

1. Write a C program to check the given number is odd or even?

**PROGRAM :**

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

```
int main () {
```

```
    int n;
```

```
    printf("enter the number:");
```

```
    scanf("%d",&n);
```

```
    if(n%2==0)
```

```
    {
```

```
        printf("%d is even number",n);
```

```
    }
```

```
    else
```

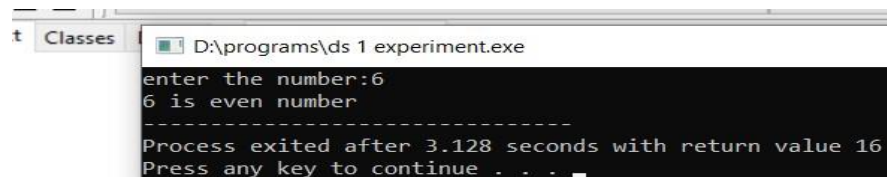
```
    {
```

```
        printf("%d is odd number",n);
```

```
    }
```

```
}
```

**Output :**



```
t Classes D:\programs\ds 1 experiment.exe
enter the number:6
6 is even number
-----
Process exited after 3.128 seconds with return value 16
Press any key to continue . . .
```

2. Write a c program to find sum of n numbers.

**PROGRAM :**

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

```
int main () {
```

```
    int i,n,sum=0;
```

```
    printf("enter the number :");
```

```
    scanf("%d",&n);
```

```
    for (i=0;i<=n;i++)
```

```
    {
```

```
        sum=sum+i;
```

```
        if(i<n)
```

```
        {
```

```
            printf("%d+",i);
```

```
        }
```

```
        else if (i==n)
```

```
        {
```

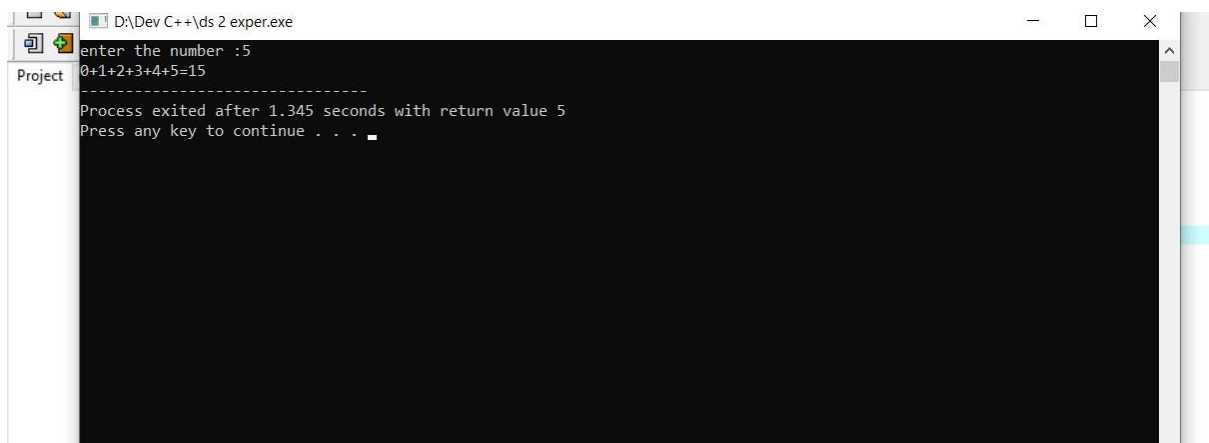
```
            printf("%d=%d",i,sum);
```

```
        }
```

```
    }
```

```
}
```

**Output :**



```
D:\Dev C++\ds 2 exper.exe
enter the number :5
0+1+2+3+4+5=15
-----
Process exited after 1.345 seconds with return value 5
Press any key to continue . . .
```

3.write a c program of sum of even numbers using while loop.

