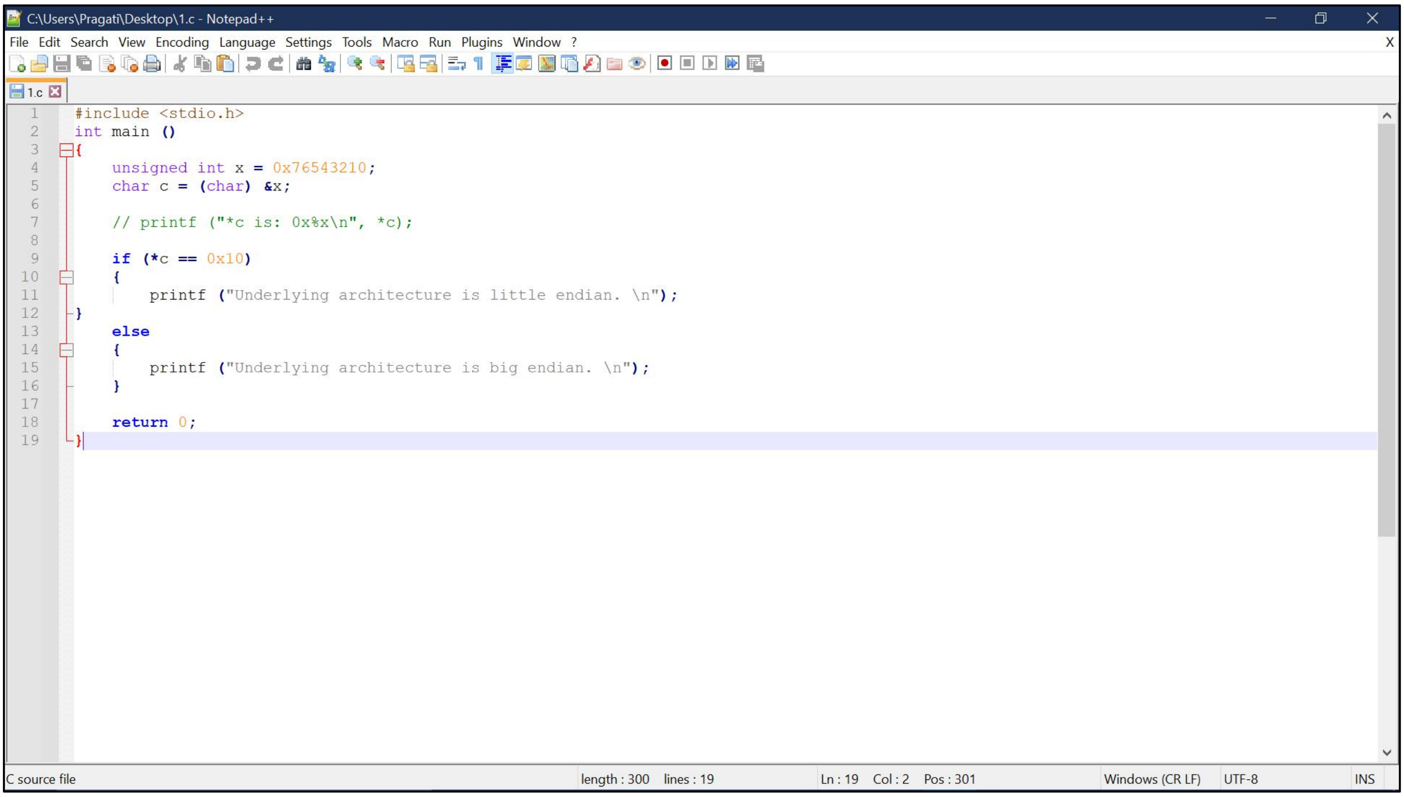
PES UNIVERSITY

UE19CS336
Digital Forensics

Name : Suhan B Revankar
