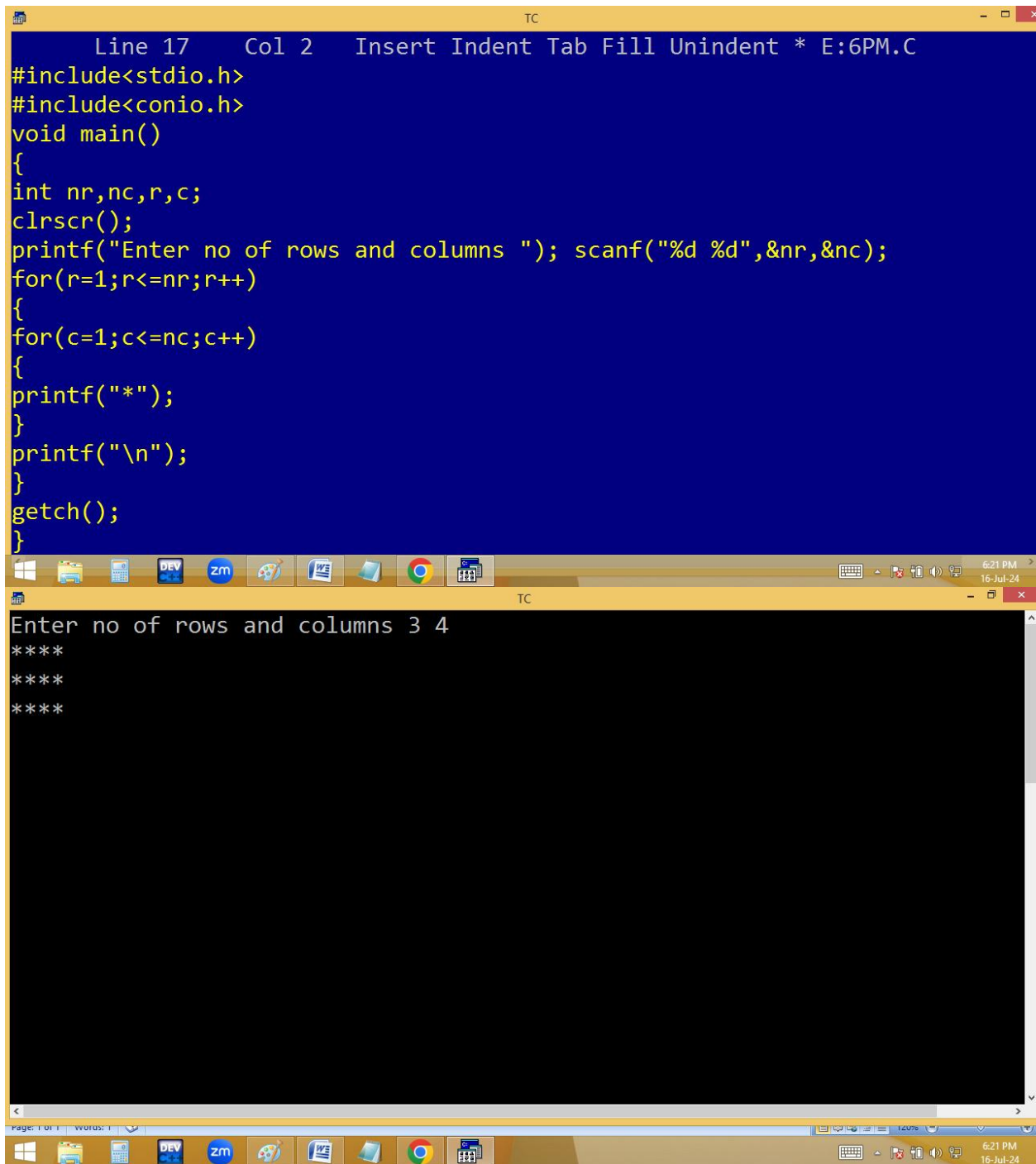


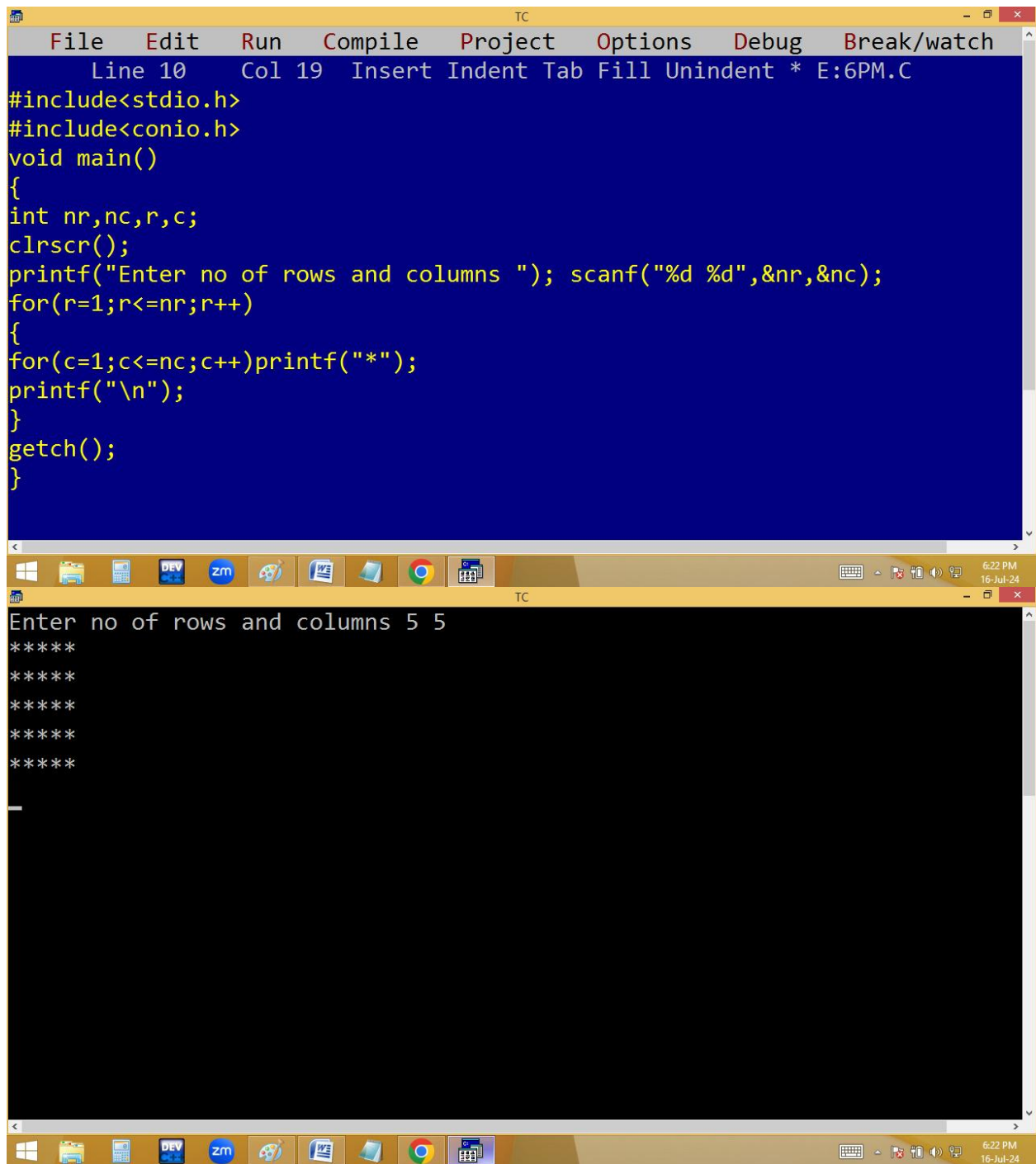
PATTERNS:



```
Line 17   Col 2   Insert Indent Tab Fill Unindent * E:6PM.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();
}
```

Enter no of rows and columns 3 4

```
****
****
****
```



The image shows two screenshots of the Turbo C++ (TC) IDE. The top screenshot displays the source code for a C program that prints a 5x5 asterisk pattern. The code is as follows:

```
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 19 Insert Indent Tab Fill Unindent * E:6PM.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();
}
```

The bottom screenshot shows the program's execution. It prompts the user to enter the number of rows and columns, with '5 5' entered. The output is a 5x5 grid of asterisks:

```
Enter no of rows and columns 5 5
*****
*****
*****
*****
*****
```

The IDE's taskbar at the bottom shows various application icons, including Windows Explorer, DEV C++, Zm, and Google Chrome. The system clock in the bottom right corner indicates the time is 6:22 PM on 16-Jul-24.