**PROGRAM :**

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

```
int main () {
```

```
    int i,n,sum=0;
```

```
    printf("enter the number :");
```

```
    scanf("%d",&n);
```

```
    for (i=1;i<=n*2;i++)
```

```
    {
```

```
        if(i%2==0)
```

```
        {
```

```
            sum=sum+i;
```

```
            if(i<n*2)
```

```
            {
```

```
                printf("%d+",i);
```

```
            }
```

```
            else if (i==n*2)
```

```
            {
```

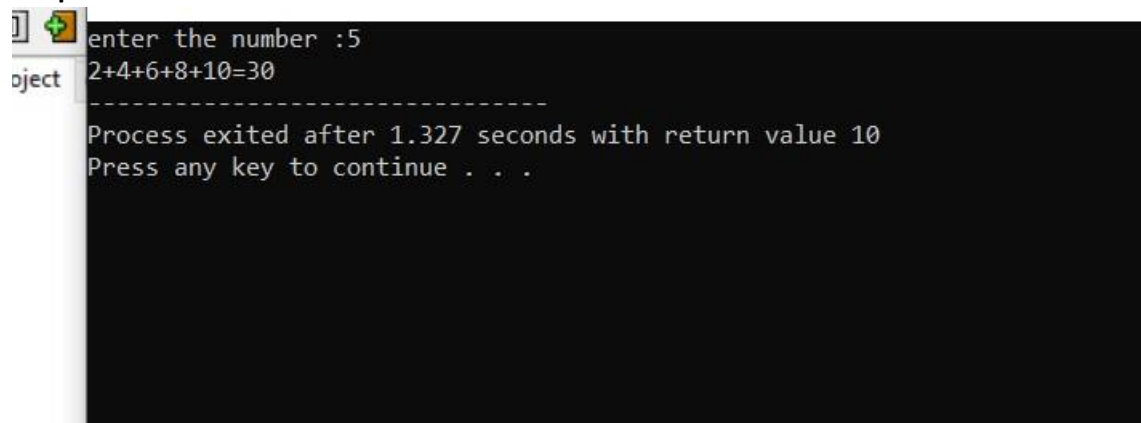
```
                printf("%d=%d",i,sum);
```

```
            }
```

```
        }
```

```
    }}
```

**Output:**



```
enter the number :5
2+4+6+8+10=30
-----
Process exited after 1.327 seconds with return value 10
Press any key to continue . . .
```

4.write a c program of sum of odd numbers using while loop.

**PROGRAM:**

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

```
int main () {
```

```
    int i,n,sum=0;
```

```
    printf("enter the number :");
```

```
    scanf("%d",&n);
```

```
    for (i=1;i<=n*2-1;i++)
```

```
    {if(i%2!=0)
```

```
        {
```

```
            sum=sum+i;
```

```
            if(i<n*2-1)
```

```
            {printf("%d+",i);
```

```
            }
```

```
            else if (i==n*2-1)
```

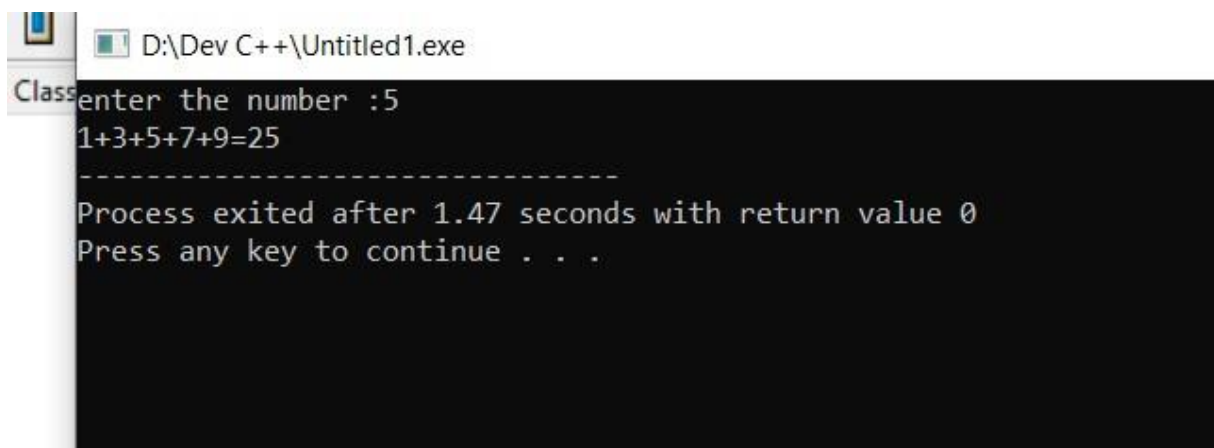
```
            {      printf("%d=%d",i,sum);
```

```
        }
```

```
    }
```

```
}}
```

