Basic Linux/Unix shell

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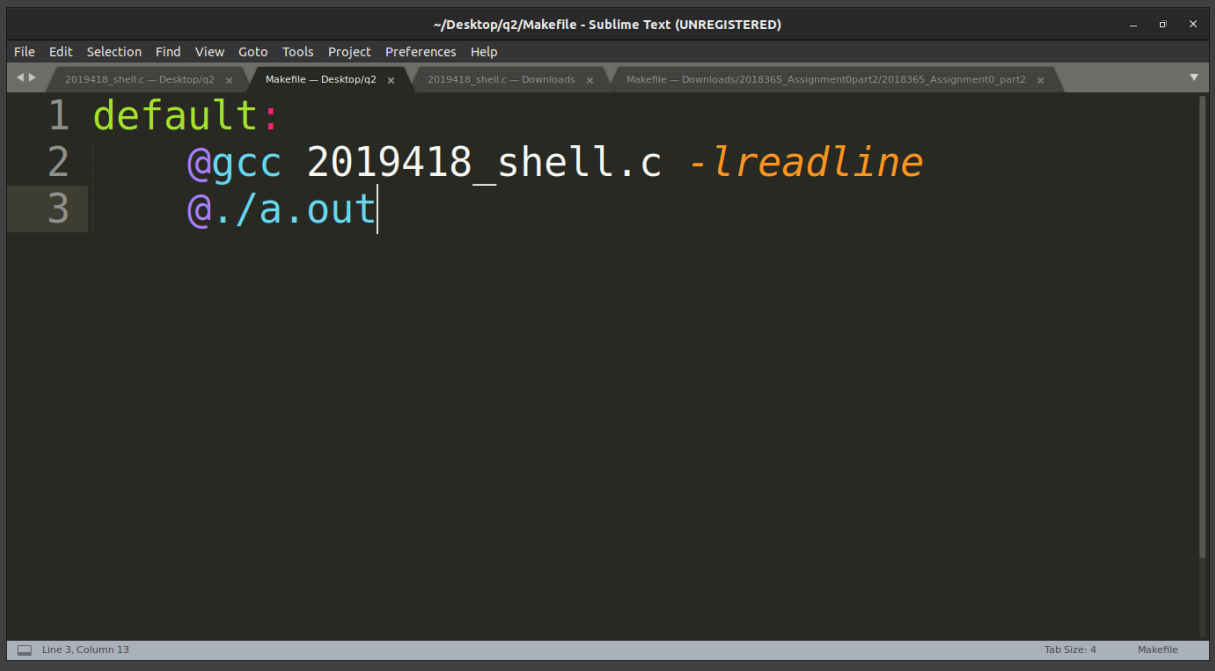
- ABOUT THE CODE
  I have written external function in different c files.
  2019418_cat.c
  2019418_date.c
  2019418_ls.c
  2019418_mkdir.c
  2019418_rm.c

  My internal functions are inside 2019418_shell.c , those functions are cd , echo , history , pwd , exit.

  This is my make file



- Explaining all functions:

  Cat – cat is used to display all files.

  Eg – cat a.txt

~/Desktop/q2/2019418_cat.c - Sublime Text (UNREGISTERED)

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2019418_cat.c | 2019418_date.c | 2019418_ls.c | 2019418_mkdir.c | 2019418_rm.c | 2019418_shell.c

```c
#include <readline/readline.h>
#include <stdlib.h>

#include <sys/wait.h>

#include <string.h>

#include <stdio.h>
#include <unistd.h>

int deepak_ka_cat(int count , char **inputarray){
    pid_t cat_command;
    cat_command = fork();
    if(cat_command != 0){
        wait(NULL);
    }
    else{
        if(count != 1){
            execl("/bin/cat",inputarray[0],inputarray[1],NULL);
        }
        else{
            execl("/bin/cat",inputarray[0],NULL);
        }
    }
    return 0;
}
```

Line 1, Column 1 Tab Size: 4 C

  Date – date is used to display the current date and time.

