

## Assignment - 02

### TOPIC: FILE SYSTEM COMMANDS

1. Create two C files to print "Hello World!" in two different ways:
  - a. Program containing normal statement terminator → HelloWorld1.c.
  - b. Program without any statement terminator → HelloWorld2.c.

Ans :

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55$ ls
Unix_File_System
ubuntu@hrisha:~/MCA2023/Hrisha_B_55$ mkdir Assignment1
ubuntu@hrisha:~/MCA2023/Hrisha_B_55$ ls
Assignment1 Unix_File_System
ubuntu@hrisha:~/MCA2023/Hrisha_B_55$ cd Assignment1
```

a)

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ vim HelloWorld1.c
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ gcc HelloWorld1.c -o HelloWorld1
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ ./HelloWorld1
Hello World!
```

b)

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ vim HelloWorld2.c
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ gcc HelloWorld2.c -o HelloWorld2
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ ./HelloWorld2
Hello World!
```

2. Display the contents of the files.

Ans :

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ cat HelloWorld1.c
#include<stdio.h>
int main(){
    printf("Hello world!\n");
    return 0;
}
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ cat HelloWorld2.c
#include<stdio.h>
int main(){
    if(printf("Hello world!\n"))
        return 0;
}
```

3. Concatenate the two files to a third file.

Ans :

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ cat HelloWorld1.c HelloWorld2.c > Program.txt
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ ls
HelloWorld1 HelloWorld1.c HelloWorld2 HelloWorld2.c Program.txt
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ cat Program.txt
#include<stdio.h>
int main(){
    printf("Hello World!\n");
    return 0;
}
#include<stdio.h>
int main(){
    if(printf("Hello World!\n"))
        return 0;
}
```

4. Show the above file types.

Ans :

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ file HelloWorld1.c
HelloWorld1.c: C source, ASCII text
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ file HelloWorld2.c
HelloWorld2.c: C source, ASCII text
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ file Program.txt
Program.txt: C source, ASCII text
```

5. Copy all the files to the home directory in an interactive manner.

Ans :

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ cp -i HelloWorld1.c HelloWorld2.c Program.txt ~
```

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ cd ~
ubuntu@hrisha:~$ ls
0 HelloWorld1.c  NAN  TestB  assignment  classTEST3.sh  classwork3.sh  classwork7.sh  first  palindrome.sh  saha.txt  who.sh
BCAALPHA HelloWorld2.c  hrisha.txt  TestC  class  classwork  classwork4.sh  command.sh  hello_world.py  palindrome2.sh  sorting.sh
BCABETA MCA2023  Program.txt  Unix_File_System  classTEST1.sh  classwork1.sh  classwork5.sh  data  loggedin.sh  palindromeNum.sh  users.sh
Cprog.sh  Monalisa.txt  TestA  abc.txt  classTEST2.sh  classwork2.sh  classwork6.sh  fileType.sh  monalisa.txt  prime.sh  wfile
```

6. Create a copy of the C file in TestA-1.

Ans :

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ cp HelloWorld1.c ~/MCA2023/Monalisa_B_02/Unix_File_System/TestA/TestA-1/
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ ls ~/MCA2023/Monalisa_B_02/Unix_File_System/TestA/TestA-1/
HelloWorld1.c
```

7. Copy the file to the home directory in an interactive manner.

Ans :

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ cd ~/MCA2023/Monalisa_B_02/Unix_File_System/TestA/TestA-1/
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System/TestA/TestA-1$ ls
HelloWorld1.c
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System/TestA/TestA-1$ cp -i HelloWorld1.c ~
cp: overwrite '/home/nandini/HelloWorld1.c'? y
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System/TestA/TestA-1$ cd ~
ubuntu@hrisha:~$ ls
0 HelloWorld1.c  NAN  TestB  assignment  classTEST3.sh  classwork3.sh  classwork7.sh  first  palindrome.sh  saha.txt  who.sh
BCAALPHA HelloWorld2.c  hrisha.txt  TestC  class  classwork  classwork4.sh  command.sh  hello_world.py  palindrome2.sh  sorting.sh
BCABETA MCA2023  Program.txt  Unix_File_System  classTEST1.sh  classwork1.sh  classwork5.sh  data  loggedin.sh  palindromeNum.sh  users.sh
Cprog.sh  Monalisa.txt  TestA  abc.txt  classTEST2.sh  classwork2.sh  classwork6.sh  fileType.sh  monalisa.txt  prime.sh  wfile
ubuntu@hrisha:~$
```

8. Remove the directories TestC & TestC-1.

Ans :

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System/TestC
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System/TestC$ ls
TestC-1
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System/TestC$ rmdir TestC-1
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System/TestC$ cd ..
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System$ rmdir TestC
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System$ ls
TestA  TestB
```

9. Delete the file C file from TestA-1.

Ans :

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System$ cd TestA/TestA-1
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System/TestA/TestA-1$ ls
HelloWorld1.c
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System/TestA/TestA-1$ rm HelloWorld1.c
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System/TestA/TestA-1$ ls
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System/TestA/TestA-1$
```

10. Rename the text file in the home directory.



Ans :

