

The image shows a screenshot of the Turbo C++ (TC) IDE. The top window is the 'Edit' window, displaying a C program. The program prompts the user to enter the number of rows, which is 5. It then prints a diamond pattern of numbers. The pattern consists of 5 rows: the first row has '1', the second has '121', the third has '12321', the fourth has '1234321', and the fifth has '123454321'. The bottom window is the 'TC' window, showing the output of the program. The output matches the pattern shown in the code. The IDE's menu bar includes File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the bottom right shows the time as 4:25 PM on 06/24/2022.

```
Line 13   Col 35   Insert Indent Tab Fill Unindent * C:PAT.C
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
void main()
{
    int n,r,c,s; clrscr();
    printf("Enter no of rows ");
    scanf("%d",&n);
    for(r=1;r<=n;r++)
    {
        for(s=1;s<=n-r;s++)cprintf(" ");
        for(c=1;c<=r;c++)cprintf("%d",c);
        for(c=r-1;c>=1;c--)printf("%d",c);_
        printf("\n");
    }
    getch();
}
```

Enter no of rows 5

1

121

12321

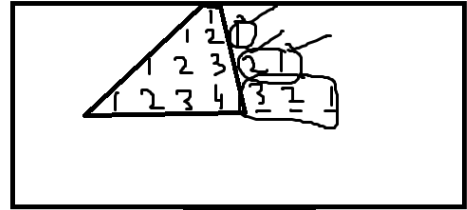
1234321

123454321

```

for(r=1;r<=4;r++)
{
for(s=1;s<=n-r;s++)p(" ");
for(c=1;c<=r;c++)p(c);
for(c=r-1;c>=1;c--)p(c);
p("\n");
}

```



$$\frac{n}{4} - \frac{8}{1} = \frac{5}{3}$$

$$\begin{array}{r} c=1 \text{ to } 8 \\ 1+0=1 \\ 1+0=2 \\ 1+0=3 \\ 1+0=4 \end{array}$$

$$\begin{array}{r} c=8-1 \\ 1-1=0 \\ 2-1=1 \\ 3-1=2 \\ 4-1=3 \end{array}$$

```
TC
Line 1 Col 11 Indent Tab Fill Unindent * C:PAT.C
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
void main()
{
int n,r,c,s,a; clrscr();
printf("Enter no of rows ");
scanf("%d",&n);
for(r=0;r<n;r++)
{
for(s=1;s<n-r;s++)cprintf(" ");
for(c=0;c<=r;c++){if(c==0||c==r)a=1; else a=a*(r-c+1)/c;
printf("%4d",a);
}
printf("\n");
}
getch();
}
```

Enter no of rows 12

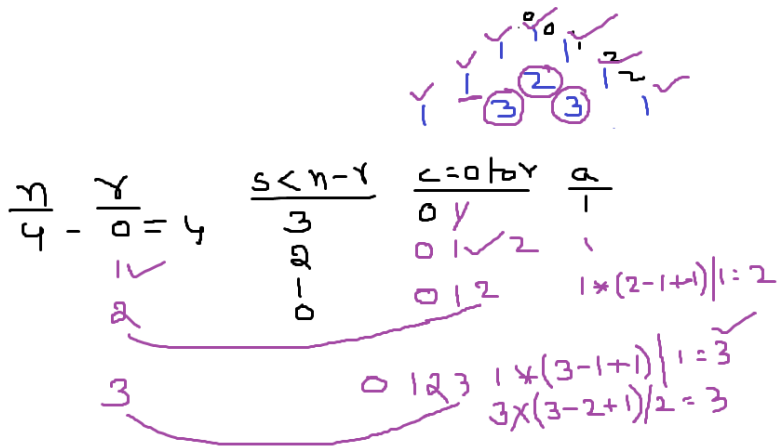
```

      1
    1 1
  1 2 1
1 3 3 1
  1 4 6 4 1
    1 5 10 10 5 1
      1 6 15 20 15 6 1
        1 7 21 35 35 21 7 1
          1 8 28 56 70 56 28 8 1
            1 9 36 84 126 126 84 36 9 1
              1 10 45 120 210 252 210 120 45 10 1
                1 11 55 165 330 462 462 330 165 55 11 1
```

```

for(r=0; r<n; r++)
{
for(s=1; s<n-r; s++) p(" ");
for(c=0; c<=r; c++)
{
if(c==0 || c==r) a=1;
else a=a*(r-c+1)/c;
p(a);
}
p("\n");
}