**Output:**



```
D:\Dev C++\Untitled1.exe
Class
enter the number :5
1+3+5+7+9=25
-----
Process exited after 1.47 seconds with return value 0
Press any key to continue . . .
```

5. Write a c program for find factorial of number with recursion.

**PROGRAM :**


```
#include<stdio.h>

int factorial(int n)
{
    int i,fact=1;
    for(i=1;i<=n;i++)
    {
        fact=fact*i;
    }

    return fact;
}

int main ()
{
    int x,n;
    printf("enter the number:");
    scanf("%d",&n);
    x=factorial(5);
    printf("the fact is %d",&x);
}
```

**OUTPUT :**



```
D:\Dev C++\ds5.exe
Enter any number: 6
Factorial of 6 is 720
-----
Process exited after 1.526 seconds with return value 0
Press any key to continue . . .
```

6. Write a C program for factorial of a number without recursion.

**PROGRAM :**

```
#include<stdio.h>

int main()
{
    int i, n, fact=1;

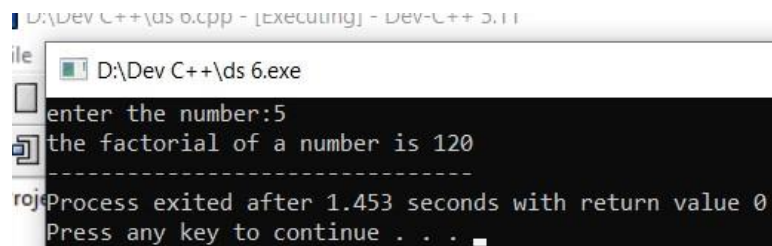
    printf("enter the number:");

    scanf("%d",&n);

    for(i=1;i<=n;i++)
    {
        fact=fact*i;
    }

    printf("the factorial of a number is %d",fact);
}
```

**OUTPUT :**



D:\Dev C++\ds 6.cpp - [executing] - Dev-C++ 5.11

D:\Dev C++\ds 6.exe

enter the number:5

the factorial of a number is 120

-----

Process exited after 1.453 seconds with return value 0

Press any key to continue . . .

7. write a c program for Fibonacci series with recursion.

**PROGRAM :**

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

```
int fib(int n,int a,int b,int c)
```

```
{
```

```
    if(n>1)
```

```
    {printf("%d",c);
```

```
a=b+c;
```

```
        b=c;
```

```
        c=a;
```

```
    }
```

```
    else
```

```
    {
```

```
        printf("%d",c);
```

```
    }
```

```
}
```

```
int main()
```

```
{
```

```
    int n;
```

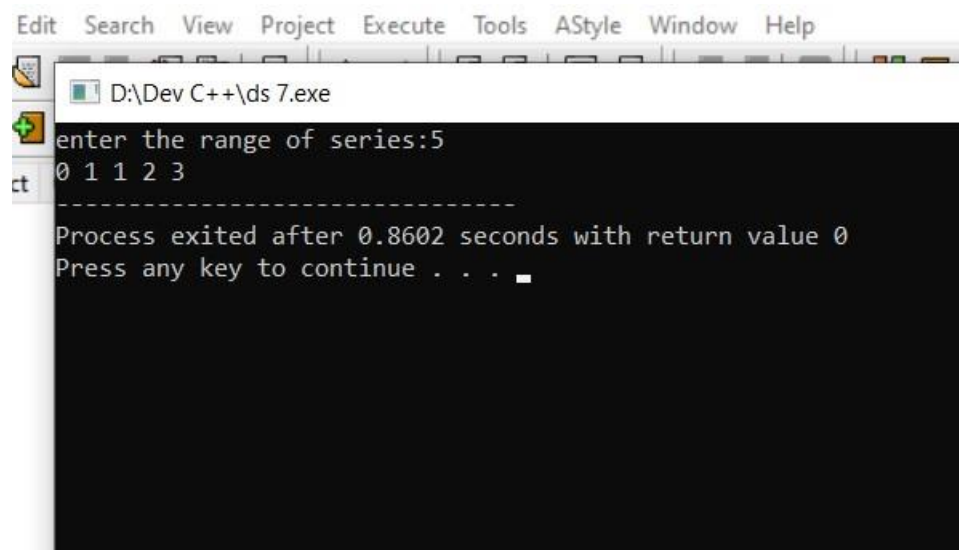
```
    printf("enter the range of series:");
```

```
    scanf("%d",&n);
```

```
    fib(n,0,1,0);
```

```
}
```