  Eg – type date in shell

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2019418_cat.c | 2019418_date.c | 2019418_ls.c | 2019418_mkdir.c | 2019418_rm.c | 2019418_shell.c

```c
#include <readline/readline.h>
#include <stdlib.h>

#include <sys/wait.h>

#include <string.h>

#include <stdio.h>
#include <unistd.h>

int deepak_ka_date(int count , char **inputarray){
    pid_t date_command;
    date_command = fork();
    if(date_command != 0){
        wait(NULL);
    }
    else{
        if(count != 1){
            execl("/bin/date",inputarray[0],inputarray[1],NULL);
        }
        else{
            execl("/bin/date",inputarray[0],NULL);
        }
    }
    return 0;
}
```

Line 26, Column 2 Tab Size: 4 C

  Ls – ls is used to get list of all the files in current directory.

Eg – if two files a.txt and b.txt is present in current directory then type ls in shell and it will display a.txt and b.txt.

~/Desktop/q2/2019418_ls.c - Sublime Text (UNREGISTERED)

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2019418_cat.c | 2019418_date.c | 2019418_ls.c | 2019418_mkdir.c | 2019418_rm.c | 2019418_shell.c

```c
#include <readline/readline.h>
#include <stdlib.h>

#include <sys/wait.h>

#include <string.h>

#include <stdio.h>
#include <unistd.h>

int deepak_ka_ls(int count , char **inputarray){
    pid_t ls_command;
    ls_command = fork();
    if(ls_command != 0){
        wait(NULL);
    }
    else{
        if(count != 1){
            execl("/bin/ls",inputarray[0],inputarray[1],NULL);
        }
        else{
            execl("/bin/ls",inputarray[0],NULL);
        }
    }
    return 0;
}
```

Line 1, Column 1 Tab Size: 4 C

Mkdir – mkdir is used to make a new directory.
Eg. mkdir newdict
This makes a new directory newdict in current directory.

~/Desktop/q2/2019418_mkdir.c - Sublime Text (UNREGISTERED)

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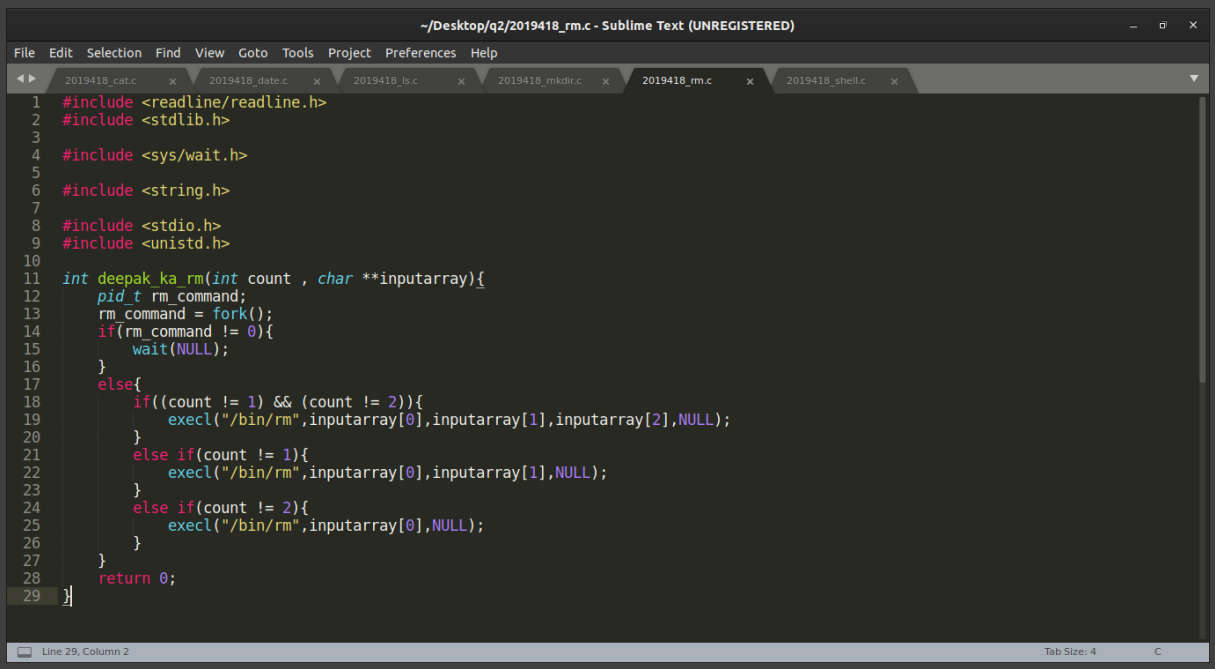
2019418_cat.c | 2019418_date.c | 2019418_ls.c | 2019418_mkdir.c | 2019418_rm.c | 2019418_shell.c

```c
#include <readline/readline.h>
#include <stdlib.h>

#include <sys/wait.h>

#include <string.h>

#include <stdio.h>
#include <unistd.h>

int deepak_ka_mkdir(int count , char **inputarray){
    pid_t mkdir_command;
    mkdir_command = fork();
    if(mkdir_command != 0){
        wait(NULL);
    }
    else{
        if((count != 1) && (count != 2) && (count != 3)){
            execl("/bin/mkdir",inputarray[0],inputarray[1],inputarray[2],inputarray[4],NULL);
        }
        else if((count != 2) && (count != 3)){
            execl("/bin/mkdir",inputarray[0],NULL);
        }
        else if((count != 1) && (count != 3)){
            execl("/bin/mkdir",inputarray[0],inputarray[1],NULL);
        }
        else if((count != 1) && (count != 2)){
            execl("/bin/mkdir",inputarray[0],inputarray[1],inputarray[2],NULL);
        }
    }
    return 0;
}
```