```



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

```
#include<conio.h>
```

```
#include<stdlib.h>
```

```
void main()
```

```
{
```

```
int n,r,c,s; clrscr();
```

```
printf("Enter no of rows ");
```

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

```
for(r=1;r<=n;r++)
```

```
{
```

```
for(s=1;s<=n-r;s++)cprintf(" ");
```

```
for(c=1;c<=r;c++)if(c==1 || c==r)printf("* "); else printf(" ");
```

```
printf("\n");
```

```

}
for(r=n-1;r>=1;r--)
{
for(s=1;s<=n-r;s++)cprintf(" ");
for(c=1;c<=r;c++)if(c==1 || c==r)printf("* "); else printf(" ");
printf("\n");
}
getch();
}

```

Enter no of rows 5

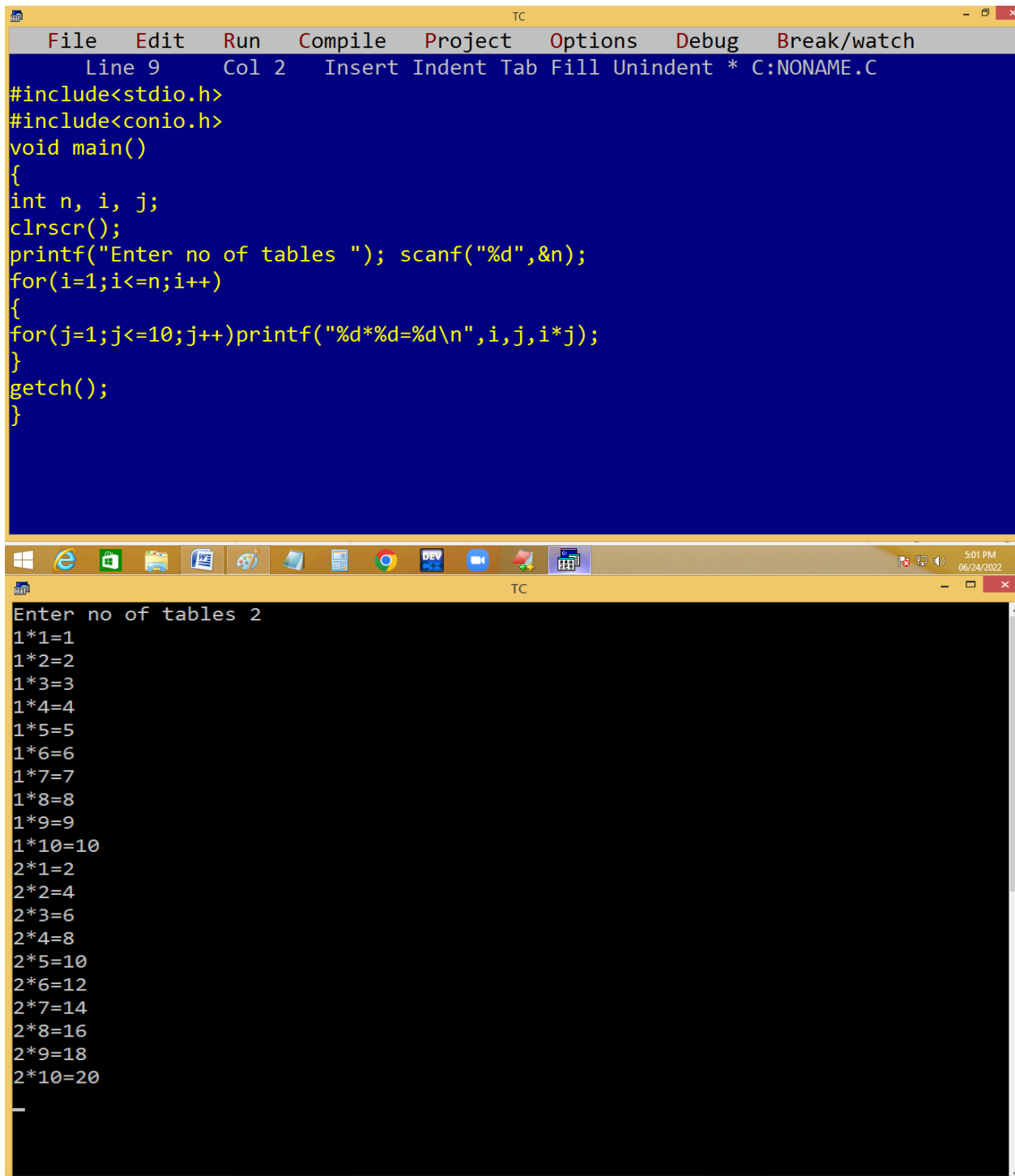
```

      *
     * *
    *   *
   *     *
  *       *
 *         *
*           *
 *         *
  *       *
   *     *
    *   *
     * *
      *

