Assignment - 2

UNIX and Shell Programming

TOPIC: FILE SYSTEM COMMANDS

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1. Create two C files to print "**Hello World!**" in two different ways:
   a. Program containing normal statement terminator - HelloWorld1.c.

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ nano HelloWorld1.c
```

```
  GNU nano 6.2
#include <stdio.h>
int main(){
printf("Hello! My name is Namrata.");
return 0;
}
```

   b. Program without any statement terminator - HelloWorld2.c.

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ nano HelloWorld2.c
```

```
  GNU nano 6.2
#include <stdio.h>
int main(){
printf("Helli! My name is Namrata.")
return 0
}
```

2. Display the contents of the files.

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ cat HelloWorld1.c
#include <stdio.h>
int main(){
printf("Hello! My name is Namrata.");
return 0;
}

namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ cat HelloWorld2.c
#include <stdio.h>
int main(){
printf("Helli! My name is Namrata.")
return 0
}
```

3. Concatenate the two files to a third file.

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ cat HelloWorld1.c HelloWorld2.c > HelloWorld3.c
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ cat HelloWorld3.c
#include <stdio.h>
int main(){
printf("Hello! My name is Namrata.");
return 0;
}

#include <stdio.h>
int main(){
printf("Helli! My name is Namrata.")
return 0
}
```

4. Show the above file types.

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ file HelloWorld1.c
HelloWorld1.c: C source, ASCII text
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ file HelloWorld2.c
HelloWorld2.c: C source, ASCII text
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ file HelloWorld3.c
HelloWorld3.c: C source, ASCII text
```

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

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ cp -i *.c ~/
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ cd
namrata@NamraRio:~$ ls
HelloWorld1.c  HelloWorld2.c  HelloWorld3.c  MCA2023
```

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

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ cp *.c ~/MCA2023/Namrata_B_34/Unix_File_System
/TestA/TestA-1
```

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ cd
namrata@NamraRio:~$ cd MCA2023/Namrata_B_34/Unix_File_System/TestA/TestA-1
namrata@NamraRio:~/MCA2023/Namrata_B_34/Unix_File_System/TestA/TestA-1$ ls
HelloWorld1.c  HelloWorld2.c  HelloWorld3.c
```

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

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ cp -i *.c ~/
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ cd
namrata@NamraRio:~$ ls
HelloWorld1.c  HelloWorld2.c  HelloWorld3.c  MCA2023
```

8. Remove the directories `TestC & TestC-1`.

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/Unix_File_System/TestC$ rmdir TestC-1
```

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/Unix_File_System$ rmdir TestC
namrata@NamraRio:~/MCA2023/Namrata_B_34/Unix_File_System$ ls
TestA  TestB
```

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

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/Unix_File_System/TestA/TestA-1$ rm *.c
namrata@NamraRio:~/MCA2023/Namrata_B_34/Unix_File_System/TestA/TestA-1$ ls
namrata@NamraRio:~/MCA2023/Namrata_B_34/Unix_File_System/TestA/TestA-1$
```

10. Create a C file for a menu driven calculator.

```
  GNU nano 6.2
#include <stdio.h>

int main() {
    int choice;
    float num1, num2, result;

    printf("Menu:\n");
    printf("1. Addition\n");
    printf("2. Subtraction\n");
    printf("3. Multiplication\n");
    printf("4. Division\n");
    printf("Enter your choice: ");
    scanf("%d", &choice);

    printf("Enter two numbers: ");
    scanf("%f %f", &num1, &num2);

    switch (choice) {
        case 1:
            result = num1 + num2;
            printf("Result: %.2f\n", result);
            break;
        case 2:
            result = num1 - num2;
            printf("Result: %.2f\n", result);
            break;
        case 3:
            result = num1 * num2;
            printf("Result: %.2f\n", result);
            break;
        case 4:
            if (num2 != 0) {
                result = num1 / num2;
                printf("Result: %.2f\n", result);
            } else {
                printf("Error: Division by zero\n");
            }
            break;
        default:
            printf("Invalid choice\n");
    }

    return 0;
}
```

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

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ more calculator.c
#include <stdio.h>

int main() {
    int choice;
    float num1, num2, result;

    printf("Menu:\n");
    printf("1. Addition\n");
    printf("2. Subtraction\n");
    printf("3. Multiplication\n");
    printf("4. Division\n");
    printf("Enter your choice: ");
    scanf("%d", &choice);

    printf("Enter two numbers: ");
    scanf("%f %f", &num1, &num2);

    switch (choice) {
        case 1:
            result = num1 + num2;
            printf("Result: %.2f\n", result);
            break;
        case 2:
            result = num1 - num2;
            printf("Result: %.2f\n", result);
            break;
        case 3:
            result = num1 * num2;
            printf("Result: %.2f\n", result);
            break;
        case 4:
            if (num2 != 0) {
                result = num1 / num2;
                printf("Result: %.2f\n", result);
            } else {
                printf("Error: Division by zero\n");
            }
            break;
        default:
            printf("Invalid choice\n");
```

```
#include <stdio.h>

int main() {
    int choice;
    float num1, num2, result;

    printf("Menu:\n");
    printf("1. Addition\n");
    printf("2. Subtraction\n");
    printf("3. Multiplication\n");
    printf("4. Division\n");
    printf("Enter your choice: ");
    scanf("%d", &choice);

    printf("Enter two numbers: ");
    scanf("%f %f", &num1, &num2);

    switch (choice) {
        case 1:
            result = num1 + num2;
            printf("Result: %.2f\n", result);
            break;
        case 2:
            result = num1 - num2;
            printf("Result: %.2f\n", result);
            break;
        case 3:
            result = num1 * num2;
            printf("Result: %.2f\n", result);
            break;
        case 4:
            if (num2 != 0) {
                result = num1 / num2;
                printf("Result: %.2f\n", result);
            } else {
                printf("Error: Division by zero\n");
            }
            break;
        default:
            printf("Invalid choice\n");
:
```

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

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ wc calculator.c
  44  101 1047 calculator.c
```

13. Rename the text file in the home directory.

```
namrata@NamraRio:~$ mv HelloWorld1.c HelloWorldRenamed.c
namrata@NamraRio:~$ ls
HelloWorld2.c  HelloWorld3.c  HelloWorldRenamed.c  MCA2023
```

14. Compare the two C files.

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ diff HelloWorld1.c HelloWorld2.c
3,4c3,4
< printf("Hello! My name is Namrata.");
< return 0;
---
> printf("Helli! My name is Namrata.")
> return 0
6d5
<
```

15. Find what is common in two C files.

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ comm HelloWorld1.c HelloWorld2.c
                #include <stdio.h>
                int main(){
        printf("Helli! My name is Namrata.")
printf("Hello! My name is Namrata.");
        return 0
return 0;
                }
comm: file 1 is not in sorted order

comm: input is not in sorted order
```

16. Find the difference in two C files.

```
namrata@NamraRio:~/MCA2023/Namrata_B_34/assignment2$ diff HelloWorld1.c HelloWorld2.c
3,4c3,4
< printf("Hello! My name is Namrata.");
< return 0;
---
> printf("Helli! My name is Namrata.")
> return 0
6d5
<
```