Line 1, Column 1 Tab Size: 4 C

Rm – rm delets a file.



Eg – rm a.txt
This will delet a.txt from current directory.

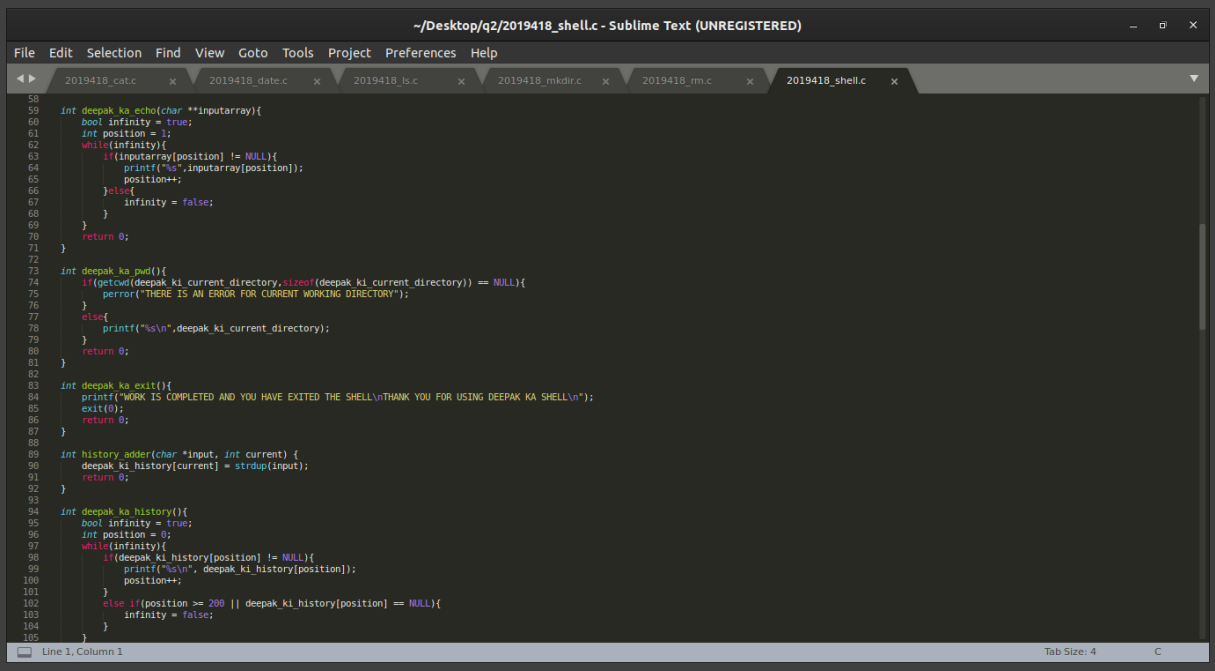
Cd – cd is used to change directory.

Echo – echo is used to print something on shell.
Eg – echo doremon
Will print doremon on shell.

History – history tells which all commands are used till now.
Eg – if we used ls till now then history command will tell us ls is used

Pwd – pwd tells the full path of current working directory.

Exit – exit is used to exit the shell and end all tasks going on.



- OUTPUT FOR VARIOUS INPUT