

TC

File Edit Run Compile Project Options Debug Break/watch

Line 8 Col 21 Insert Indent Tab Fill Unindent * E:2PM.C

```
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("%X\n", 035); /* oct to hex */
printf("%o\n", 0x44); /* hex to oct */
printf("%x", -2<<1);
getch();
}
```

Activate Windows
Go to PC settings to activate Windows.

TC

```
1D
104
fffc_
```

Activate Windows
Go to PC settings to activate Windows.

035

$$\begin{array}{r} 8 \times 3 + 8 \times 5 \\ \hline 24 + 5 = 29 \end{array}$$

$$\begin{array}{r} 16 \overline{) 29} \\ \underline{1-13} \\ 16 \checkmark \end{array}$$

0x44

$$\begin{array}{r} 16 \times 4 + 16 \times 4 \\ \hline 64 + 64 = 128 \end{array}$$

$$\begin{array}{r} 8 \overline{) 68} \\ 8 \overline{) 8-4} \\ \quad 1-0 \end{array}$$
$$-2 < 1 \implies -4$$

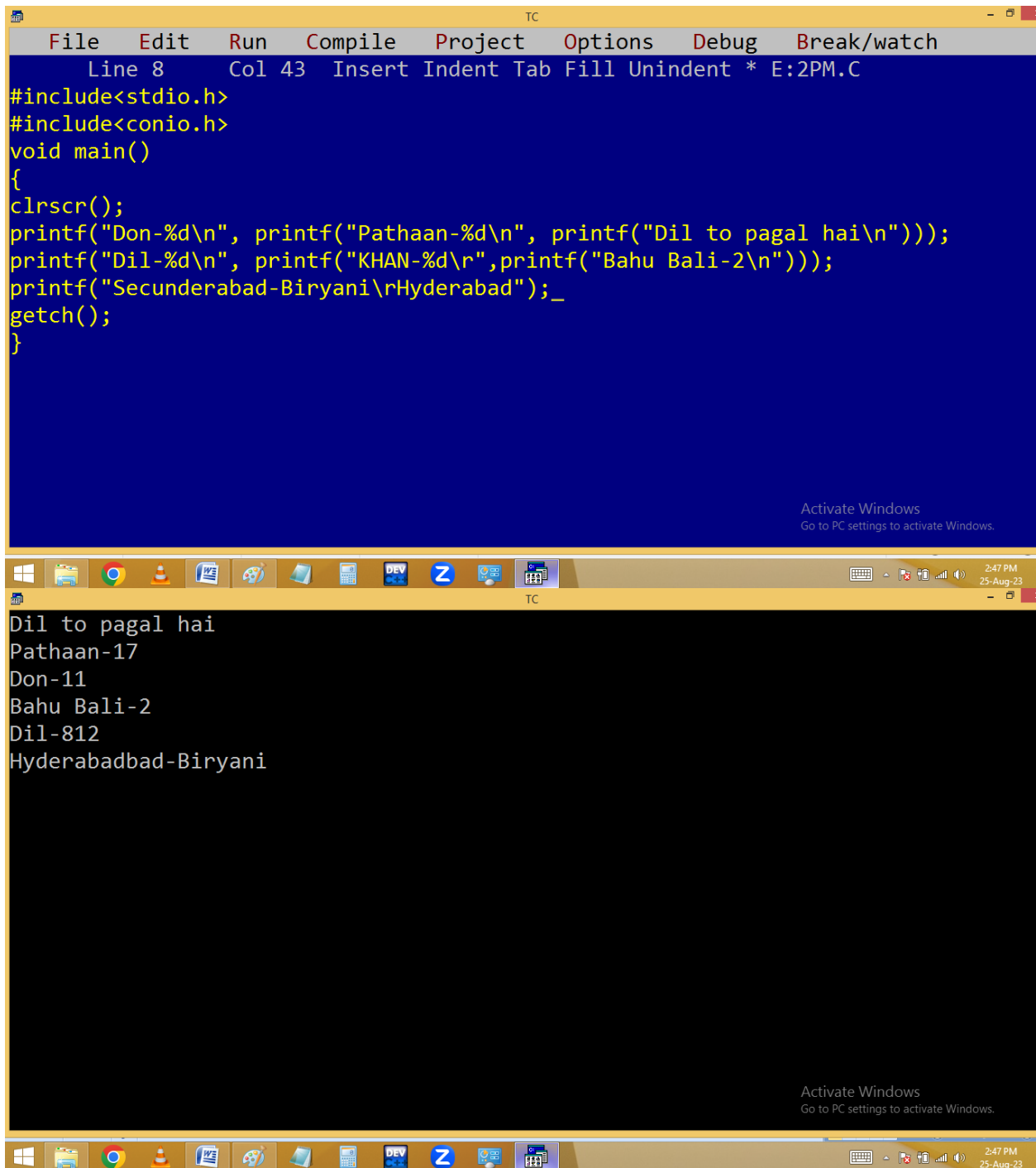
1's~ 1111 1111 1111 1011

2's~ 0000 0000 0000 0001

$$\begin{array}{r} \overline{1111 \ 1111 \ 1111 \ 1000} \\ \textcolor{blue}{2^3} \swarrow \textcolor{blue}{2^2} \textcolor{blue}{2^1} \textcolor{blue}{2^0} \quad \textcolor{blue}{15} \quad \textcolor{blue}{15} \quad \textcolor{blue}{2^3} \textcolor{blue}{2^2} \end{array}$$

$$8 + 4 + 2 + 1$$

$$\frac{15}{f} \quad f \quad f \quad \frac{8+4}{12}$$