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Unix_File_System/TestA/TestA-1$ cd -
ubuntu@hrisha:~$ ls
0      Helloworld1.c  NAN      TestB      assignment  classTEST3.sh  classwork3.sh  classwork7.sh  first  palindrome.sh  saha.txt  who.sh
BCAALPHA  Helloworld2.c  hrisha.txt  TestC      class      classwork      classwork4.sh  classwork8.sh  hello_world.py  palindrome2.sh  sorting.sh
BCABETA   MCA2023        Program.txt  Unix_File_System  classTEST1.sh  classwork1.sh  classwork5.sh  data  loggedin.sh  palindromeNum.sh  users.sh
Cprog.sh  MonaLisa.txt  TestA      abc.txt     classTEST2.sh  classwork2.sh  classwork6.sh  FileType.sh  monalisa.txt  prime.sh  wfile
mandini@LAPTOP-F47RC73F:~$ mv Program.txt C_Program.txt
mandini@LAPTOP-F47RC73F:~$ ls
0      Helloworld1.c  hrisha.txt  abc.txt     classTEST3.sh  classwork4.sh  data  monalisa.txt  saha.txt
BCAALPHA  Helloworld2.c  TestA      TestC      classwork      classwork5.sh  filetype.sh  palindrome.sh  sorting.sh
BCABETA   MCA2023        TestB      class      classwork1.sh  classwork6.sh  first  palindrome2.sh  users.sh
C_Program.txt  Hrisha.txt  TestC      classTEST1.sh  classwork2.sh  classwork7.sh  hello_world.py  palindromeNum.sh  wfile
Cprog.sh      NAN      Unix_File_System  classTEST2.sh  classwork3.sh  command.sh  loggedin.sh  prime.sh  who.sh
mandini@LAPTOP-F47RC73F:~$
```

# 11. Create a C file for a menu driven calculator.

Ans :

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ vim Calculator.c
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ gcc Calculator.c -o Calculator
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ ./Calculator

Menu :
1.Addition 2.Substraction 3.Multiplication 4.Division 5.Modulo 6.Exit
Enter your choice :
1
Enter number1 and number2 : 10
12
Addition : 22
Menu :
1.Addition 2.Substraction 3.Multiplication 4.Division 5.Modulo 6.Exit
Enter your choice :
5
Enter number1 and number2 : 10
5
Modulo : 0
Menu :
1.Addition 2.Substraction 3.Multiplication 4.Division 5.Modulo 6.Exit
Enter your choice :
6
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$
```

# 12. Show the C file in the paged manner using **more** and **less** commands.

Ans :

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ more Calculator.c
#include<stdio.h>
#include<stdlib.h>

int main(){
    int choice, num1, num2;
    while(1){
        printf("\nMenu : \n1.Addition 2.Substraction 3.Multiplication 4.Division 5.Modulo 6.Exit\n");
        printf("Enter your choice : \n");
        scanf("%d", &choice);
        switch(choice){
            case 1: printf("Enter number1 and number2 : ");
                    scanf("%d %d", &num1, &num2);
                    printf("Addition : %d", num1+num2);
                    break;
            case 2: printf("Enter number1 and number2 : ");
                    scanf("%d %d", &num1, &num2);
                    printf("Substraction : %d", num1-num2);
                    break;
            case 3: printf("Enter number1 and number2 : ");
                    scanf("%d %d", &num1, &num2);
                    printf("Multiplication : %d", num1*num2);
                    break;
            case 4: printf("Enter number1 and number2 : ");
                    scanf("%d %d", &num1, &num2);
                    printf("Division : %d", num1/num2);
                    break;
            case 5: printf("Enter number1 and number2 : ");
                    scanf("%d %d", &num1, &num2);
                    printf("Modulo : %d", num1%num2);
                    break;
            case 6: exit(0);
            default : printf("Invalid choice.\n");
                    break;
        }
    }
    return 0;
}
```

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ less Calculator.c
```

```
#include<stdio.h>
#include<stdlib.h>

int main(){
    int choice, num1, num2;
    while(1){
        printf("\nMenu : \n1.Addition 2.Substraction 3.Multiplication 4.Division 5.Modulo 6.Exit\n");
        printf("Enter your choice : \n");
        scanf("%d", &choice);
        switch(choice){
            case 1: printf("Enter number1 and number2 : ");
                    scanf("%d %d", &num1, &num2);
                    printf("Addition : %d", num1+num2);
                    break;
            case 2: printf("Enter number1 and number2 : ");
                    scanf("%d %d", &num1, &num2);
                    printf("Substraction : %d", num1-num2);
                    break;
            case 3: printf("Enter number1 and number2 : ");
                    scanf("%d %d", &num1, &num2);
                    printf("Multiplication : %d", num1*num2);
                    break;
            case 4: printf("Enter number1 and number2 : ");
                    scanf("%d %d", &num1, &num2);
                    printf("Division : %d", num1/num2);
                    break;
            case 5: printf("Enter number1 and number2 : ");
                    scanf("%d %d", &num1, &num2);
                    printf("Modulo : %d", num1%num2);
                    break;
            case 6: exit(0);
            default : printf("Invalid choice.\n");
                     break;
        }
    }
    return 0;
}

calculator.c (END)
```

13. Count the number of lines, words and characters separately.

Ans:

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ wc Calculator.c
41 123 1167 Calculator.c
```

14. Compare the two C files.

Ans:

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ cmp HelloWorld1.c HelloWorld2.c
HelloWorld1.c HelloWorld2.c differ: byte 32, line 3
```

15. Find what is common in two C files.

Ans:

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ comm HelloWorld1.c HelloWorld2.c
#include<stdio.h>
int main(){
    if(printf("Hello World!\n"))
    printf("Hello world!\n");
    return 0;
}
```

16. Find the difference in two C files.

Ans:

```
ubuntu@hrisha:~/MCA2023/Hrisha_B_55/Assignment1$ diff HelloWorld1.c HelloWorld2.c
3c3
<     printf("Hello World!\n");
---
>     if(printf("Hello World!\n"))
```