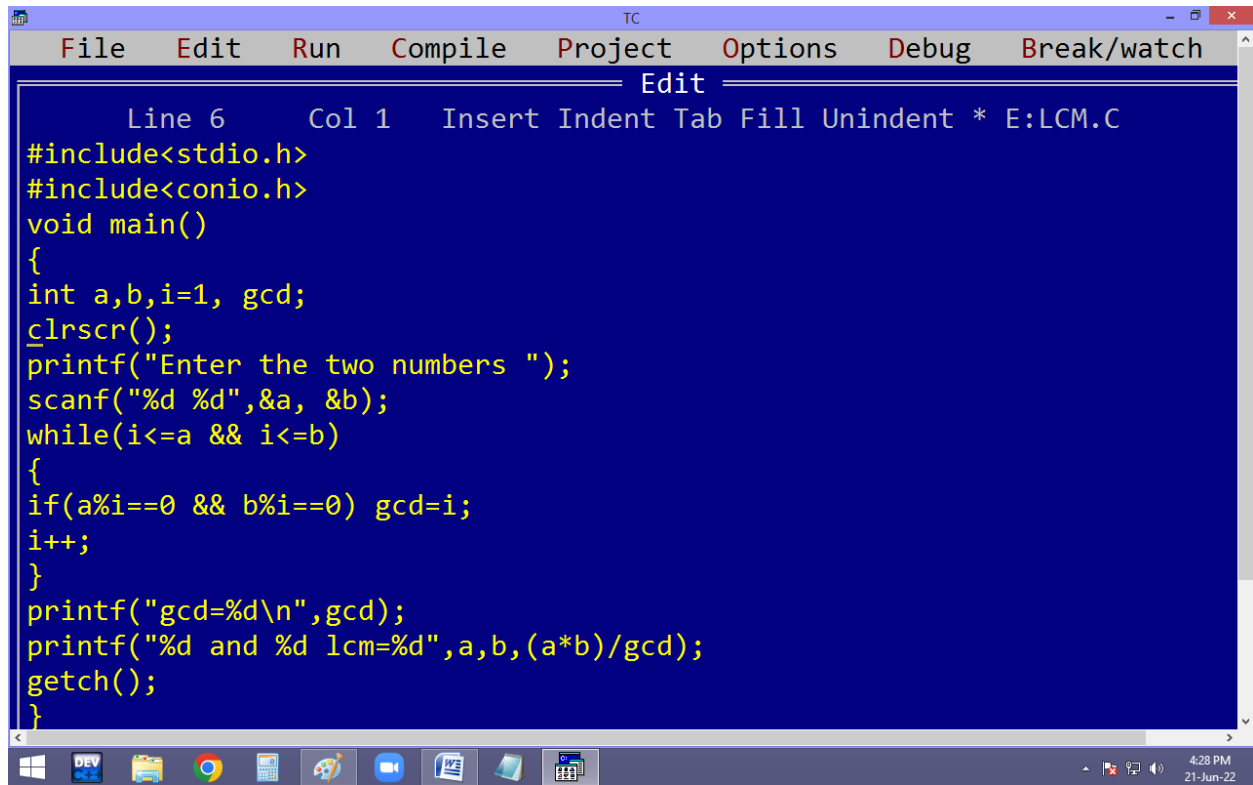


Finding LCM [Lowest Common Multiple] of given two numbers.