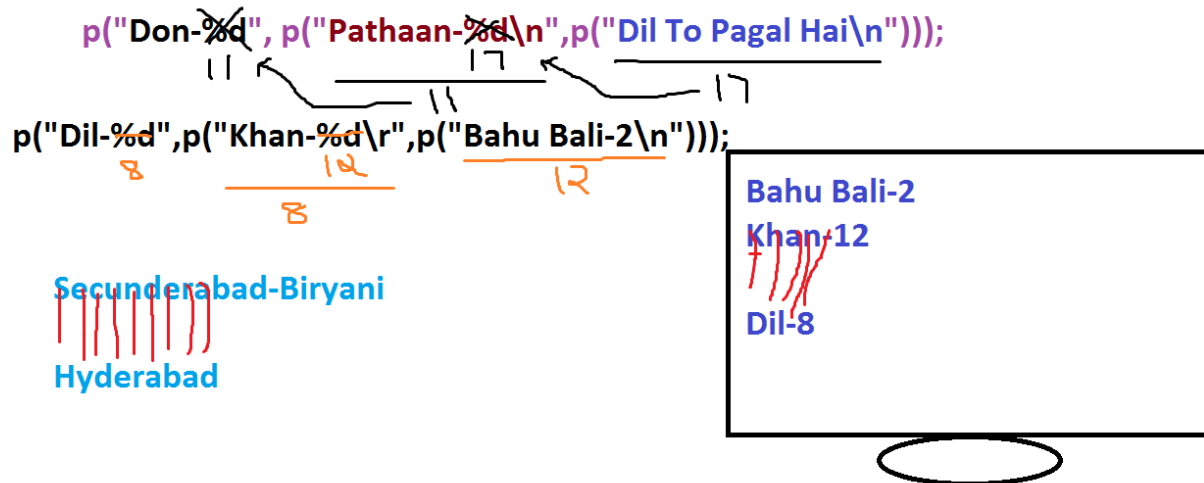
The image shows a screenshot of a Turbo C++ IDE. The top window displays a C program with the following code:

```
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 43 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("Don-%d\n", printf("Pathaan-%d\n", printf("Dil to pagal hai\n")));
printf("Dil-%d\n", printf("KHAN-%d\n", printf("Bahu Bali-2\n")));
printf("Secunderabad-Biryani\nHyderabad");_
getch();
}
```

The bottom window shows the output of the program:

```
Dil to pagal hai
Pathaan-17
Don-11
Bahu Bali-2
Dil-812
Hyderabadbad-Biryani
```

Both windows include a status bar at the bottom with the text "Activate Windows Go to PC settings to activate Windows." and a taskbar at the very bottom showing various application icons and the system clock (2:47 PM, 25-Aug-23).



```
TC
Line 18 Col 27 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=32768;
unsigned b=-4;
clrscr();
printf("a=%d\n",a); /* -32768 */
a=32770;
printf("a=%d\n",a); /* -32766 */
a=-32770;
printf("a=%d\n",a); /* +32766 */
a=65540;
printf("a=%d\n",a); /* 4 */
printf("b=%u\n",b); /* 65532 */
printf("b=%d",b); /* -4 */
getch();
}
```

Activate Windows
Go to PC settings to activate Windows.