```

Page: 5 of 5 Words: 40 130% 4:48 PM 06/24/2022

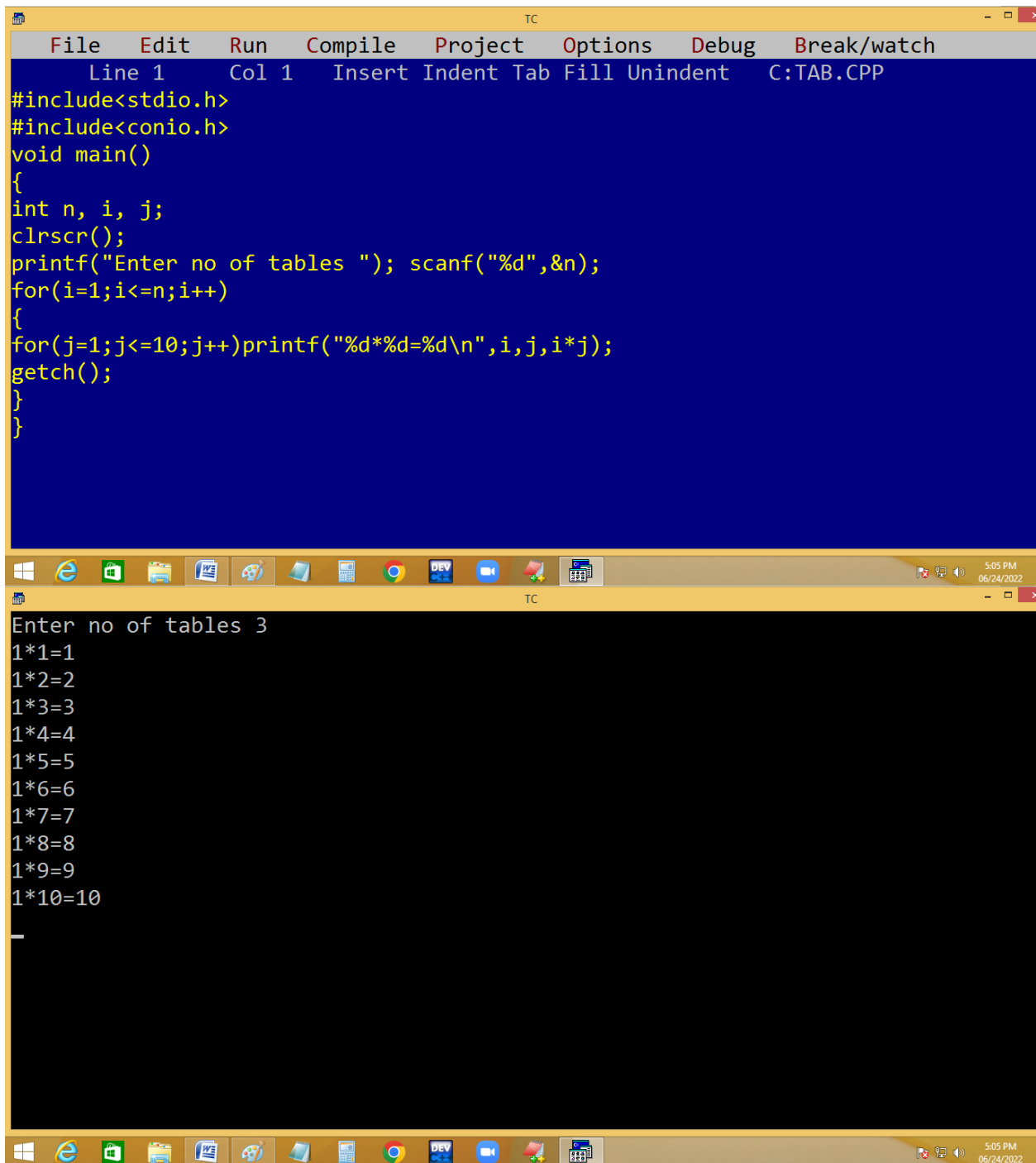
## Write a program to print 1-n tables.



```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 2 Insert Indent Tab Fill Unindent * C:NONAME.C
#include<stdio.h>
#include<conio.h>
void main()
{
int n, i, j;
clrscr();
printf("Enter no of tables "); scanf("%d",&n);
for(i=1;i<=n;i++)
{
for(j=1;j<=10;j++)printf("%d*%d=%d\n",i,j,i*j);
}
getch();
}
```