SRN : PES2UG19CS412
Section : G Section

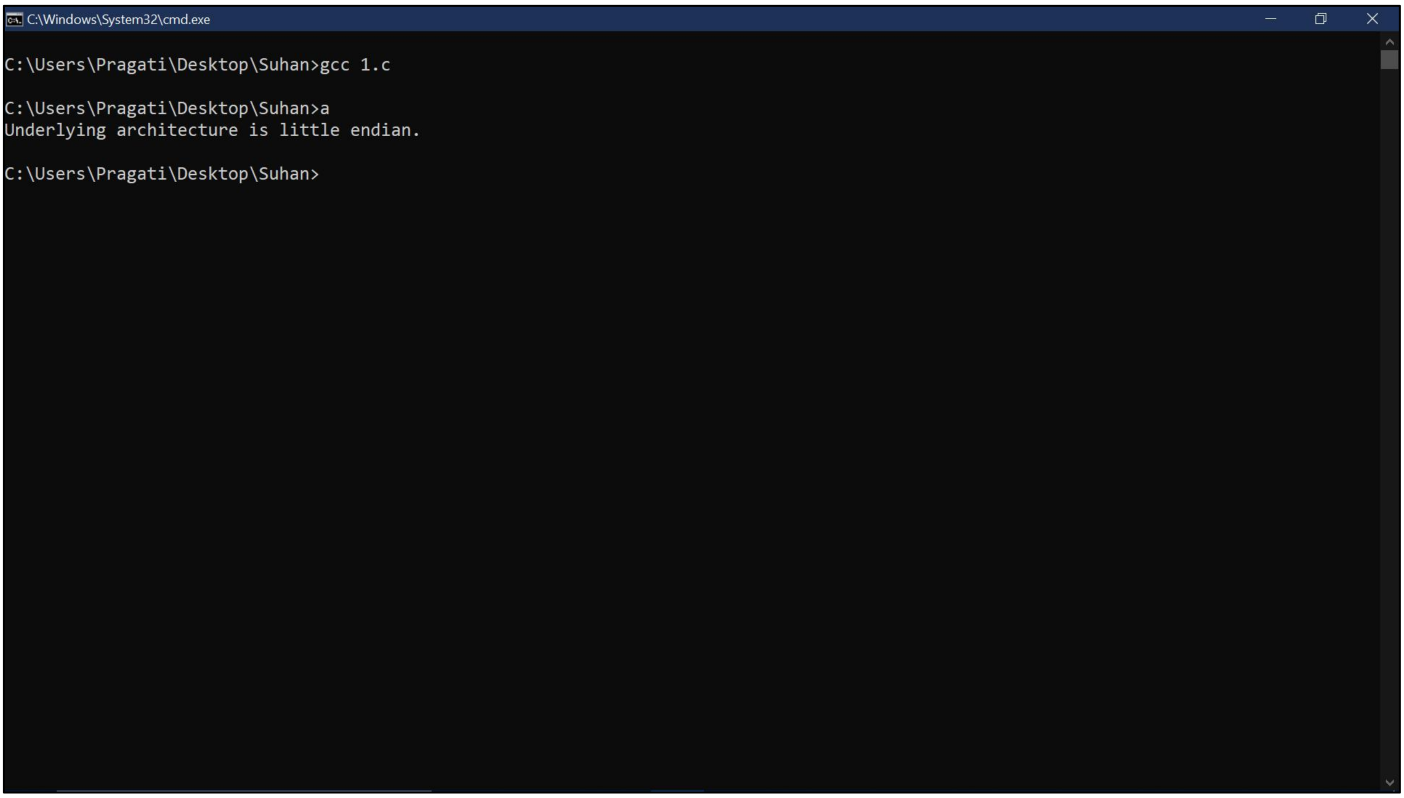
Table of Contents :