3:22 PM
25-Aug-23

```
TC
a=-32768
a=-32766
a=32766
a=4
b=65532
b=-4
```

Activate Windows
Go to PC settings to activate Windows.

Page: 4 of 7 Words: 0 130% 3:23 PM 25-Aug-23

int cycle:

C & C++ 16 bit compilers ==> $2^{16} = 65536$

signed int

-32768 to +32767

unsigned int

0 to 65535

Dev Cpp/Java/.Net 32 bit compilers ==> $2^{32} = 4294967296$

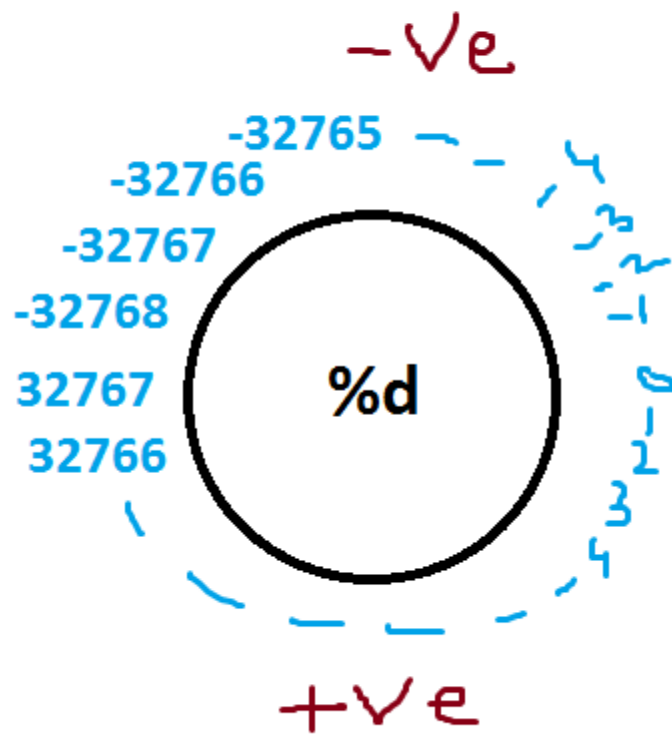
signed

-2147483648 to 2147483647

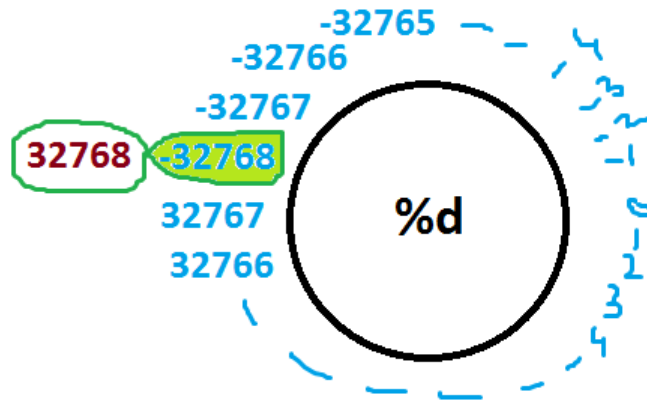
unsigned

0 to 4294967295

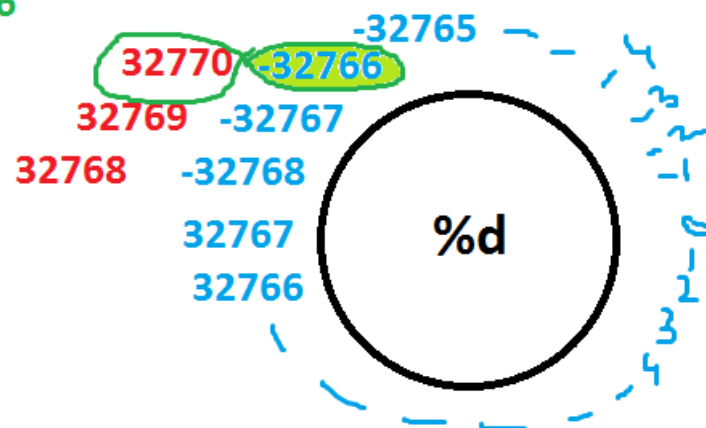
signed int
-32768 to +32767



signed int
-32768 to +32767

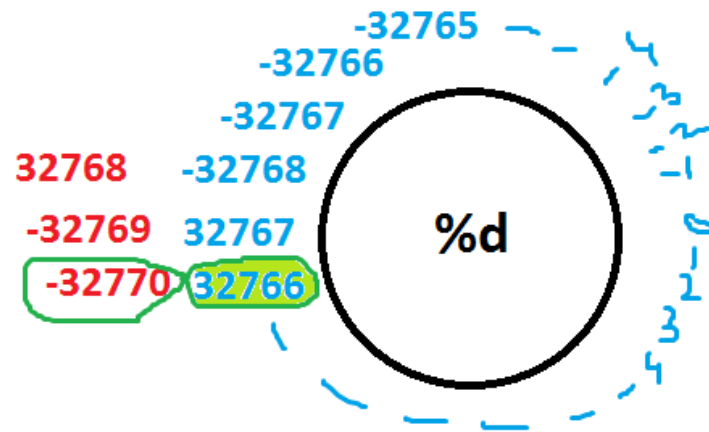