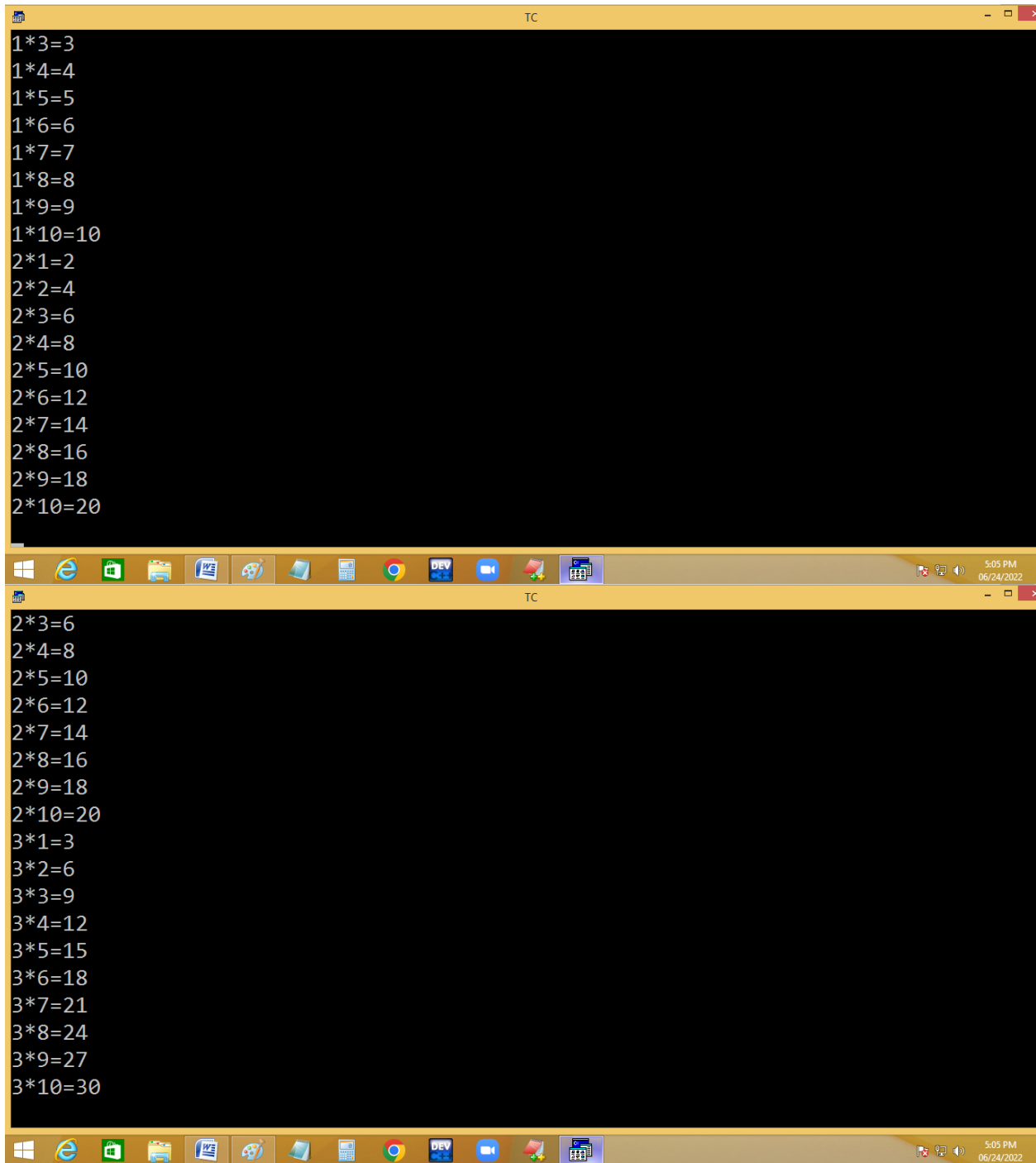
Enter no of tables 2

```
1*1=1
1*2=2
1*3=3
1*4=4
1*5=5
1*6=6
1*7=7
1*8=8
1*9=9
1*10=10
2*1=2
2*2=4
2*3=6
2*4=8
2*5=10
2*6=12
2*7=14
2*8=16
2*9=18
2*10=20
_
```



```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 1 Col 1 Insert Indent Tab Fill Unindent C:TAB.CPP
#include<stdio.h>
#include<conio.h>
void main()
{
int n, i, j;
clrscr();
printf("Enter no of tables "); scanf("%d",&n);
for(i=1;i<=n;i++)
{
for(j=1;j<=10;j++)printf("%d*%d=%d\n",i,j,i*j);
getch();
}
}
```

```
TC
Enter no of tables 3
1*1=1
1*2=2
1*3=3
1*4=4
1*5=5
1*6=6
1*7=7
1*8=8
1*9=9
1*10=10
_
```





```

Turbo C++ IDE
File Edit Search Run Compile Debug Project Options Window Help
TAB.CPP
#include<stdio.h>
#include<conio.h>
#include<dos.h>
void main()
{
int n, i, j;
clrscr();
printf("Enter no of tables "); scanf("%d",&n);
for(i=1;i<=n;i++)
{
for(j=1;j<=10;j++){ printf("%d*%d=%d\n",i,j,i*j);delay(100);}
getch();
}
}

