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#include<stdio.h>
#include<stdlib.h>
#include<unistd.h>
#include<string.h>
#include<fcntl.h>      // open,read(),close() : file related function
void count(char *p1,char*fname)
{
    int handle,ccnt=0,wcnt=0,lcnt=0;
    char ch;

    handle=open(fname,O_RDONLY);

    if(handle== -1)
    {
        printf("\n File %s Not Found....",fname);
    }
    else
    {
        while(read(handle,&ch,1))                //on failure read()
function returns 0
        {
            if(ch==' '||ch=='\t')
                wcnt++;
            else if(ch=='\n')
            {
                lcnt++;
                wcnt++;
            }
            ccnt++;
        }

        close(handle);

        if(strcmp(p1,"C")==0)
        {
            printf("\nTotal No. of character in file = %d",ccnt);
        }
        else if(strcmp(p1,"W")==0)
        {
            printf("\nTotal No. of words in file = %d",wcnt);
        }
        else if(strcmp(p1,"L")==0)
        {
            printf("\nTotal No. of Lines in file = %d",lcnt);
        }
        else
        {
            printf("\nInvalid Option.....\n");
        }
    }
}

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}
int main()
{
    char cmd[80],tok1[10],tok2[10],tok3[10],tok4[10];
    int n;
    while(1)
    {
        printf("\nMYSHELL $");

        fgets(cmd,80,stdin);

        n=sscanf(cmd,"%s%s%s%s",tok1,tok2,tok3,tok4);    //n=no
of tokens are formed from given command

        switch(n)
        {
            case 1:

                if(fork()==0)
                {
                    execlp(tok1,tok1,NULL);
//paramenters- nameOfProcess,parametersOfProcess
                }
                wait(0);
                break;

            case 2 :
                if(fork()==0)
                {
                    execlp(tok1,tok1,tok2,NULL);
                }
                wait(0);
                break;

            case 3:
                if(strcmp(tok1,"count")==0)
                {
                    count(tok2,tok3);
                }
                else
                {
                    if(fork()==0)
                    {
                        execlp(tok1,tok1,tok2,tok3,NULL);
                    }
                    wait(0);
                }
                break;

            case 4 :
                if(fork()==0)
                {

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execlp(tok1,tok1,tok2,tok3,tok4,NULL);
                                }
                                wait(0);
                                break;

                                }
                                }

}
/*                                OUTPUT
*   [shalmali@localhost SHELL]$ ./a.out
*
*   MYSHELL $]count C a.txt
*   Total No. of character in file = 111
*
*   MYSHELL $]count W a.txt
*   Total No. of words in file = 21
*
*   MYSHELL $]count L a.txt
*
*   Total No. of Lines in file = 5
*
*   MYSHELL $]^C
*   [shalmali@localhost SHELL]$
*
* */

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