**OUTPUT :**



```
Edit  Search  View  Project  Execute  Tools  AStyle  Window  Help
D:\Dev C++\ds 7.exe
enter the range of series:5
0 1 1 2 3
-----
Process exited after 0.8602 seconds with return value 0
Press any key to continue . . .
```

8. Write a c program for Fibonacci series without recursion.

**PROGRAM :**

```
#include<stdio.h>

int main()
{ int i,a=0,b=0,c=1,sum=0,n;

    printf("enter the number:");

    scanf("%d",&n);

    printf("\n %d %d ",b,c);

    for(i=2;i<=n;i++)
    {

        a=b+c;

        printf("%d ",a);

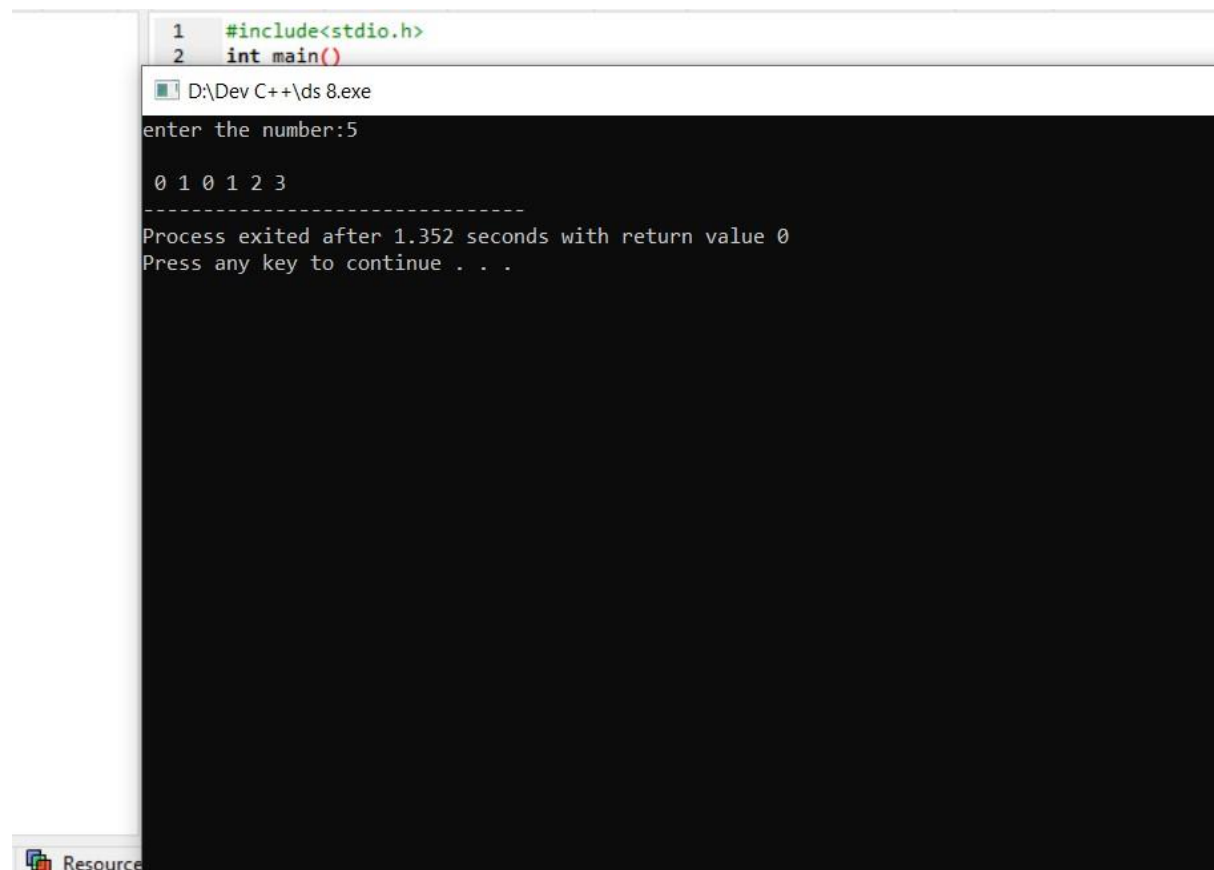
        b=c;

        c=a;

    }

}
```