```

$$\frac{n}{3}$$

$$\frac{1 \times 10}{3}$$

```

for(i=1;i<=3;i++) /* table no's */
{
for(j=1;j<=10;j++) p(i*j);
p("\n");
}

```

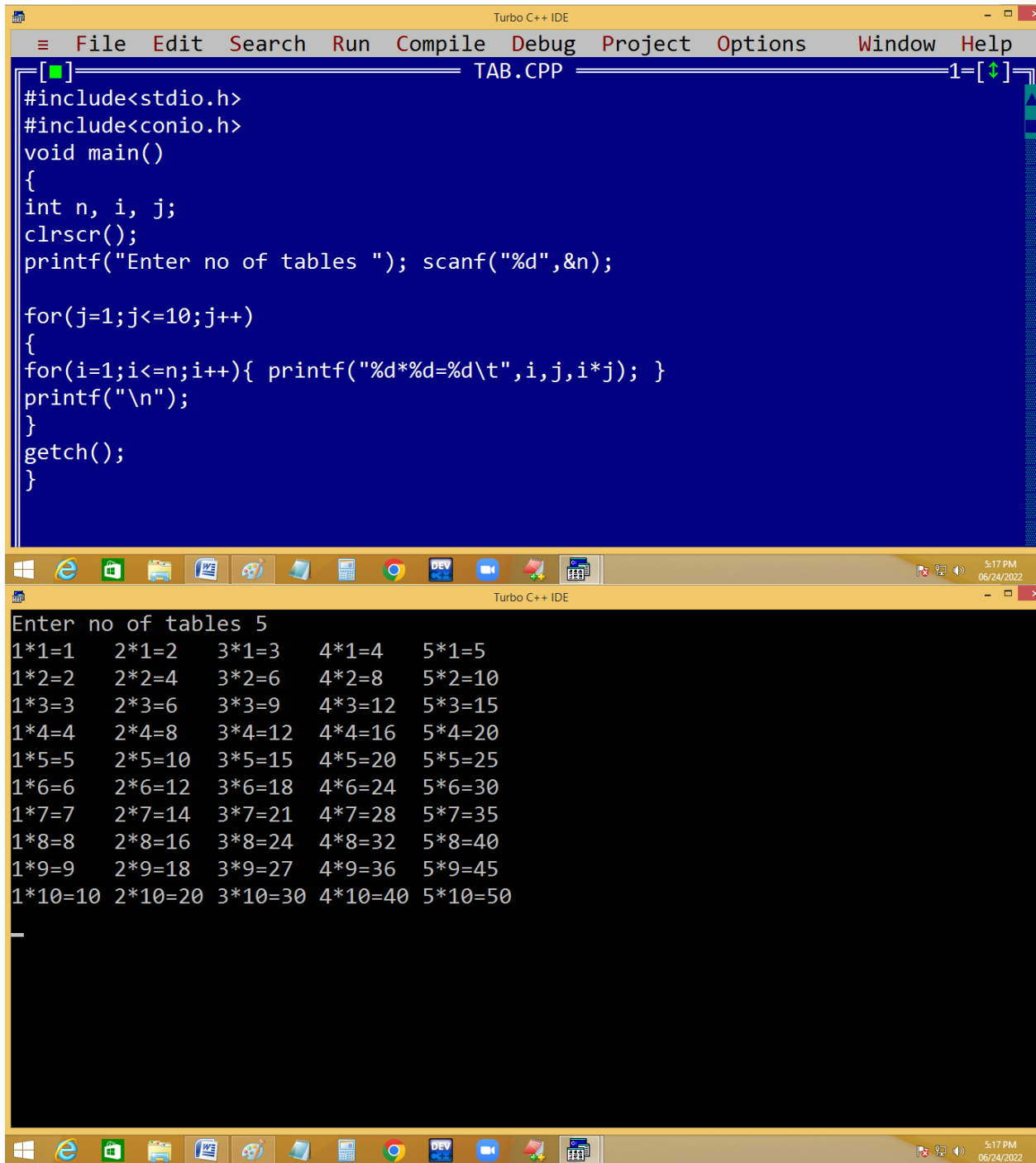
80 col


25 rows

$$\begin{array}{r} i \quad j \\ 1 * 1 \ 2 \ 3 \ - \ - \ 10 \ H \\ 2 \times 1 \ 2 \ 3 \ - \ - \ 10 \ H \\ 3 \times 1 \ - \ - \ - \ 10 \end{array}$$

~~4~~

**Tables side by side:**



```
#include<stdio.h>
#include<conio.h>
void main()
{
int n, i, j;
clrscr();
printf("Enter no of tables "); scanf("%d",&n);

for(j=1;j<=10;j++)
{
for(i=1;i<=n;i++){ printf("%d*%d=%d\t",i,j,i*j); }
printf("\n");
}
getch();
}
```

Enter no of tables 5

1*1=1	2*1=2	3*1=3	4*1=4	5*1=5
1*2=2	2*2=4	3*2=6	4*2=8	5*2=10
1*3=3	2*3=6	3*3=9	4*3=12	5*3=15
1*4=4	2*4=8	3*4=12	4*4=16	5*4=20
1*5=5	2*5=10	3*5=15	4*5=20	5*5=25
1*6=6	2*6=12	3*6=18	4*6=24	5*6=30
1*7=7	2*7=14	3*7=21	4*7=28	5*7=35
1*8=8	2*8=16	3*8=24	4*8=32	5*8=40
1*9=9	2*9=18	3*9=27	4*9=36	5*9=45