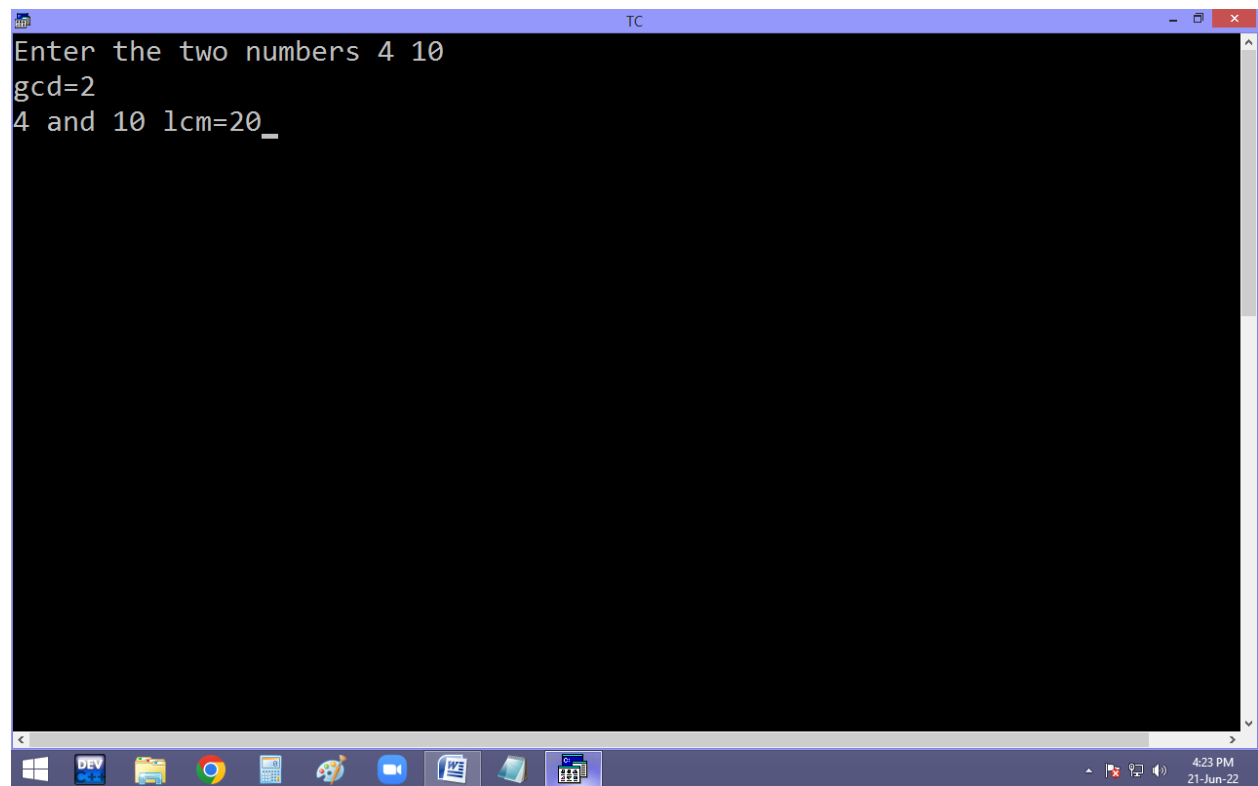


The image shows a screenshot of a Turbo C++ (TC) IDE window. The title bar reads "TC". The menu bar includes "File", "Edit", "Run", "Compile", "Project", "Options", "Debug", and "Break/watch". The status bar at the bottom shows "Line 6", "Col 1", and "Insert Indent Tab Fill Unindent * E:LCM.C". The main editing area has a dark blue background with yellow text. The code is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a,b,i=1, gcd;
    clrscr();
    printf("Enter the two numbers ");
    scanf("%d %d",&a, &b);
    while(i<=a && i<=b)
    {
        if(a%i==0 && b%i==0) gcd=i;
        i++;
    }
    printf("gcd=%d\n",gcd);
    printf("%d and %d lcm=%d",a,b,(a*b)/gcd);
    getch();
}
```

The Windows taskbar is visible at the bottom, showing icons for Windows, DEV C++, File Explorer, Google Chrome, Calculator, Paint, and other applications. The system clock in the bottom right corner indicates "4:28 PM" and "21-Jun-22".

```
TC
Enter the two numbers 4 10
gcd=2
4 and 10 lcm=20_
```



The image shows a Windows 10 desktop environment. A terminal window titled "TC" is open, displaying the following text: "Enter the two numbers 4 10", "gcd=2", and "4 and 10 lcm=20_". The taskbar at the bottom contains several icons: Windows Start button, Dev C++, File Explorer, Google Chrome, Calculator, Paint, Zoom, Word, and a folder icon. The system tray on the right shows the time as 4:23 PM on 21-Jun-22.

The image shows a screenshot of the Turbo C++ (TC) IDE. The top window is the 'Edit' window, displaying a C program to calculate the Least Common Multiple (LCM) of two numbers. The code is as follows:

```
Line 1      Col 1      Insert Indent Tab Fill Unindent * E:LCM.C
#include<stdio.h>
#include<conio.h>
void main()
{
    int a,b,i=1, max;
    clrscr();
    printf("Enter the two numbers ");
    scanf("%d %d",&a, &b);
    max = a>b ? a:b;
    while(1)
    {
        if(max%a==0 && max%b==0) {printf("LCM=%d",max);break;}
        max++;
    }
    getch();
}
```

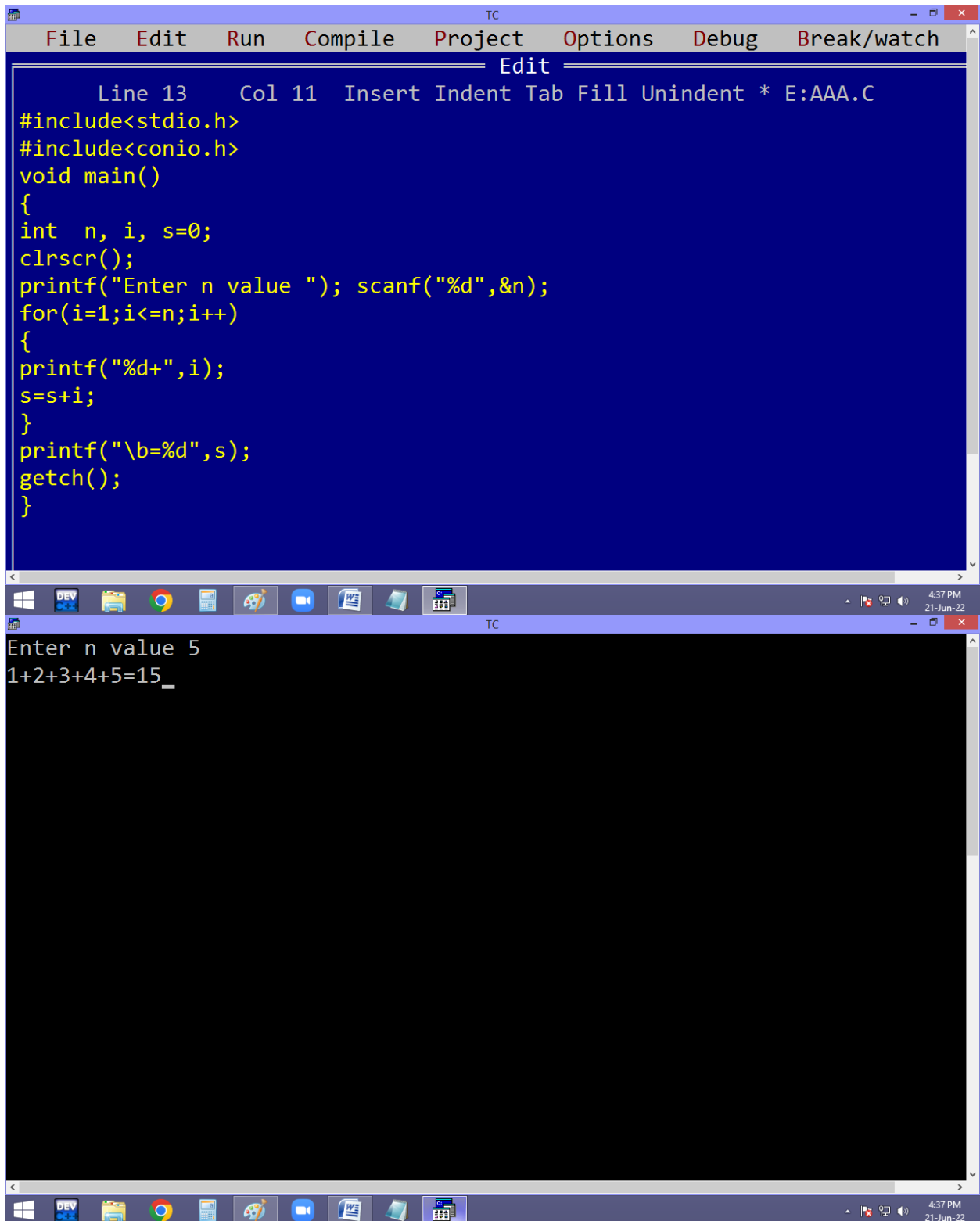
The bottom window is the 'TC' window, showing the execution of the program. It displays the prompt 'Enter the two