1) WAP to check system on which the program is running is little endian or not



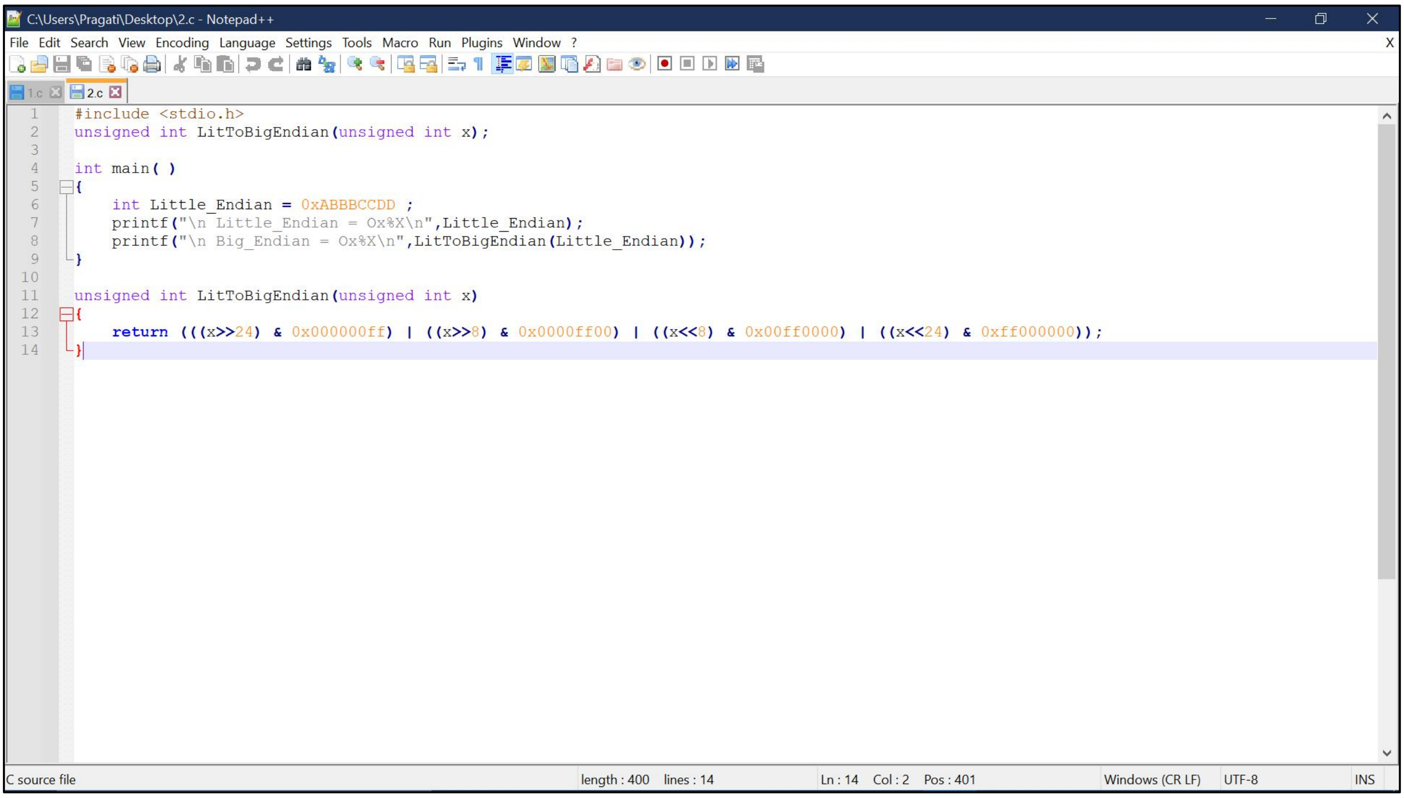
C:\Users\Pragati\Desktop\1.c - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
1.c
C source file
length : 300 lines : 19
Ln : 19 Col : 2 Pos : 301
Windows (CR LF)
UTF-8
INS

```c
#include <stdio.h>
int main ()
{
    unsigned int x = 0x76543210;
    char c = (char) &x;

    // printf ("*c is: 0x%x\n", *c);

    if (*c == 0x10)
    {
        printf ("Underlying architecture is little endian. \n");
}
    else
    {
        printf ("Underlying architecture is big endian. \n");
    }

    return 0;
}
```



```
C:\Users\Pragati\Desktop\Suhan>gcc 1.c

C:\Users\Pragati\Desktop\Suhan>a
Underlying architecture is little endian.

C:\Users\Pragati\Desktop\Suhan>
```