**OUTPUT :**

The image shows a screenshot of a C program being executed in a Windows environment. At the top, a code editor window displays the source code for a Fibonacci series program without recursion. The code includes the standard input/output header, defines the main function, and uses a loop to calculate and print the series. Below the code editor, a command prompt window titled 'D:\Dev C++\ds 8.exe' shows the program's execution. It prompts the user to 'enter the number:5', and the output displays the sequence '0 1 0 1 2 3' followed by a separator line. The window also shows system messages indicating the process exited after 1.352 seconds and prompts the user to press any key to continue. The Windows taskbar at the bottom shows the 'Resource' icon.

```
1  #include<stdio.h>
2  int main()

D:\Dev C++\ds 8.exe
enter the number:5

0 1 0 1 2 3
-----
Process exited after 1.352 seconds with return value 0
Press any key to continue . . .
```



9. Write a c program for reversing a number.

**PROGRAM :**

```
#include<stdio.h>

int main() {
    int i,n,rev=0,rem=0;

    printf("enter the number to reverse:");

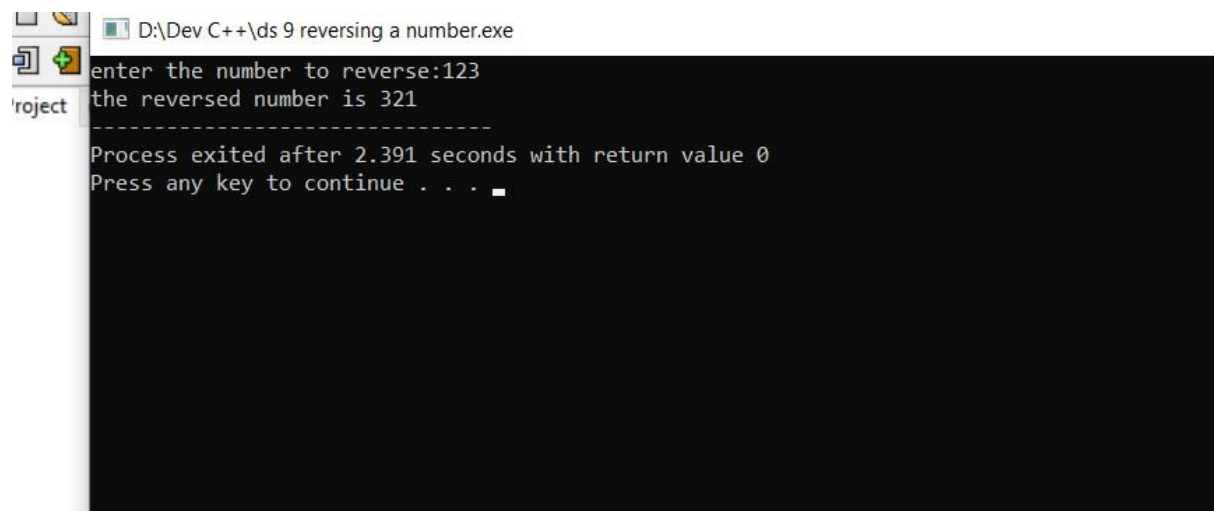
    scanf("%d",&n);

    while(n!=0)
    {
        rem=n%10;
        rev=rev*10+rem;
        n=n/10;
    }

    printf("the reversed number is %d",rev);

    return 0;
}
```

**OUTPUT :**

A screenshot of a Windows command prompt window. The title bar shows the file path "D:\Dev C++\ds 9 reversing a number.exe". The window contains the following text: "enter the number to reverse:123", "the reversed number is 321", a dashed line separator, "Process exited after 2.391 seconds with return value 0", and "Press any key to continue . . .". The cursor is positioned at the end of the last line.

```
D:\Dev C++\ds 9 reversing a number.exe
enter the number to reverse:123
the reversed number is 321
-----
Process exited after 2.391 seconds with return value 0
Press any key to continue . . .
```