1*10=10	2*10=20	3*10=30	4*10=40	5*10=50

```

for(j=1;j<=10;j++)
{
    for(i=1;i<=3;i++) /* table no's */
    {
        p(i*j t ); }
    p("\n");
}

```

$$\frac{n}{3}$$

$$\frac{i}{1 \ 2 \ 3 \ 4}$$

$$\frac{j}{1 \ 2}$$

$1 \times 1 = 1$  —  $2 \times 1 = 2$  —  $3 \times 1 = 3$   
 $1 \times 2 = 2$  —  $2 \times 2 = 4$   
 $1 \times 3 = 3$  —  $2 \times 3 = 6$  —  $3 \times 3 = 9$   
 $1 \times 10 = 10$

**Printing 1..n palindrome numbers and count.**

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 30 Insert Indent Tab Fill Unindent * C:TAB.CPP
#include<stdio.h>
#include<conio.h>
void main()
{
int n, i, j, r, rev, c=0;
clrscr();
printf("Enter n value "); scanf("%d",&n);
for(i=1;i<=n;i++)
{
for(rev=0,j=i;j!=0;j=j/10){r=j%10;rev=rev*10+r;}
if(i==rev)printf("%4d",i,c++);
}
printf("\n%d Palindromes",c);_
getch();
}
```

Enter n value 20  
1 2 3 4 5 6 7 8 9 11  
10 Palindromes

EditPlus