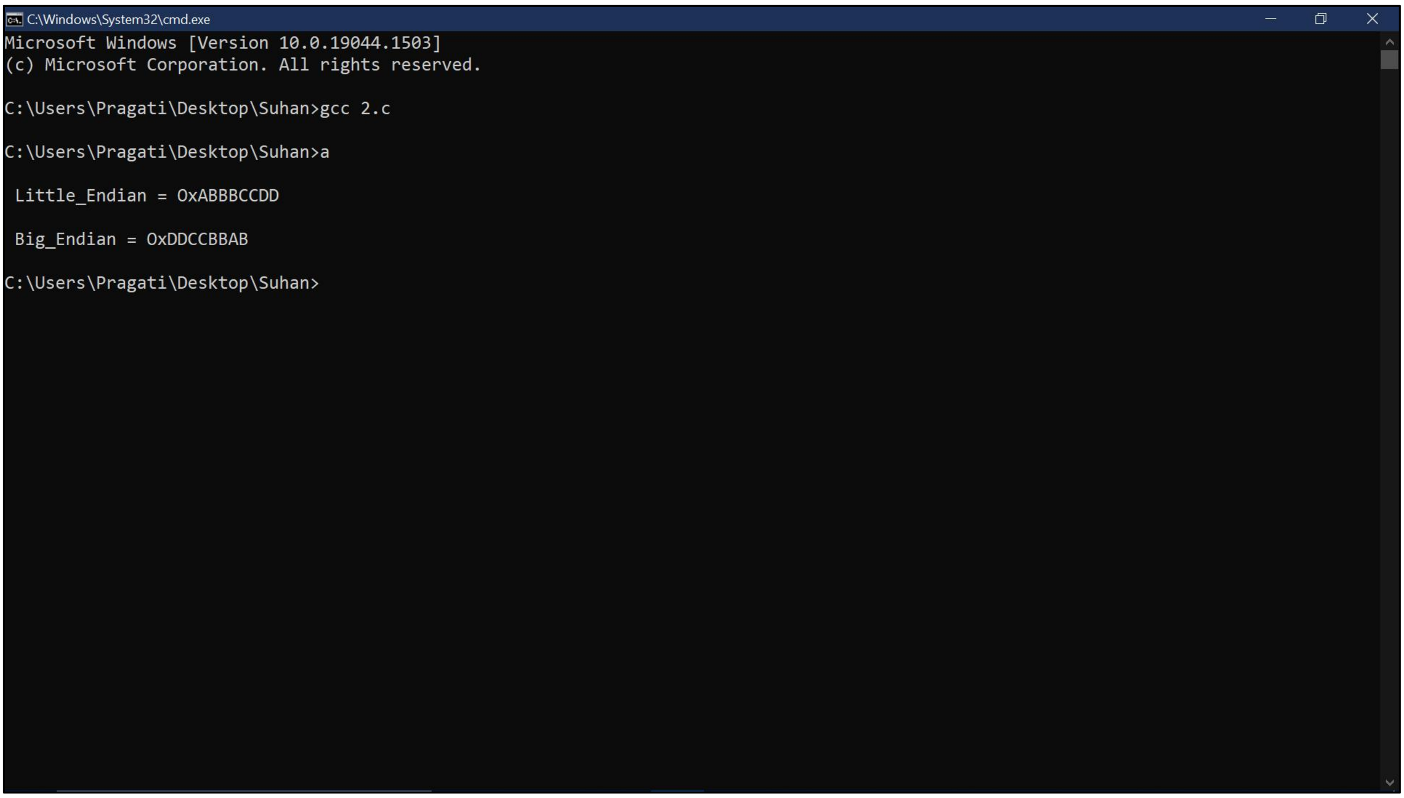
2) WAP Program to Convert little endian to big endian



C:\Users\Pragati\Desktop\2.c - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
1.c
2.c