numbers' followed by the input '4 7'. The output is 'LCM=28' followed by a cursor. The Windows taskbar at the bottom shows the time as 4:31 PM on 21-Jun-22.

$$\begin{array}{lcl}
 & \text{max} & 4 \\
 7 \% 4 & \text{7} & \\
 8 \% 4 = 0 & \cancel{8 \% 7} & \\
 9 \% 4 = & &
 \end{array}$$

$$\begin{array}{lcl}
 10 & & \\
 \text{28} \% 4 = 0 & \text{28} \% 7 = 0 &
 \end{array}$$

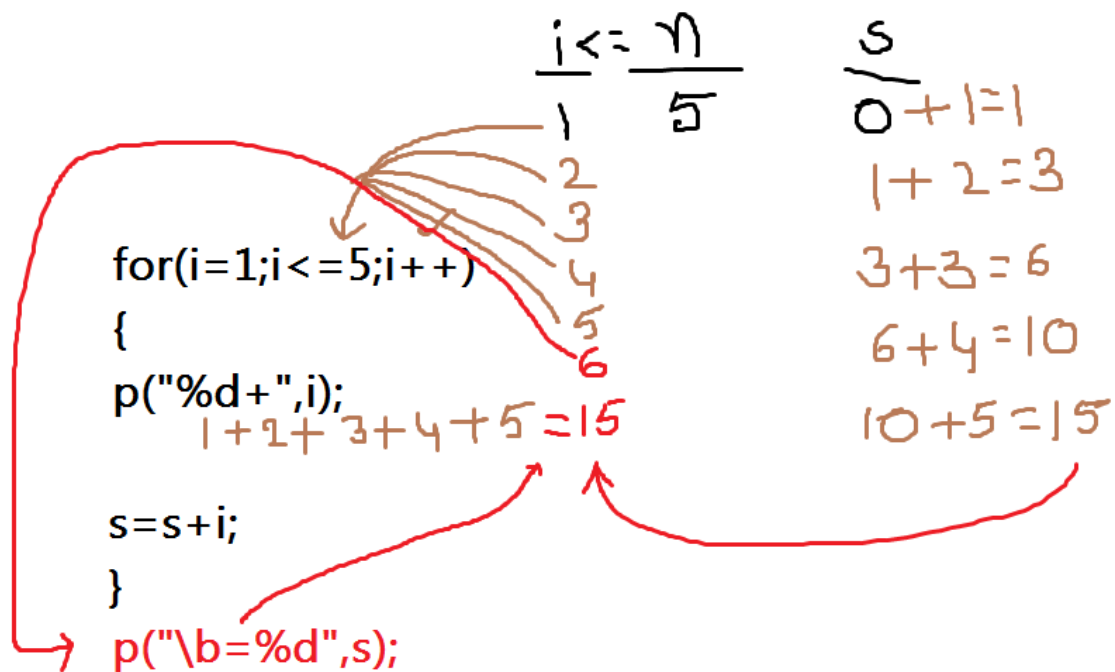
Eg. Find sum of below series.

$$n=5 \rightarrow 1+2+3+4+5=15$$

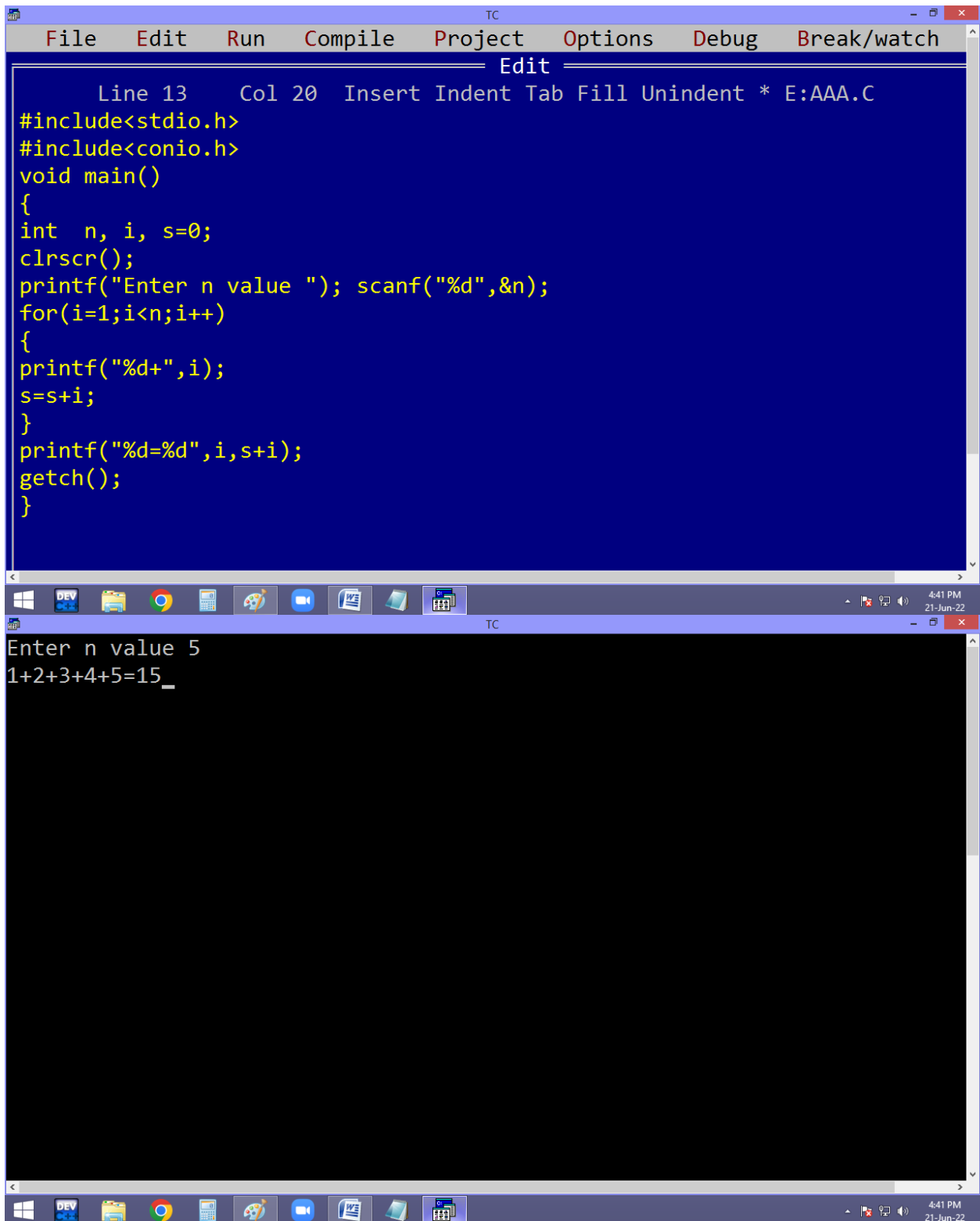


