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Class : MCA (DS)

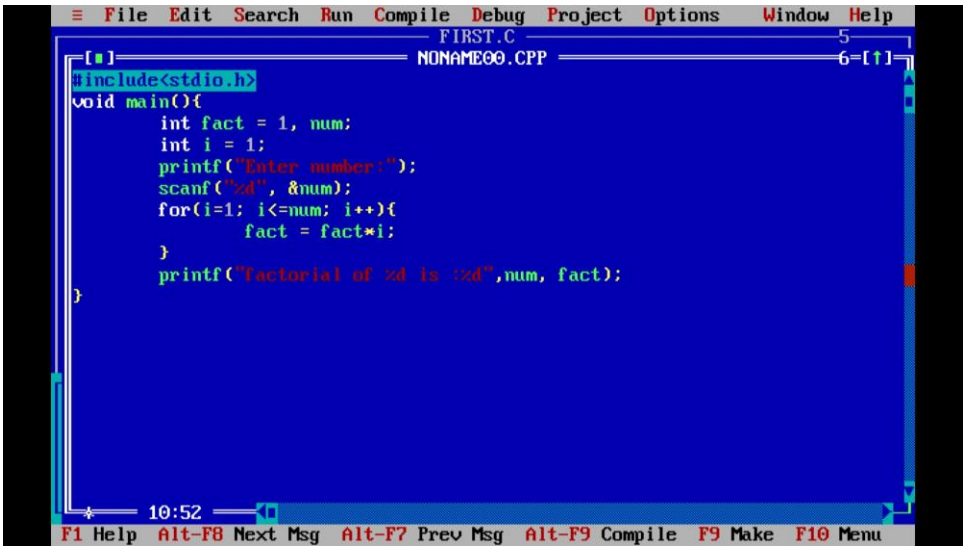
Roll number : 8

Assignment 3

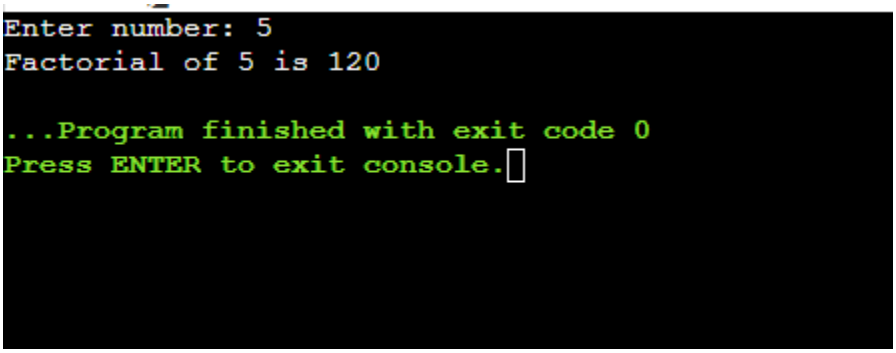
Aim : Write an algorithm and find the efficiency of the same for following problems