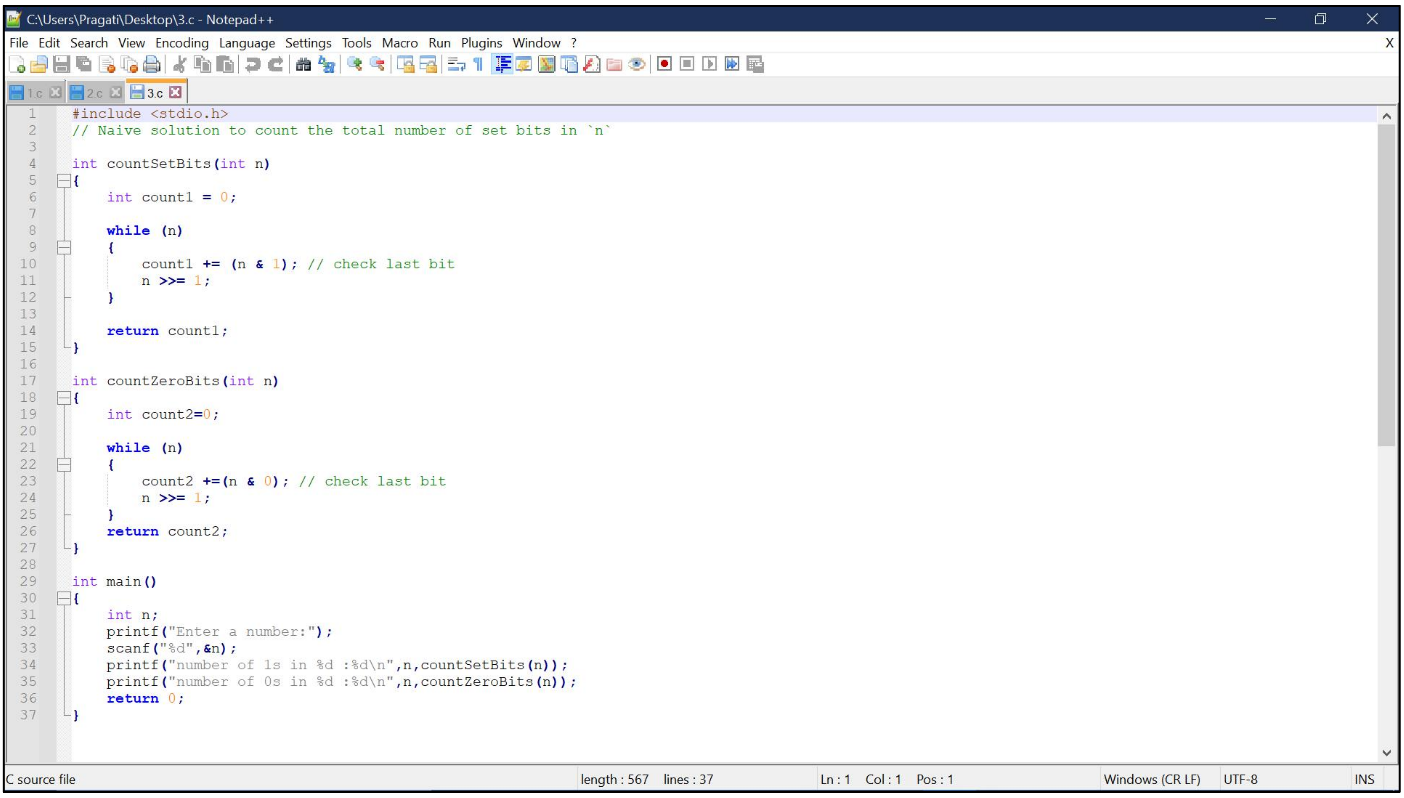
```c
#include <stdio.h>
unsigned int LitToBigEndian(unsigned int x);

int main( )
{
    int Little_Endian = 0xABBBCCDD ;
    printf("\n Little_Endian = Ox%X\n",Little_Endian);
    printf("\n Big_Endian = Ox%X\n",LitToBigEndian(Little_Endian));
}

unsigned int LitToBigEndian(unsigned int x)
{
    return (((x>>24) & 0x000000ff) | ((x>>8) & 0x0000ff00) | ((x<<8) & 0x00ff0000) | ((x<<24) & 0xff000000));
}
```

C source file
length : 400 lines : 14
Ln : 14 Col : 2 Pos : 401
Windows (CR LF)
UTF-8
INS

