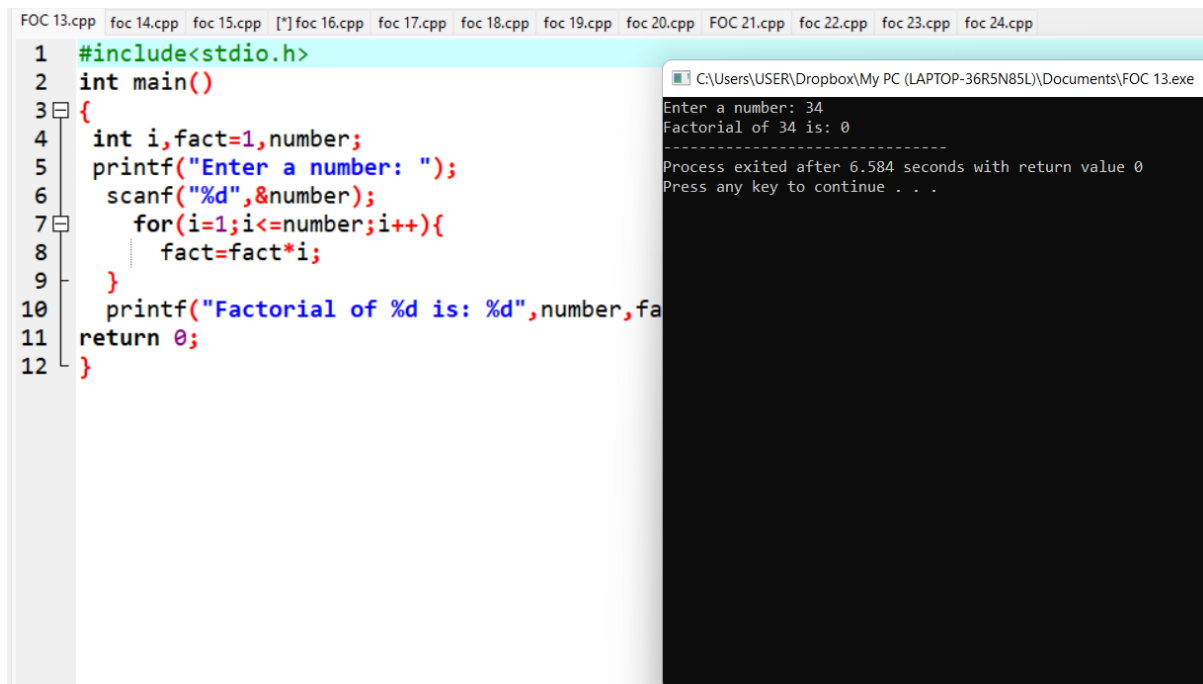


DAY-2

1) 13. Product series (Factorial of a given number)

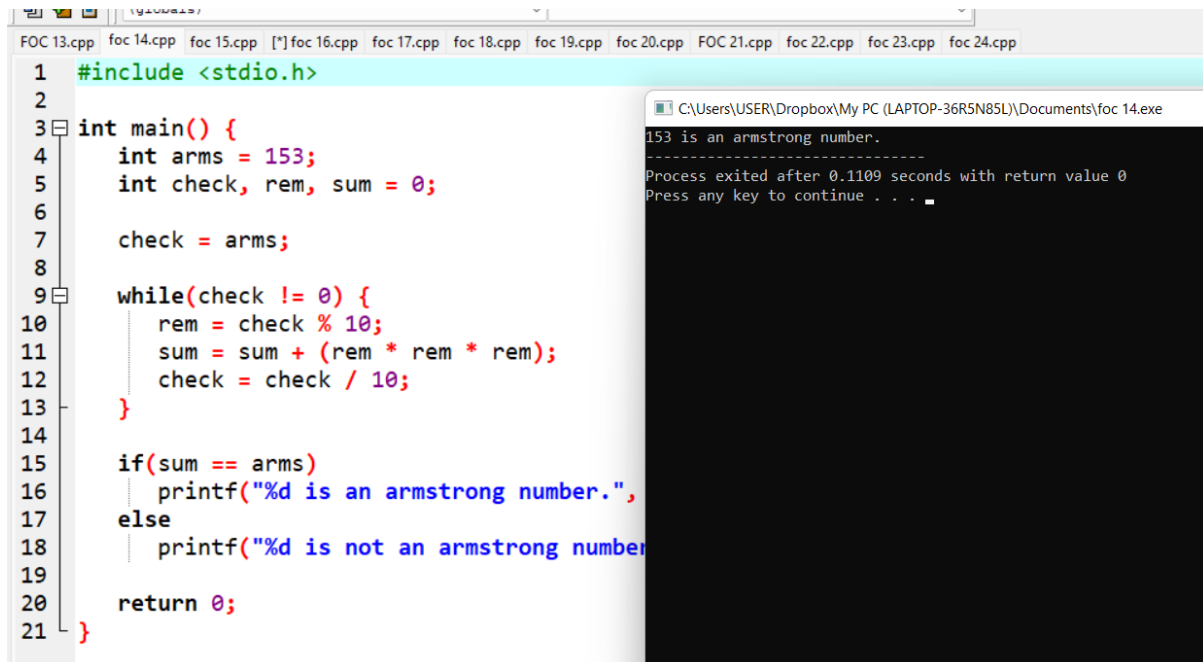


```
1 #include<stdio.h>
2 int main()
3 {
4     int i,fact=1,number;
5     printf("Enter a number: ");
6     scanf("%d",&number);
7     for(i=1;i<=number;i++){
8         fact=fact*i;
9     }
10    printf("Factorial of %d is: %d",number,fact);
11    return 0;
12 }
```