A] Finding Factorial – Iterative Approach and Recursive Approach

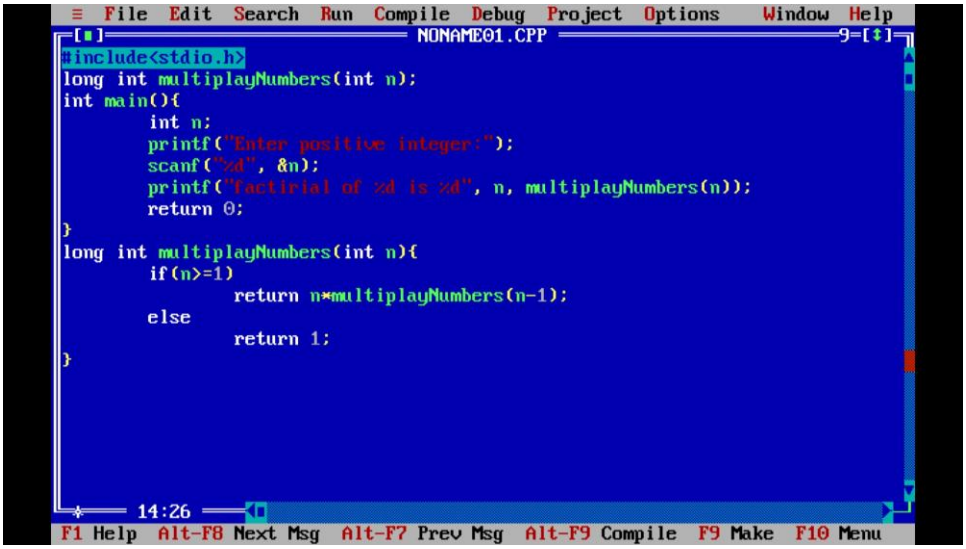
1> Iterative Approach



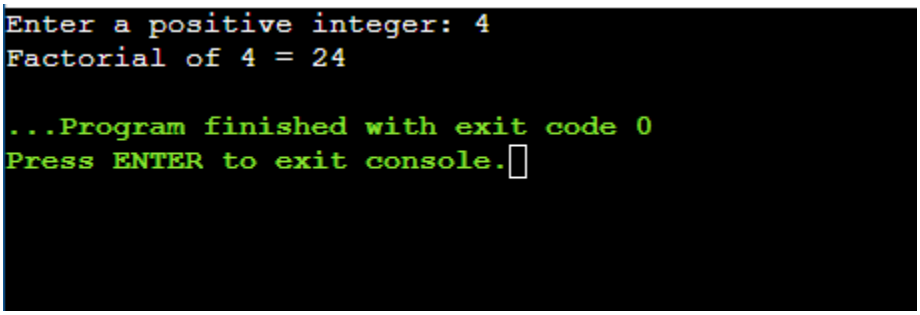
Output :



2> Recursive Approach

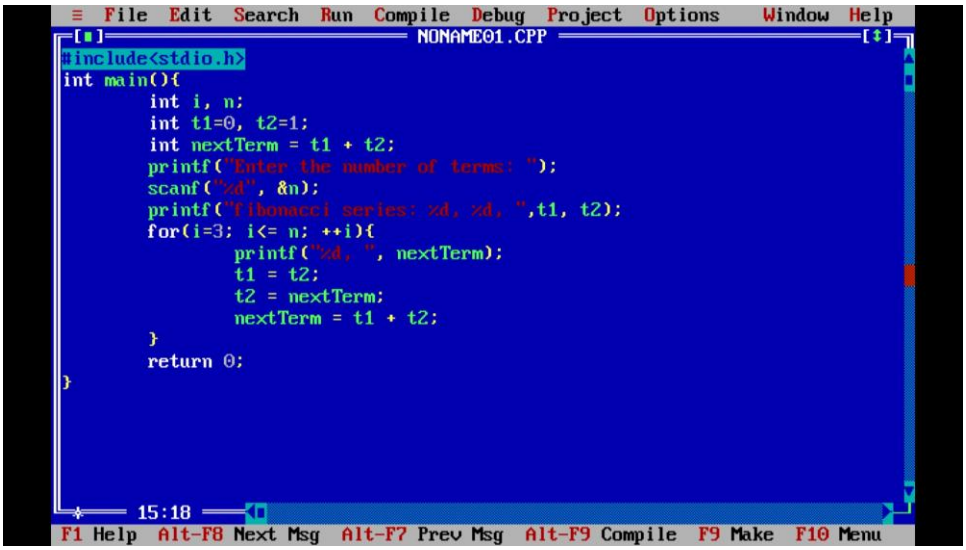


Output :

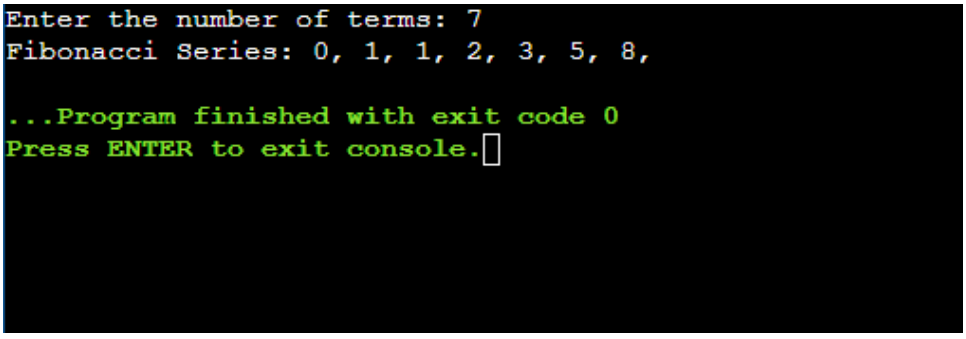


B] Printing Fibonacci Series – Iterative Approach and recursive approach

1> Iterative Approach



Output :



2> **Recursive Approach**

```
#include<stdio.h>
void printFibonacci(int n){
        static int n1=0, n2=1, n3;
        if(n>0){
                n3 = n1 + n2;
                n1=n2;
                n2=n3;
                printf("%d", n3);
                printFibonacci(n-1);
        }
}
int main(){
        int n;
        printf("Enter the number of elements: ");
        scanf("%d", &n);
        printf("Fibonacci series: ");
        printf("%d %d ", 0, 1);
        printFibonacci(n-2);
        return 0;
}
```

Output :

```
Enter the number of elements: 8
Fibonacci Series: 0 1 1 2 3 5 8 13

...Program finished with exit code 0
Press ENTER to exit console.
```