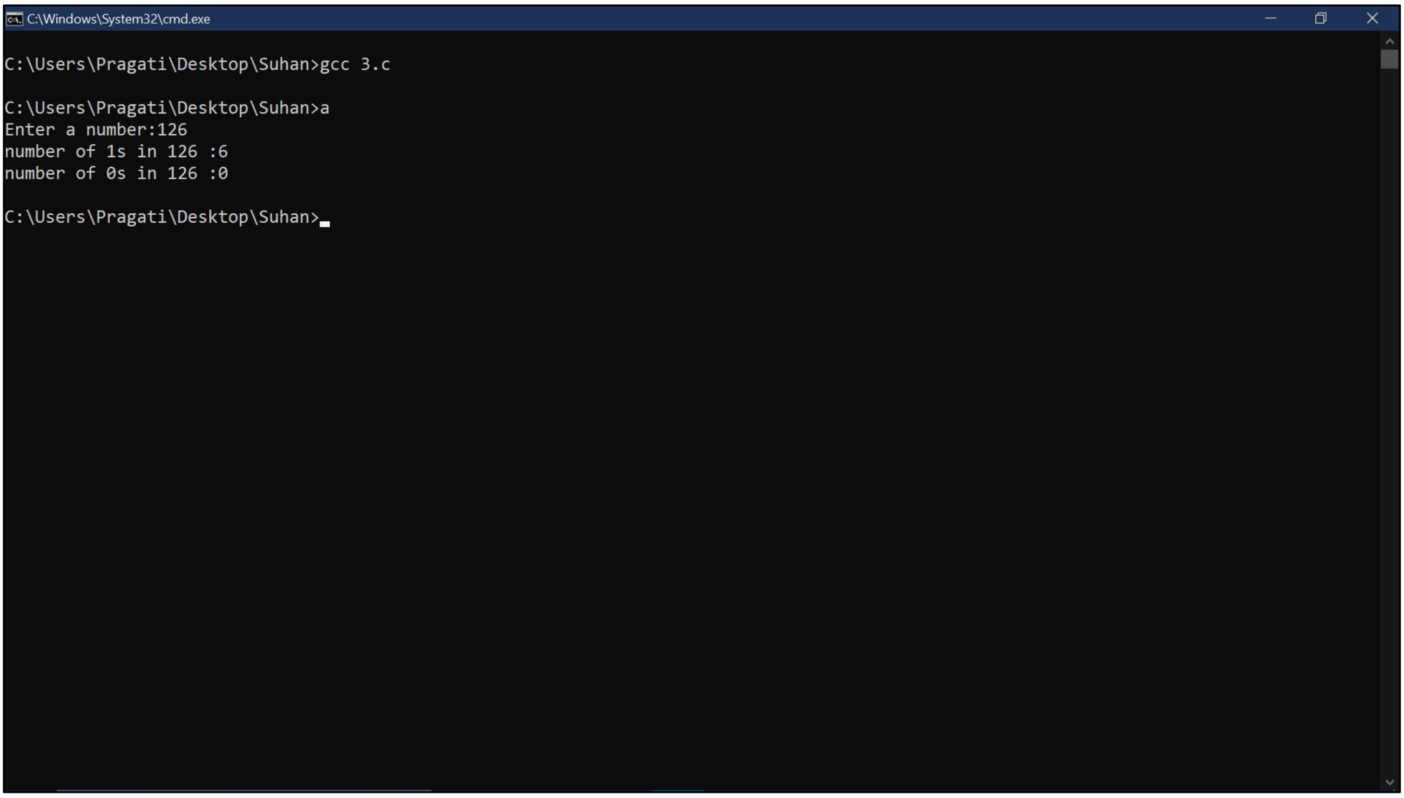


```
Microsoft Windows [Version 10.0.19044.1503]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Pragati\Desktop\Suhan>gcc 2.c

C:\Users\Pragati\Desktop\Suhan>a

 Little_Endian = OxABBBCCDD

 Big_Endian = OxDDCCBBAB

C:\Users\Pragati\Desktop\Suhan>
```

3) WAP Program which has a function which will return the no of bits set to 0 and 1 in the integer


C:\Users\Pragati\Desktop\3.c - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
1.c
2.c
3.c
C source file
length : 567 lines : 37
Ln : 1 Col : 1 Pos : 1
Windows (CR LF) UTF-8
INS

```c
#include <stdio.h>
// Naive solution to count the total number of set bits in `n`

int countSetBits(int n)
{
    int count1 = 0;

    while (n)
    {
        count1 += (n & 1); // check last bit
        n >>= 1;
    }

    return count1;
}

int countZeroBits(int n)
{
    int count2=0;

    while (n)
    {
        count2 +=(n & 0); // check last bit
        n >>= 1;
    }
    return count2;
}

int main()
{
    int n;
    printf("Enter a number:");
    scanf("%d",&n);
    printf("number of 1s in %d :%d\n",n,countSetBits(n));
    printf("number of 0s in %d :%d\n",n,countZeroBits(n));
    return 0;
}
```



```
C:\Users\Pragati\Desktop\Suhan>gcc 3.c

C:\Users\Pragati\Desktop\Suhan>a
Enter a number:126
number of 1s in 126 :6
number of 0s in 126 :0

C:\Users\Pragati\Desktop\Suhan>
```

****