Output:

```
Enter a number: 34
Factorial of 34 is: 0
-----
Process exited after 6.584 seconds with return value 0
Press any key to continue . . .
```

14.Finding given number is Armstrong or not



```
1 #include <stdio.h>
2
3 int main() {
4     int arms = 153;
5     int check, rem, sum = 0;
6
7     check = arms;
8
9     while(check != 0) {
10         rem = check % 10;
11         sum = sum + (rem * rem * rem);
12         check = check / 10;
13     }
14
15     if(sum == arms)
16         printf("%d is an armstrong number.", arms);
17     else
18         printf("%d is not an armstrong number.", arms);
19
20     return 0;
21 }
```

Output:

```
153 is an armstrong number.
-----
Process exited after 0.1109 seconds with return value 0
Press any key to continue . . .
```

15.Summing up any n numbers and finding average

```
FOC 13.cpp foc 14.cpp foc 15.cpp [*] foc 16.cpp foc 17.cpp foc 18.cpp foc 19.cpp foc 20.cpp FOC 21.cpp foc 22.cpp foc 23.cpp foc 24.cpp
1 #include <stdio.h>
2
3 int main()
4 {
5     int num, sum = 0, n;
6     float avg;
7
8     printf("Please Enter term of n number:-");
9     scanf("%d", &n);
10    for(int i = 1; i <= n; i++)
11    {
12        printf("Number %d = ", i);
13        scanf("%d", &num);
14        sum = sum + num;
15    }
16
17    avg = sum / n;
18
19    printf("\nThe Sum of n Numbers    = %d", sum);
20    printf("\nThe Average of n Numbers = %.2f\n", avg);
21 }
```

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Please Enter term of n number:-3
Number 1 = 56
Number 2 = 23
Number 3 = 55

The Sum of n Numbers = 134
The Average of n Numbers = 44.67

Process exited after 17.87 seconds with return value 0
Press any key to continue . . .

16. Printing digits of an integer number

```
FOC 13.cpp foc 14.cpp foc 15.cpp foc 16.cpp foc 17.cpp foc 18.cpp
1 #include<stdio.h>
2
3 int main()
4 {
5     int num;
6
7     scanf("%d",&num);
8
9     while(num > 0)
10    {
11        int mod = num % 10;
12        printf("%d\n",mod);
13
14        num = num / 10;
15    }
16
17    return 0;
18 }
19
```

234
4
3
2

Process exited after 27.42 seconds with return value 0
Press any key to continue . . .

17. Summing up the digits of an integer number

```
FOC 13.cpp foc 14.cpp foc 15.cpp foc 16.cpp foc 17.cpp foc 18.cpp foc 19.cpp foc 20.cpp FOC 21.cpp foc 22.cpp foc 23.cpp foc 24.cpp
1 #include <stdio.h>
2 int main()
3 {
4     int n, t, sum = 0, remainder;
5
6     printf("Enter an integer\n");
7     scanf("%d", &n);
8
9     t = n;
10
11    while (t != 0)
12    {
13        remainder = t % 10;
14        sum = sum + remainder;
15        t = t / 10;
16    }
17
18    printf("Sum of digits of %d = %d\n", n, sum);
19
20    return 0;
21 }
```

C:\Users\USER\Dropbox\My PC (LAPTOP-36R5N85L)\Documents\foc 17.exe

Enter an integer
2397
Sum of digits of 2397 = 21

Process exited after 15.04 seconds with return value 0
Press any key to continue . . .