$$\begin{array}{r} 32768 \\ -32768 + D = -32768 \\ \hline 0 \end{array}$$
$$\begin{array}{r} 65536 \\ -32768 \\ \hline -32768 \end{array}$$


signed int
-32768 to +32767

$$\begin{array}{r} 32770 \\ -32768 \\ \hline 2 \end{array} \quad +1 = -32766$$
$$\begin{array}{r} 65536 \\ 32770 \\ \hline -32766 \end{array}$$


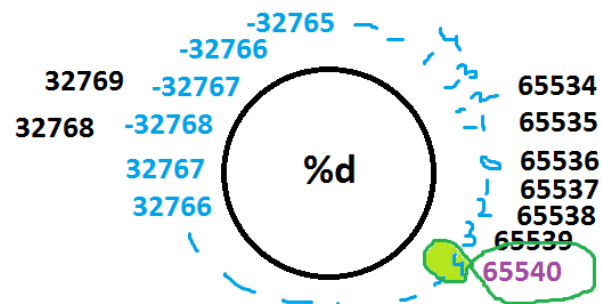
```
int a= -327 70;
```

signed int
-32768 to +32767

$$\begin{array}{r} 65536 \\ -32770 \\ \hline 32766 \end{array}$$


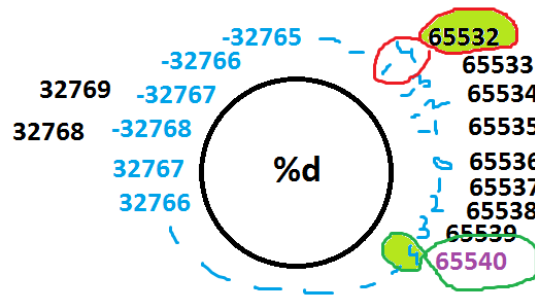
```
int a= 65540;
```

signed int
-32768 to +32767

$$\begin{array}{r} 65540 \\ -65536 \\ \hline 4 \end{array}$$


int a= 65540;