```
TC
File Edit Run Compile Project Options Debug Break/watch
Edit
Line 13 Col 11 Insert Indent Tab Fill Unindent * E:AAA.C
#include<stdio.h>
#include<conio.h>
void main()
{
int n, i, s=0;
clrscr();
printf("Enter n value "); scanf("%d",&n);
for(i=1;i<=n;i++)
{
printf("%d+",i);
s=s+i;
}
printf("\b=%d",s);
getch();
}
```

Enter n value 5
1+2+3+4+5=15_

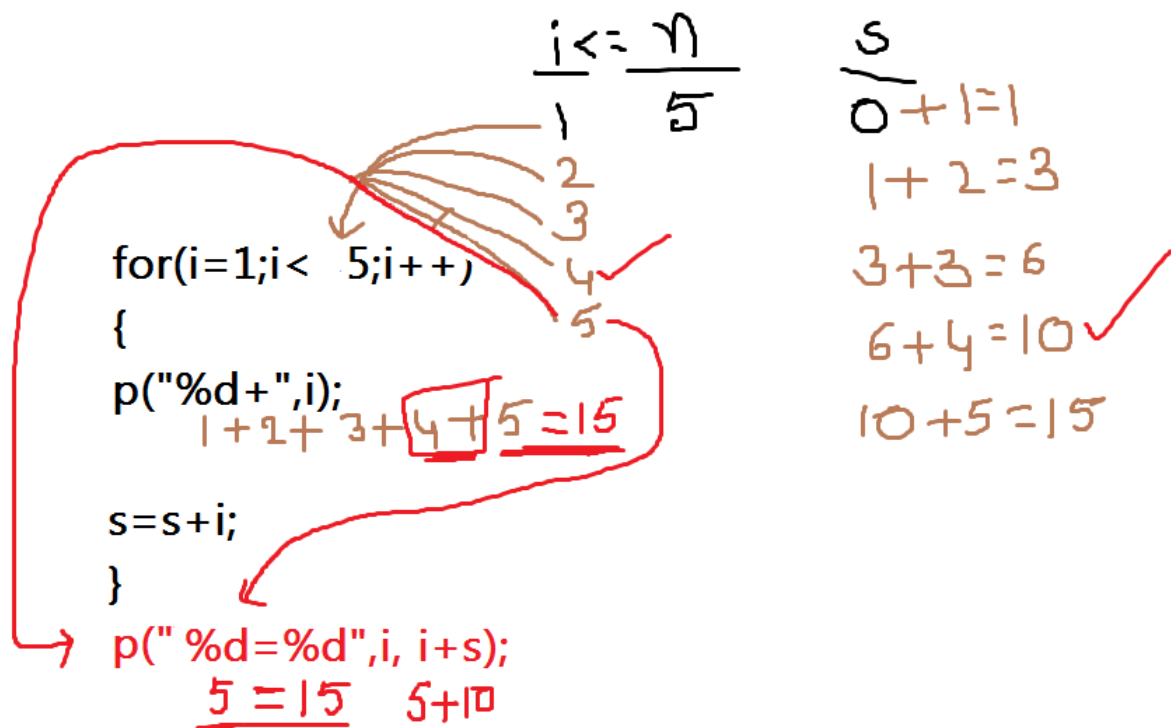


Without using \b:



```
TC
File Edit Run Compile Project Options Debug Break/watch
Edit
Line 13 Col 20 Insert Indent Tab Fill Unindent * E:AAA.C
#include<stdio.h>
#include<conio.h>
void main()
{
int n, i, s=0;
clrscr();
printf("Enter n value "); scanf("%d",&n);
for(i=1;i<n;i++)
{
printf("%d+",i);
s=s+i;
}
printf("%d=%d",i,s+i);
getch();
}
```

Enter n value 5
1+2+3+4+5=15_



Eg. printing below output.

$$\frac{n}{5} \Rightarrow 1^2 + 2^2 + 3^2 + 4^2 + 5^2 = 55$$

The image shows a screenshot of the Turbo C++ (TC) IDE. The top window, titled 'Edit', contains the following C code:

```
Line 13   Col 17   Insert Indent Tab Fill Unindent * E:AAA.C
#include<stdio.h>
#include<conio.h>
void main()
{
    int n, i, s=0;
    clrscr();
    printf("Enter n value "); scanf("%d",&n);
    for(i=1;i<=n;i++)
    {
        printf("%d%c+",i,253);
        s=s+i*i;
    }
    printf("\b=%d",s);
    getch();
}
```

The bottom window, titled 'TC', shows the program's output:

```
Enter n value 5
12+22+32+42+52=55_
```

The Windows taskbar at the bottom of the screen shows the time as 4:59 PM on 21-Jun-22.

$i \leq 5$
 1 2 3 4 5
 for(i=1; i <= 5; i++)
 {
 253
 p("%d%c", i);
 1 + 1 + 3 + 4 + 5 = 55
 s = s + i * i;
 }
 p("\b = %d", s);
 = 15 5 + 10

s
 $0 + 1 \times 1 = 1$
 $1 + 2 \times 2 = 5$
 $5 + 3 \times 3 = 14$
 $14 + 4 \times 4 = 30$
 $30 + 5 \times 5 = 55$

Finding ascii value:

TC

File Edit Run Compile Project Options Debug Break/watch

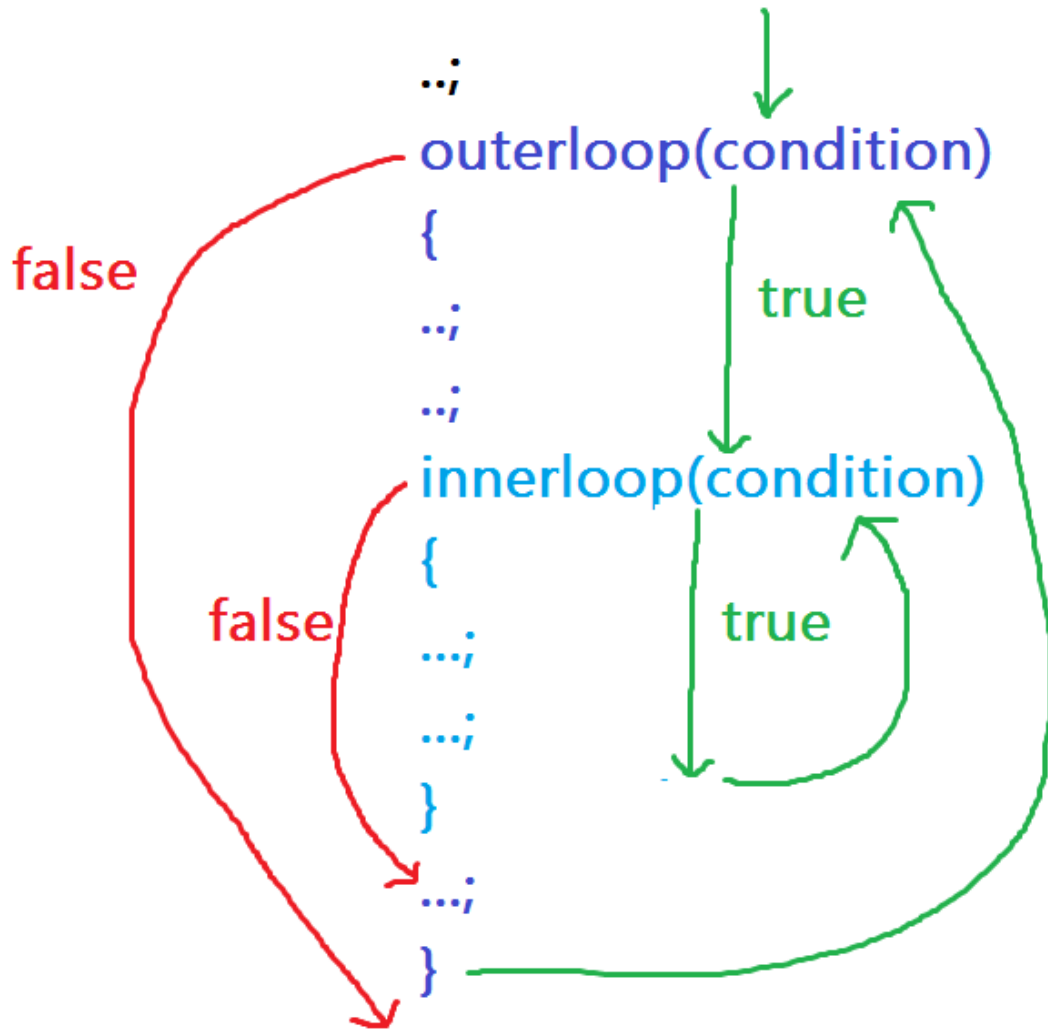
Edit

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