**10. Write a c program for check whether the number is palindrome or not .**

**PROGRAM:**

```
#include<stdio.h>

int main() {

    int i,n,rev=0,rem=0,x;

    printf("enter the number :");

    scanf("%d",&n);

    x=n;

    while(n!=0)

    {rem=n%10;

    rev=rev*10+rem;

        n=n/10;

    }

    if(x==rev)

    {printf("\n it is a palindrome");

    }

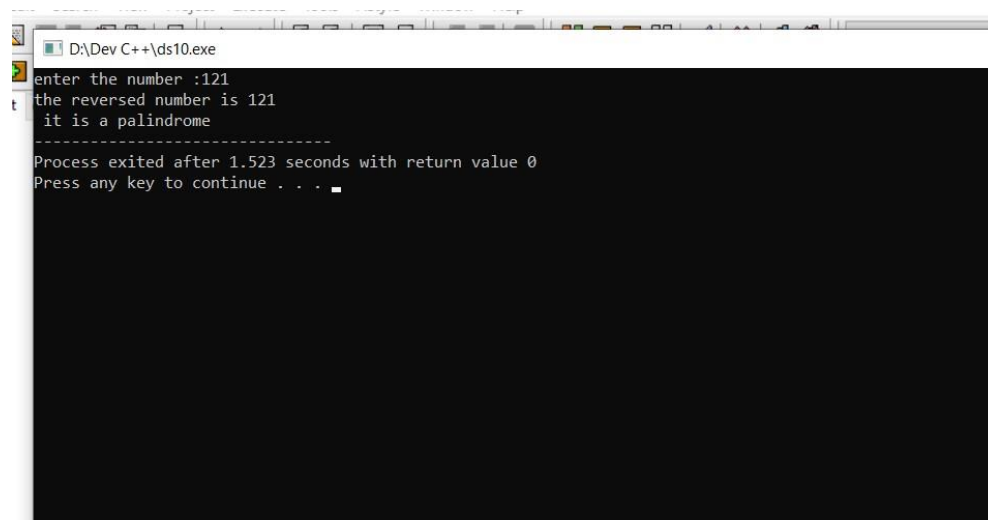
    else

    {printf("\n it is not a palindrome");

    }

}
```

**OUTPUT :**



```
D:\Dev C++\ds10.exe
enter the number :121
the reversed number is 121
it is a palindrome
-----
Process exited after 1.523 seconds with return value 0
Press any key to continue . . .
```

11. Write a c program for check whether a number is armstong number or not.

**PROGRAM :**

```
#include<stdio.h>

int main() {

    int i,x,n,sum=0,rem;

    printf("enter the number :");

    scanf("%d",&n);

    x=n;

    while(n>0)

    {

        rem=n%10;

        sum=sum+(rem*rem*rem);

        n=n/10;

    }

    if(x==sum)

    {

        printf("it is armstrong number");

    }

    else

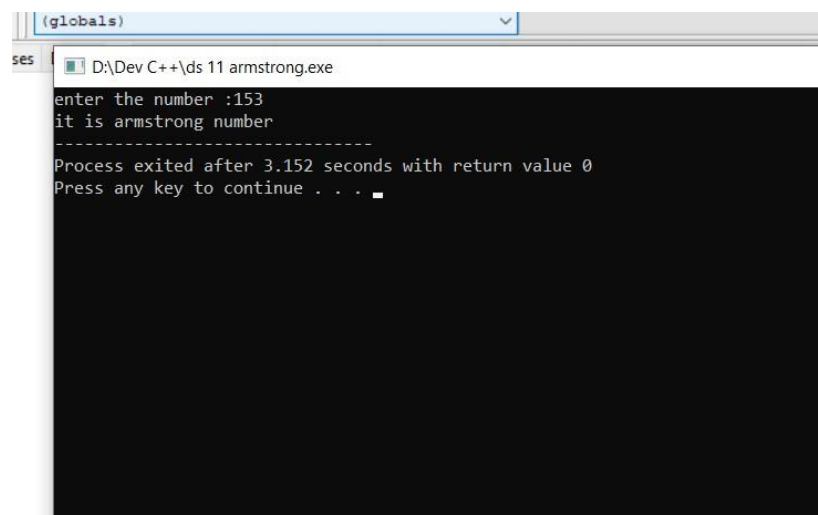
    {

        printf("it is not an armstrong number");

    }

}
```

**OUTPUT :**



The screenshot shows a Windows command prompt window with the title bar "D:\Dev C++\ds 11 armstrong.exe". The window contains the following text:

```
enter the number :153
it is armstrong number
-----
Process exited after 3.152 seconds with return value 0
Press any key to continue . . .
```