signed int
-32768 to +32767



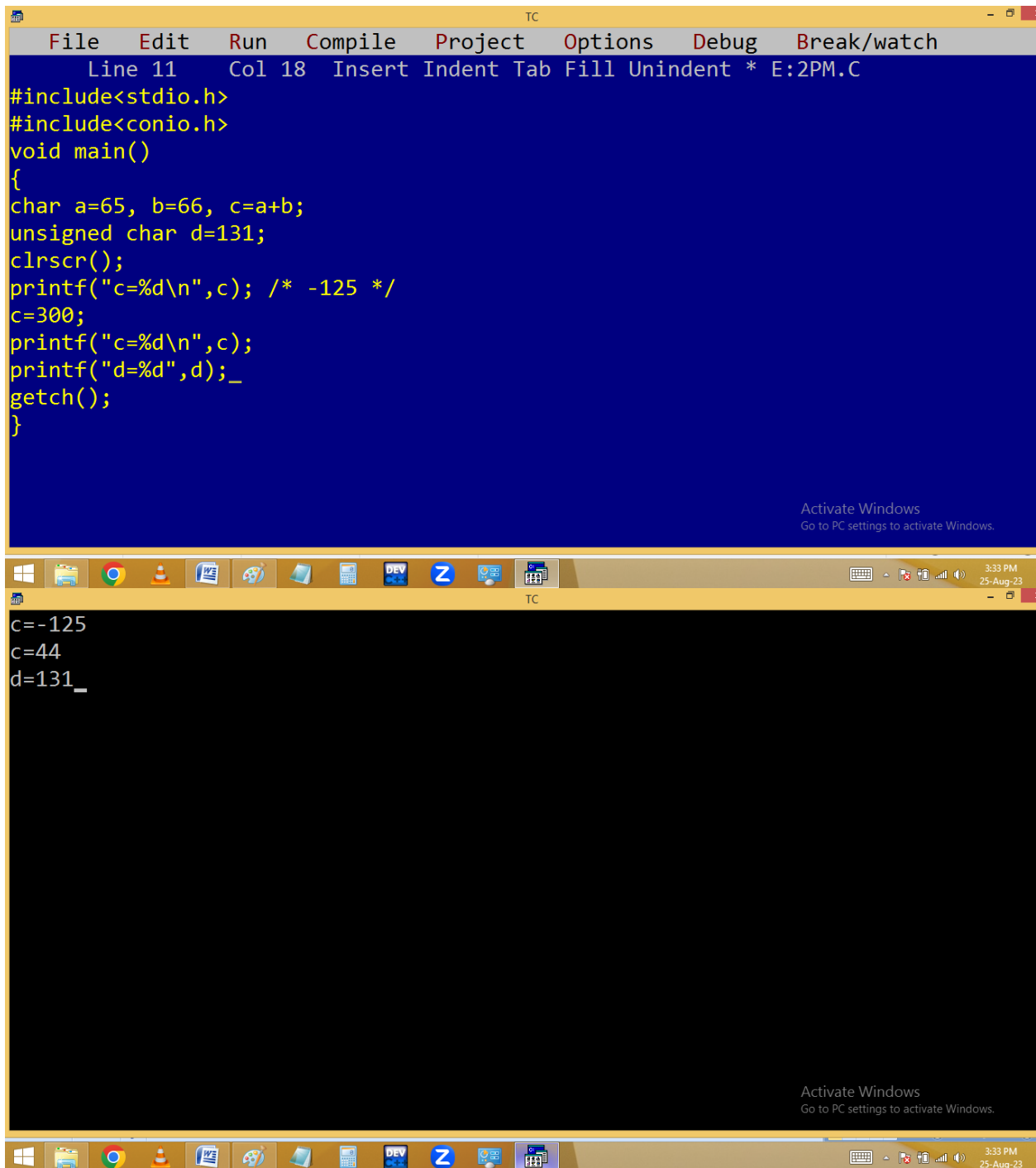
65540
-65536
4

65536
-4
65532

char cycle

C & C++ used ASCII character set - 256

- signed char
-128 to +127
- unsigned char
0 to 255



The image shows a screenshot of a Turbo C++ (TC) IDE. The top window displays a C program with the following code:

```
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 18 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char a=65, b=66, c=a+b;
unsigned char d=131;
clrscr();
printf("c=%d\n",c); /* -125 */
c=300;
printf("c=%d\n",c);
printf("d=%d",d);_
getch();
}
```

The bottom window shows the output of the program:

```
c=-125
c=44
d=131_
```

Both windows include a status bar at the bottom with the text "Activate Windows Go to PC settings to activate Windows." and a taskbar at the very bottom showing various application icons and the system clock (3:33 PM, 25-Aug-23).

TC

File Edit Run Compile Project Options Debug Break/watch

Error: Illegal octal digit in function main

```
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("%o",079);
getch();
}
/* Error */
```

Activate Windows
Go to PC settings to activate Windows.

TC

File Edit Run Compile Project Options Debug Break/watch

Line 9 Col 5 Insert Indent Tab Fill Unindent * E:2PM.C

```
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("%o",07);
getch();
}
/* 7 */
```

Activate Windows
Go to PC settings to activate Windows.