```
#include<stdio.h>
#include<conio.h>
void main()
{
int i;
clrscr();
for(i=0;i<256;i++) printf("%d=%c\t",i,i);
getch();
}_
```

0=	1=☺	2=☹	3=♥	4=♦	5=♣	6=♠	7=	8	9=
	10=								
	14=♫	15=✿	16=➡	17=⬅	18=⬆	19=!!	20=¶	21=§	
22=♣	23=⌘	24=↑	25=↓	26=	27=↵	28=L	29=↔	30=▲	
31=▼	32=	33=!	34="	35=#	36=\$	37=%	38=&	39='	40=(
41=)	42=*	43=+	44=,	45=-	46=.	47=/	48=0	49=1	50=2
51=3	52=4	53=5	54=6	55=7	56=8	57=9	58=:	59=;	60=<
61==	62=>	63=?	64=@	65=A	66=B	67=C	68=D	69=E	70=F
71=G	72=H	73=I	74=J	75=K	76=L	77=M	78=N	79=O	80=P
81=Q	82=R	83=S	84=T	85=U	86=V	87=W	88=X	89=Y	90=Z
91=[92=\	93=]	94=^	95=_	96=`	97=a	98=b	99=c	100=d
101=e	102=f	103=g	104=h	105=i	106=j	107=k	108=l	109=m	110=n
111=o	112=p	113=q	114=r	115=s	116=t	117=u	118=v	119=w	120=x
121=y	122=z	123={	124=	125>}	126=~	127=△	128=Ç	129=ü	130=é
131=â	132=ä	133=à	134=å	135=ç	136=ê	137=ë	138=è	139=ï	140=î
141=ì	142=Ä	143=Å	144=É	145=æ	146=Æ	147=ô	148=ö	149=ò	150=û
151=ù	152=ÿ	153=Ö	154=Ü	155=ø	156=£	157=¥	158=℞	159=f	160=á
161=í	162=ó	163=ú	164=ñ	165=Ñ	166=ª	167=º	168=¿	169=¬	170=¬
171=½	172=¼	173=¿	174=«	175=»	176=☐	177=☐	178=☐	179=	180=
181=⌈	182=⌋	183=⌋	184=⌋	185=⌋	186=⌋	187=⌋	188=⌋	189=⌋	190=⌋
191=⌋	192=L	193=L	194=T	195=T	196=T	197=T	198=T	199=T	200=L
201=⌈	202=L	203=⌈	204=⌈	205=	206=⌈	207=	208=L	209=⌈	210=⌈
211=L	212=L	213=⌈	214=⌈	215=⌈	216=⌈	217=J	218=Γ	219=■	220=■
221=■	222=■	223=■	224=α	225=β	226=Γ	227=π	228=Σ	229=σ	230=μ
231=τ	232=0	233=0	234=Ω	235=δ	236=∞	237=φ	238=ε	239=η	240=≡
241=±	242=≥	243=≤	244=┐	245=┐	246=÷	247=≈	248=°	249=.	250=.
251=√	252="	253=²	254=■	255=					

Nested loops: Loop within another loop is called nested loop.



Printing below pattern:

```
TC
Line 1      Col 2      Insert Indent Tab Fill Unindent * E:AAA.C
#include<stdio.h>
#include<conio.h>
void main()
{
int  nr, nc,r,c;
clrscr();
printf("Enter no of rows and columns ");
scanf("%d %d",&nr, &nc);
for(r=1;r<=nr;r++)
{
for(c=1;c<=nc;c++)
{
printf("*");
}
printf("\n");
}
getch();
}

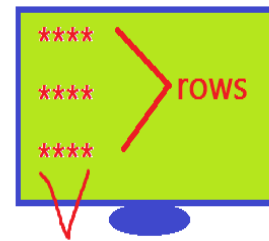
TC
Enter no of rows and columns 3 4
****
****
****
```



```

for(r=1; r<=3; r++)
{
for(c=1; c<=4; c++)
{
p(" * ");
}
p("\n");
}

```



ny
3

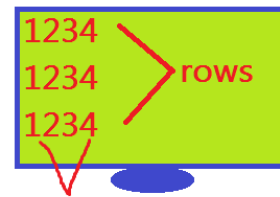
nc
4

columns
ny = 1 to ny c = 1 to nc
1 → 1 to 4 * * * *
2 → 1 to 4 * * * *
3 → 1 to 4 * * * *
~~4~~


```

for(r=1; r<=3; r++)
{
    for(c=1; c<=4; c++)
    {
        p("C ");
    }
    p("\n");
}

```



$\frac{m}{3}$	$\frac{n}{4}$	$\frac{r=1 \text{ to } m}{1 \rightarrow 2 \rightarrow 3}$	$\frac{c=1 \text{ to } n}{1 \text{ to } 4}$
			4

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 15 Insert Indent Tab Fill Unindent * E:AAA.C
#include<stdio.h>
#include<conio.h>
void main()
{
int nr, nc,r,c;
clrscr();
printf("Enter no of rows and columns ");
scanf("%d %d",&nr, &nc);
for(r=1;r<=nr;r++)
{
for(c=1;c<=nc;c++)
{
printf("%3d",r);
}
printf("\n");
}
getch();
}

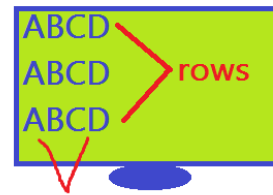
TC
Enter no of rows and columns 10 20
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10
```



```

for(r=1; r<=3; r++)
{
    for(c=1; c<=4; c++)
    {
        p(C+64);
    }
    p("\n");
}