18.Revering the digits of an integer number

```
FOC 13.cpp foc 14.cpp foc 15.cpp foc 16.cpp foc 17.cpp foc 18.cpp foc 19.cpp foc 20.cpp FOC 21.cpp foc 22.cpp foc 23.cpp foc 24.cpp
1 #include <stdio.h>
2 int main()
3 {
4     int number, reversed = 0;
5     printf("Enter any number = ");
6     scanf("%d", &number);
7     while(number != 0)
8     {
9         reversed = (reversed * 10) + (number % 10);
10        number /= 10;
11    }
12    printf("Reverse = %d", reversed);
13    return 0;
14 }
```

C:\Users\USER\Dropbox\My PC (LAPTOP-36R5N85L)\Documents\foc 18.exe

Enter any number = 2094658
Reverse = 8564902

Process exited after 4.268 seconds with return value 0
Press any key to continue . . .

19.Finding the given integer is positive or negative

```
FOC 13.cpp foc 14.cpp foc 15.cpp foc 16.cpp foc 17.cpp foc 18.cpp foc 19.cpp foc 20.cpp FOC 21.cpp foc 22.cpp foc 23.cpp foc 24.cpp
1 #include <stdio.h>
2 int main()
3 {
4     int num;
5
6     printf("Input a number :");
7     scanf("%d", &num);
8     if (num >= 0)
9         printf("%d is a positive number \n", num);
10    else
11        printf("%d is a negative number \n", num);
12 }
13
```

C:\Users\USER\Dropbox\My PC (LAPTOP-36R5N85L)\Documents\foc 19.exe

Input a number :-2478458
-2478458 is a negative number

Process exited after 12.18 seconds with return value 0
Press any key to continue . . .

20.Swapping two numbers with a temporary variable

```

FOC 13.cpp foc 14.cpp foc 15.cpp foc 16.cpp foc 17.cpp foc 18.cpp foc 19.cpp foc 20.cpp FOC 21.cpp foc 22.cpp foc 23.cpp foc 24.cpp
1 #include<stdio.h>
2 int main()
3 {
4     int a=10, b=20;
5     printf("Before swap a=%d b=%d",a,b);
6     a=a+b; //a=30 (10+20)
7     b=a-b; //b=10 (30-20)
8     a=a-b; //a=20 (30-10)
9     printf("\nAfter swap a=%d b=%d",a,b);
10    return 0;
11 }

```

C:\Users\USER\Dropbox\My PC (LAPTOP-36R5N85L)\Documents\foc 20.exe

```

Before swap a=10 b=20
After swap a=20 b=10
-----
Process exited after 0.07355 seconds with return value 0
Press any key to continue . . .

```

21. Program to convert decimal to hexadecimal

```

FOC 13.cpp foc 14.cpp foc 15.cpp foc 16.cpp foc 17.cpp foc 18.cpp foc 19.cpp foc 20.cpp FOC 21.cpp foc 22.cpp foc 23.cpp foc 24.cpp
1 #include <stdio.h>
2
3 int main()
4 {
5     long int decn,rmd,q,dn=0,m,l;
6     int i=1,j,tmp;
7     char s;
8
9     printf("\n\nConvert Decimal to Hexadecimal:\n");
10    printf("-----\n");
11
12    printf("Input any Decimal number: ");
13    public int __cdecl printf (const char * __restrict__ ,Format
14    q=uecn;
15    for(l=q;l>0;l=l/16)
16    {
17        tmp = l % 16;
18        if( tmp < 10)
19            tmp = tmp + 48; else
20            tmp = tmp + 55;
21        dn=dn*100+tmp;
22    }
23    printf("\nThe equivalent Hexadecimal Number : ");
24    for(m=dn;m>0;m=m/100)
25    {
26        s=m % 100;
27        printf("%c",s);
28    }
29    printf("\n\n");
30 }
31

```

Select C:\Users\USER\Dropbox\My PC (LAPTOP-36R5N85L)\Documents\FOC 21.exe

```

Convert Decimal to Hexadecimal:
-----
Input any Decimal number: 79

The equivalent Hexadecimal Number : 4F
-----
Process exited after 8.938 seconds with return value 0
Press any key to continue . . .

