

Assignment:4

Q.1 Write a program to print multiplication of factors of a given number.

Ans.

```
#include<stdio.h>

int FactorsMultiplication(int iVal)
{
    int iCnt=0;
    int iMult=1;

    for(iCnt=1;iCnt<=(iVal/2);iCnt++)
    {
        if(iVal%iCnt==0)
        {
            iMult*=iCnt;
        }
    }
    return iMult;
}

int main()
{
    int iNo=0;

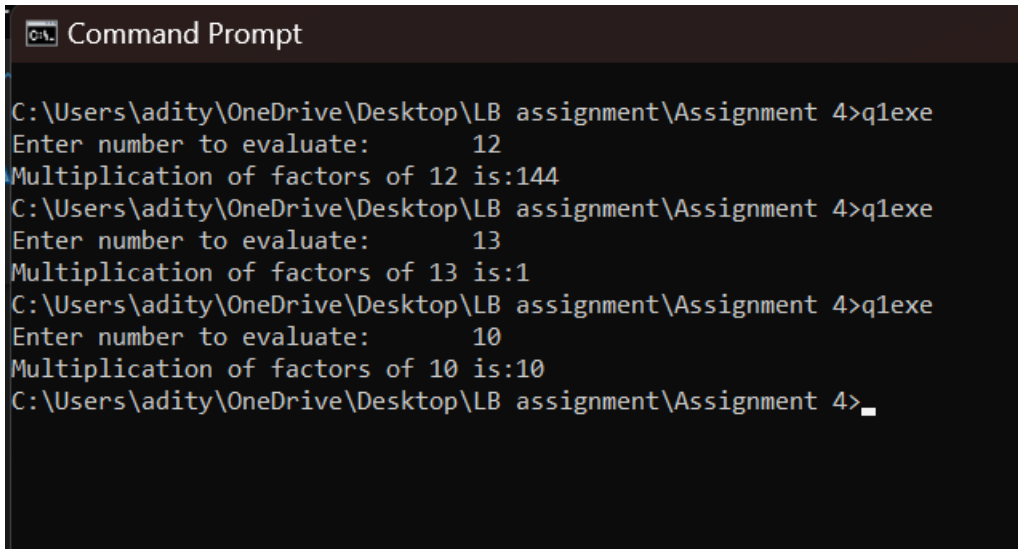
    printf("Enter number to evaluate:\t");
    scanf("%d",&iNo);

    int iRet=FactorsMultiplication(iNo);

    printf("Multiplication of factors of %d is:%d",iNo,iRet);

    return 0;
}
```

OUTPUT:



```
Command Prompt
C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>q1exe
Enter number to evaluate: 12
Multiplication of factors of 12 is:144
C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>q1exe
Enter number to evaluate: 13
Multiplication of factors of 13 is:1
C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>q1exe
Enter number to evaluate: 10
Multiplication of factors of 10 is:10
C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>_
```

Q.2 Write a program to print factors of given number in given order.

Ans.

```
#include<stdio.h>

void Factors(int iVal)
{
    int iCnt=0;

    printf("Factorials are:\n");

    for(iCnt=(iVal/2);iCnt>0;iCnt--)
    {
        if(iVal%iCnt==0){
            printf("%d\t",iCnt);
        }
    }
}

int main()
```

```

{
    int iNo=0;

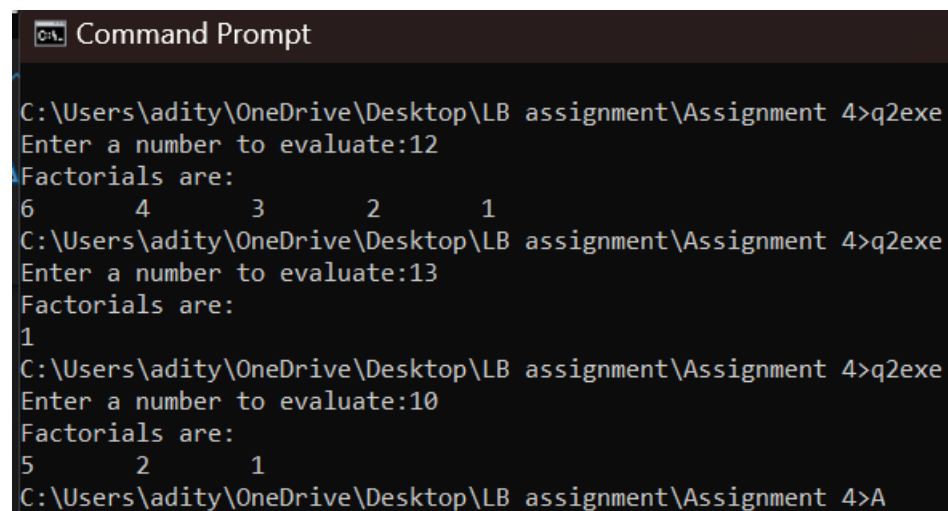
    printf("Enter a number to evaluate:");
    scanf("%d",&iNo);

    Factors(iNo);

    return 0;
}

```

OUTPUT:



```

C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>q2exe
Enter a number to evaluate:12
Factorials are:
6      4      3      2      1
C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>q2exe
Enter a number to evaluate:13
Factorials are:
1
C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>q2exe
Enter a number to evaluate:10
Factorials are:
5      2      1
C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>A

```

Q.3 Write a program to take a number and display its non-factors.