```



$\frac{nr}{3}$ $\frac{nc}{4}$

$r=1$ to nr $c=1$ to nc

1 → 1 to 4
 2 → 1 to 4
 3 → 1 to 4
~~4~~

64+1=A B C D

```

TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 17 Insert Indent Tab Fill Unindent * E:AAA.C
#include<stdio.h>
#include<conio.h>
void main()
{
    int nr, nc, r, c;
    clrscr();
    printf("Enter no of rows and columns ");
    scanf("%d %d", &nr, &nc);
    for(r=1; r<=nr; r++)
    {
        for(c=1; c<=nc; c++)
        {
            printf("%2c", c+96);
        }
        printf("\n");
    }
    getch();
}

```

A screenshot of a Windows operating system interface. At the top, there's a taskbar with several icons: Start button, DEV icon, File Explorer, Google Chrome, Calculator, Paint, WhatsApp, Word document, Notepad, and Calendar. The main area shows a black terminal window titled "TC". Inside the terminal, the prompt "Enter no of rows and columns 10 26" has been entered. Below this, the output of a C program is displayed as a grid of lowercase letters from 'a' to 'z'. The grid consists of 10 rows and 26 columns, where each row contains the alphabet in sequence. The bottom right corner of the screen displays the system clock: 5:32 PM, 21-Jun-22.

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 15 Insert Indent Tab Fill Unindent * E:AAA.C
#include<stdio.h>
#include<conio.h>
void main()
{
int nr, nc,r,c;
clrscr();
printf("Enter no of rows and columns ");
scanf("%d %d",&nr, &nc);
for(r=1;r<=nr;r++)
{
for(c=1;c<=nc;c++)
{
printf("%2c",r+96);
}
printf("\n");
}
getch();
}

TC
Enter no of rows and columns 10 10
a a a a a a a a a a
b b b b b b b b b b
c c c c c c c c c c
d d d d d d d d d d
e e e e e e e e e e
f f f f f f f f f f
g g g g g g g g g g
h h h h h h h h h h
i i i i i i i i i i
j j j j j j j j j j
```

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 18 Insert Indent Tab Fill Unindent * E:AAA.C
#include<stdio.h>
#include<conio.h>
void main()
{
int nr, nc,r,c;
clrscr();
printf("Enter no of rows and columns ");
scanf("%d %d",&nr, &nc);
for(r=1;r<=nr;r++)
{
for(c=1;c<=nc;c++)
{
printf("%2c",r+64);
}
printf("\n");
}
getch();
}

TC
Enter no of rows and columns 10 10
A A A A A A A A A A
B B B B B B B B B B
C C C C C C C C C C
D D D D D D D D D D
E E E E E E E E E E
F F F F F F F F F F
G G G G G G G G G G
H H H H H H H H H H
I I I I I I I I I I
J J J J J J J J J J
```

```
TC
Line 19 Col 28 Insert Indent Tab Fill Unindent * E:AAA.C
#include<stdio.h>
#include<conio.h>
void main()
{
int nr, nc,r,c,ch;
clrscr();
printf("Enter no of rows and columns ");
scanf("%d %d",&nr, &nc);
for(r=1;r<=nr;r++)
{
ch=r;
for(c=1;c<=nc;c++)
{
printf("%2c",ch+64); ch++;
}
printf("\n");
}
getch();
}
```

Enter no of rows and columns 10 10

```
A B C D E F G H I J
B C D E F G H I J K
C D E F G H I J K L
D E F G H I J K L M
E F G H I J K L M N
F G H I J K L M N O
G H I J K L M N O P
H I J K L M N O P Q
I J K L M N O P Q R
J K L M N O P Q R S
```



```

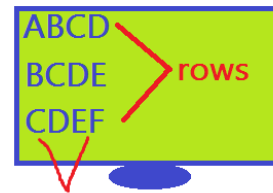
    ch;
for(r=1; r<=3; r++) ✓✓
{ ch=r; ✓
  for(c=1; c<=4; c++) ✓
  {
    p(ch + 64); ch++;
  }
  p("\n");
}

```

```

A B C D
B C D E
C D E F

```



$\frac{ny}{3}$ $\frac{nc}{4}$ $\frac{r=1 \text{ to } ny}{1 \rightarrow 2 \rightarrow 3 \rightarrow 4}$ $\frac{\text{columns } c=1 \text{ to } nc}{1 \text{ to } 4}$ $64+1=A B C D$

Home work:

```

AAAAA
bbbbb
CCCCC
ddddd

```

```

AbCdE
AbCdE
AbCdE

```

```

AAAA
aaaa
BBBB
bbbb

```

```

1234
2345
3456

```