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//FIFOS
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```
#include<stdio.h>
#include<unistd.h>
#include<string.h>
#include<stdlib.h>
#include <sys/wait.h>

int main(){
int fd1[2],fd2[2];
char string[100];
char readbuffer[100];
char string1[100];
FILE *fp;
pipe(fd1);
pid_t id;
pipe(fd1);
pipe(fd2);
//id = fork();

if((id = fork()) == -1)
{
    perror("fork");
    exit(1);
}

else if(id==0){
    close(fd1[1]);

    read(fd1[0],readbuffer,sizeof(readbuffer));
    //printf("from child: %s hello",readbuffer);
    printf("IN CHILD\n");
    close(fd1[0]);
    close(fd2[0]);
    int wordcnt=0,charcnt=0,linecnt=0;
    int i=0;
    while(sizeof(readbuffer)>0 && readbuffer[i]!='\0'){
        if(readbuffer[i]==' '){
            wordcnt++;
        }
        else{
            charcnt++;
        }
        i++;
    }
    fp = fopen("myfile.txt","w");
```

```

    fprintf(fp,"char count %d \nword count %d \nline count
",charcnt,wordcnt+1);
    fclose(fp);
    printf("Count is added to file myfile.txt\n");
    fp = fopen("myfile.txt","r");
    int a=0;char ch;
    while(a!=-1){
        a =fscanf(fp,"%c",&ch);
        write(fd2[1],&ch,sizeof(ch));
    }
    printf("Sending content from child to parent by PIPE 2\n");
    fclose(fp);
    close(fd2[1]);
    exit(0);
}
else{
    close(fd1[0]);
    printf("IN PARENT\n");
    printf("Enter the Sentence: ");
    scanf("%[^\n]s",string);
    //scanf("%s",string);
    printf("Sending content from parent to child by PIPE 1\n");
    write(fd1[1],string,strlen(string)+1);
    wait(NULL);
    close(fd1[1]);
    close(fd2[1]);
    read(fd2[0],readbuffer,sizeof(readbuffer));
    printf("Recived in Parent from child: \n%s",readbuffer);

    close(fd2[0]);
}
return 0;
}

```

```
// IPCS
```

```
#include<stdio.h>
#include<stdlib.h>
#include<unistd.h>
#include<sys/shm.h>
#include<string.h>

int main(){
void *shared_memory;
char buff[100];
int shmid;
shmid = shmget((key_t)1122,1024,0666|IPC_CREAT);
printf("KEY OF SHARED MEMORY IS: %d\n ",shmid);
shared_memory = shmat(shmid,NULL,0);
printf("PROCESS attached at : %p \n Enter some data to write to shared
Memory:",shared_memory);
//printf("");
read(0,buff,100);
strcpy((char*)shared_memory,buff);
printf("Data is Written Successfull....: %s",(char *)shared_memory);
return 0;
}
```

```
//IPCR
```

```
#include<stdio.h>
#include<stdlib.h>
#include<unistd.h>
#include<sys/shm.h>
#include<string.h>

int main(){

void *shared_memory;
char buff[100];
int shmid;
shmid = shmget((key_t)1122,1024,0666);
printf("KEY OF SHARED MEMORY is: %d\n",shmid);
shared_memory = shmat(shmid,NULL,0);
printf("process attached at: %p\n",shared_memory);
printf("Data read from shared_memory is: %s \n",(char *)shared_memory);

return 0;
}
```