),msg2);
    }
    else { //Parent Process

        close(file_pipes1[0]); // Close the unwanted read side of
parent
        close(file_pipes2[1]); // Close the unwanted write side
child

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        //writing to parent pipe
        write(file_pipes1[1],msg1,sizeof(msg1));
        printf("\nIn Parent (id %d): Writing to Pipe
1\n\n%s\n",getpid(),msg1);
        close(file_pipes1[1]); // Close the unwanted write side
of parent
        sleep(2);

        //Reading from child pipe
        read(file_pipes2[0],msg2,sizeof(msg2));
        printf("\nIn Parent (id %d): Reading from Pipe
2\n\n%s\n",getpid(),msg2);
    }
    return 0;
}

```

Output:

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Someshwars-MacBook-Pro:Assignment someshwargaikwad$ cd
Assignment7
Someshwars-MacBook-Pro:Assignment7 someshwargaikwad$ gcc
Assignment7a.c
Someshwars-MacBook-Pro:Assignment7 someshwargaikwad$ ./a.out

```

In Parent (id 43189): Writing to Pipe 1

This is message1.

In Child (id 43190): Reading from Pipe 1

This is message1.

In Child (id 43190): Writing to Pipe 2

This is message2.

In Parent (id 43189): Reading from Pipe 2

This is message2.

```

Someshwars-MacBook-Pro:Assignment7 someshwargaikwad$

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