```

22. Program to convert Hexa to decimal

```

FOC 13.cpp  foc 14.cpp  foc 15.cpp  foc 16.cpp  foc 17.cpp  foc 18.cpp  foc 19.cpp  foc 20.cpp  FOC 21.cpp  foc 22.cpp  foc 23.cpp  foc 24.cpp
1  #include <stdio.h>
2  #include <math.h>
3  #include <string.h>
4  #define ARRAY_SIZE 20
5  int main()
6  {
7      char hex[ARRAY_SIZE];
8      long long decimal = 0, base = 1;
9      int i = 0, value, length;
10     /* Get hexadecimal value from user */
11     printf("Enter hexadecimal number: ");
12     fflush(stdin);
13     fgets(hex, ARRAY_SIZE, stdin);
14     length = strlen(hex);
15     for(i = length--; i >= 0; i--)
16     {
17         if(hex[i] >= '0' && hex[i] <= '9')
18         {
19             decimal += (hex[i] - 48) * base;
20             base *= 16;
21         }
22         else if(hex[i] >= 'A' && hex[i] <= 'F')
23         {
24             decimal += (hex[i] - 55) * base;
25             base *= 16;
26         }
27         else if(hex[i] >= 'a' && hex[i] <= 'f')
28         {
29             decimal += (hex[i] - 87) * base;
30             base *= 16;
31         }
32     }
33     printf("\nHexadecimal number = %s", hex);
34     printf("Decimal number = %lld\n", decimal);
35     return 0;
36 }

```

C:\Users\USER\Dropbox\My PC (LAPTOP-36R5N85L)\Documents\foc 22.exe

Enter hexadecimal number: 4f

Hexadecimal number = 4f
Decimal number = 79

Process exited after 6.98 seconds with return value 0
Press any key to continue . . .

23. Program to convert decimal to octal

```

FOC 13.cpp  foc 14.cpp  foc 15.cpp  foc 16.cpp  foc 17.cpp  foc 18.cpp  foc 19.cpp  foc 20.cpp  FOC 21.cpp  foc 22.cpp  foc 23.cpp  foc 24.cpp
1  #include <stdio.h>
2  #include <math.h>
3
4  int convertDecimalToOctal(int decimalNumber);
5  int main()
6  {
7      int decimalNumber;
8
9      printf("Enter a decimal number: ");
10     scanf("%d", &decimalNumber);
11
12     printf("%d in decimal = %d in octal", decimalNumber, convertDecimalToOctal(decimalNumber));
13
14     return 0;
15 }
16
17 int convertDecimalToOctal(int decimalNumber)
18 {
19     int octalNumber = 0, i = 1;
20
21     while (decimalNumber != 0)
22     {
23         octalNumber += (decimalNumber % 8) * i;
24         decimalNumber /= 8;
25         i *= 10;
26     }
27
28     return octalNumber;
29 }

```

C:\Users\USER\Dropbox\My PC (LAPTOP-36R5N85L)\Documents\foc 23.exe

Enter a decimal number: 79

79 in decimal = 117 in octal

Process exited after 9.104 seconds with return value 0
Press any key to continue . . .

24. Program to convert octal to decimal

```
FOC 13.cpp  foc 14.cpp  foc 15.cpp  foc 16.cpp  foc 17.cpp  foc 18.cpp  foc 19.cpp  foc 20.cpp  FOC 21.cpp  foc 22.cpp  foc 23.cpp  foc 24.cpp
1  #include <stdio.h>
2  #include <math.h>
3
4  int main()
5  {
6      int num, dec = 0, rem = 0, place = 0;
7
8      printf("Enter an Octal Number\n");
9      scanf("%d", &num);
10
11     printf("\nDecimal Equivalent of %d is ", num);
12     while(num)
13     {
14         rem = num % 10;
15         dec = dec + rem * pow(8, place);
16         num = num / 10;
17         place++;
18     }
19     printf("%d\n", dec);
20     public int __cdecl printf (const char * __restrict
21     return 0;
22 }
```

C:\Users\USER\Dropbox\My PC (LAPTOP-36R5N85L)\Documents\foc 24.exe

Enter an Octal Number
117

Decimal Equivalent of 117 is 79

Process exited after 10.93 seconds with return value 0
Press any key to continue . . .