Ans.

```

#include<stdio.h>

void Display(int iVal)
{
    int iCnt=0;

    printf("Non-factors are:\n");

```

```

    for(iCnt=1;iCnt<=iVal;iCnt++)
    {
        if(iVal%iCnt!=0)
        {
            printf("%d\t",iCnt);
        }
    }
}

int main()
{
    int iNo=0;

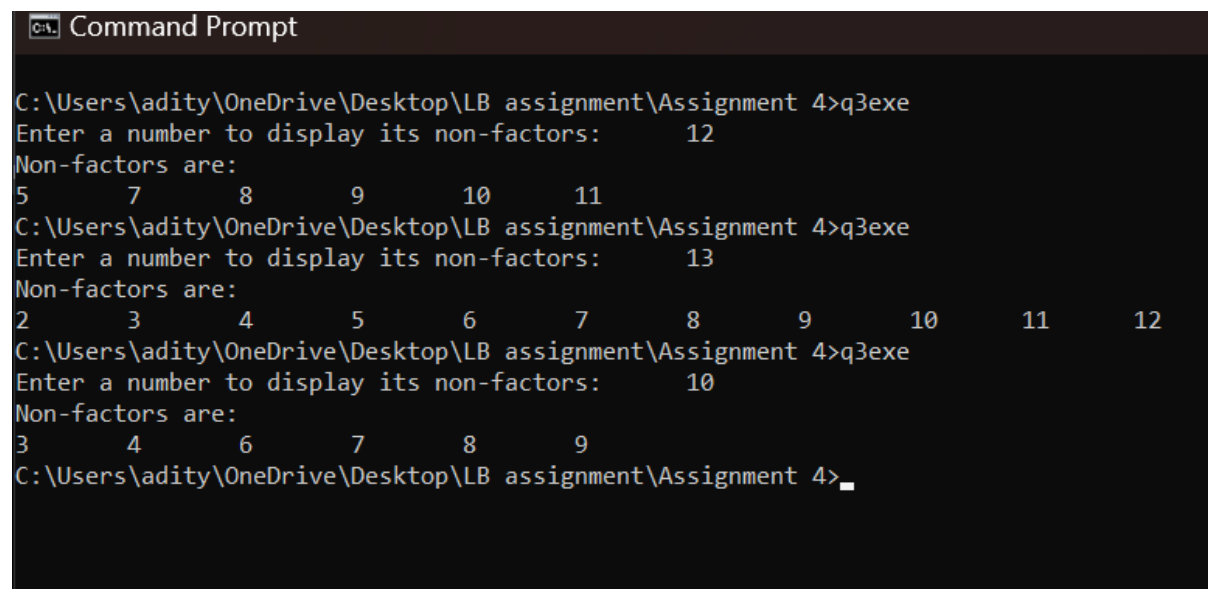
    printf("Enter a number to display its non-factors:\t");
    scanf("%d",&iNo);

    Display(iNo);

    return 0;
}

```

OUTPUT:



The screenshot shows a Windows Command Prompt window titled "C:\> Command Prompt". The user is in the directory "C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4" and has executed a program named "q3.exe". The program prompts the user to "Enter a number to display its non-factors:". Three test cases are shown:

- Input: 12. Output: Non-factors are: 5 7 8 9 10 11
- Input: 13. Output: Non-factors are: 2 3 4 5 6 7 8 9 10 11 12
- Input: 10. Output: Non-factors are: 3 4 6 7 8 9

The prompt ends with "C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>_" indicating the user is ready for the next command.

Q.4 Write a program which accepts a number and returns summation of all its non-factors.

Ans.

```
#include<stdio.h>

int Display(int iVal)
{
    int iCnt=0;
    int iSum=0;
    for(iCnt=1;iCnt<=iVal;iCnt++)
    {
        if(iVal%iCnt!=0)
        {
            iSum+=iCnt;
        }
    }

    return iSum;
}

int main()
{
    int iNo=0;

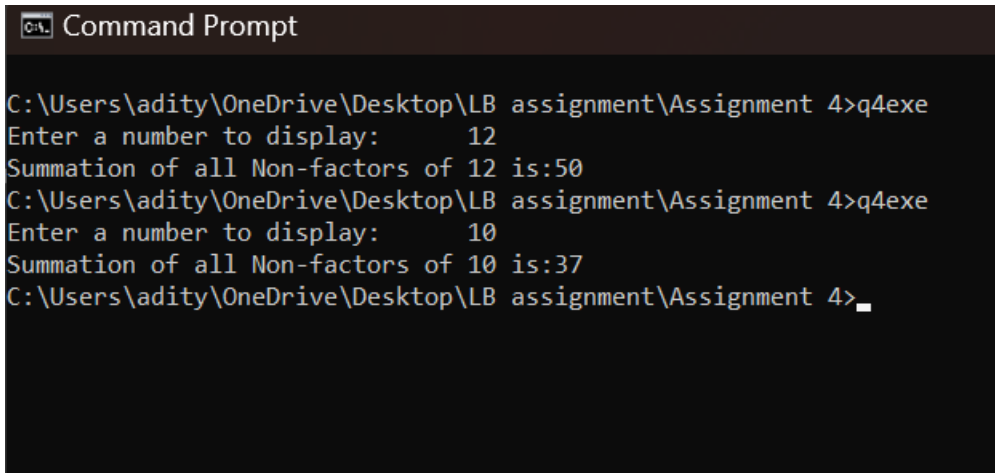
    printf("Enter a number to display:\t");
    scanf("%d",&iNo);

    int iRet=Display(iNo);

    printf("Summation of all Non-factors of %d is:%d",iNo,iRet);

    return 0;
}
```

OUTPUT:



```
C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>q4.exe
Enter a number to display: 12
Summation of all Non-factors of 12 is:50
C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>q4.exe
Enter a number to display: 10
Summation of all Non-factors of 10 is:37
C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>_
```

Q.5 Write a program which accepts a number and displays difference between summation of Factors and Non-Factors.

Ans.

```
#include<stdio.h>
int Display(int iVal)
{
    int iCnt=0;
    int iSumF=0;
    int iSumN=0;

    for(iCnt=1;iCnt<iVal;iCnt++)
    {
        if(iVal%iCnt==0)
        {
            iSumF+=iCnt;
        }

        else{
            iSumN+=iCnt;
        }
    }
}
```

```

    int iDiff=iSumF-iSumN;

    return iDiff;
}

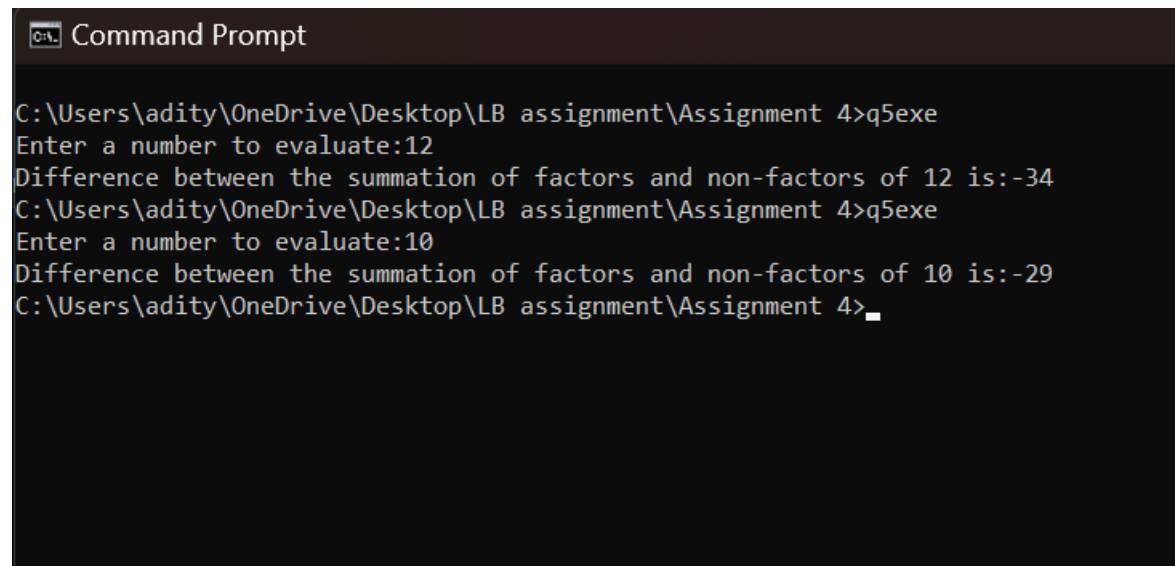
int main()
{
    int iNo=0;
    printf("Enter a number to evaluate:");
    scanf("%d",&iNo);

    int iRet=Display(iNo);
    printf("Difference between the summation of factors and non-factors of %d
is:%d",iNo,iRet);

    return 0;
}

```

OUTPUT:



```

C:\> Command Prompt
C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>q5exe
Enter a number to evaluate:12
Difference between the summation of factors and non-factors of 12 is:-34
C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>q5exe
Enter a number to evaluate:10
Difference between the summation of factors and non-factors of 10 is:-29
C:\Users\adity\OneDrive\Desktop\LB assignment\Assignment 4>_

```