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 29 Insert Indent Tab Fill Unindent * E:6PM.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();
}

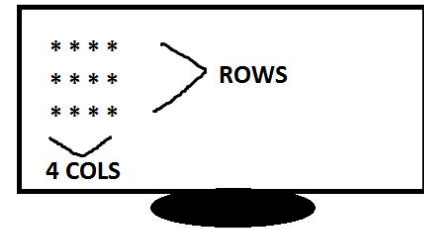
TC
Enter no of rows and columns 5 10
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
```

```

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

```

~~Y~~ c = 1 to 4
1 * * * *
2 * * * *
3 * * * *
~~X~~



The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a C program. The code includes headers for `stdio.h` and `conio.h`, and defines a `main` function. Inside `main`, it declares variables `nr`, `nc`, `r`, and `c` as integers. It calls `clrscr()` to clear the screen. Then, it prompts the user to enter the number of rows and columns using `scanf`. A nested loop structure is used to print the grid: an outer loop for rows (`r` from 1 to `nr`) and an inner loop for columns (`c` from 1 to `nc`). Each iteration prints a number followed by a space, and a newline character is printed after each row. Finally, `getch()` is used to pause the program before exiting.

```
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 33 Insert Indent Tab Fill Unindent * E:6PM.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",c);
printf("\n");
}
getch();
}
```

The bottom window shows the output of the program. It displays the prompt "Enter no of rows and columns" followed by the user input "5 8". Below this, a 5x8 grid of numbers is printed, with each number right-aligned in a 3-character field.

```
Enter no of rows and columns 5 8
 1  2  3  4  5  6  7  8
 1  2  3  4  5  6  7  8
 1  2  3  4  5  6  7  8
 1  2  3  4  5  6  7  8
 1  2  3  4  5  6  7  8
```

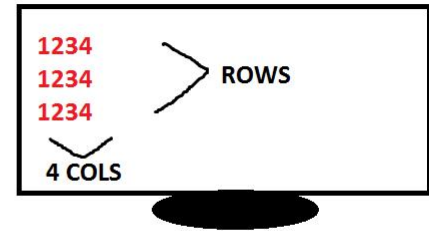
```

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

```

~~7~~
~~1~~
~~2~~
~~3~~
~~4~~

~~c = 1 to 4~~
1234
1234
1234
1234



```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 33 Insert Indent Tab Fill Unindent * E:6PM.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 5 6
1 1 1 1 1 1
2 2 2 2 2 2
3 3 3 3 3 3
4 4 4 4 4 4
5 5 5 5 5 5
```

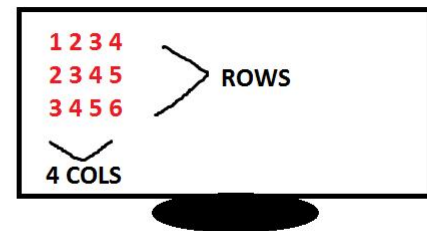
```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 39 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int nr,nc,r,c,a;
clrscr();
printf("Enter no of rows and columns "); scanf("%d %d",&nr,&nc);
for(r=1;r<=nr;r++)
{
for(a=r,c=1;c<=nc;c++)printf("%3d",a++);
printf("\n");
}
getch();
}
```

Enter no of rows and columns 4 5

```
1 2 3 4 5
2 3 4 5 6
3 4 5 6 7
4 5 6 7 8
```

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

$a = \begin{matrix} 1 \\ 2 \\ 3 \end{matrix}$ $c = \begin{matrix} 1 & 2 & 3 & 4 \\ 1 & 2 & 3 & 4 \\ 1 & 2 & 3 & 4 \end{matrix}$

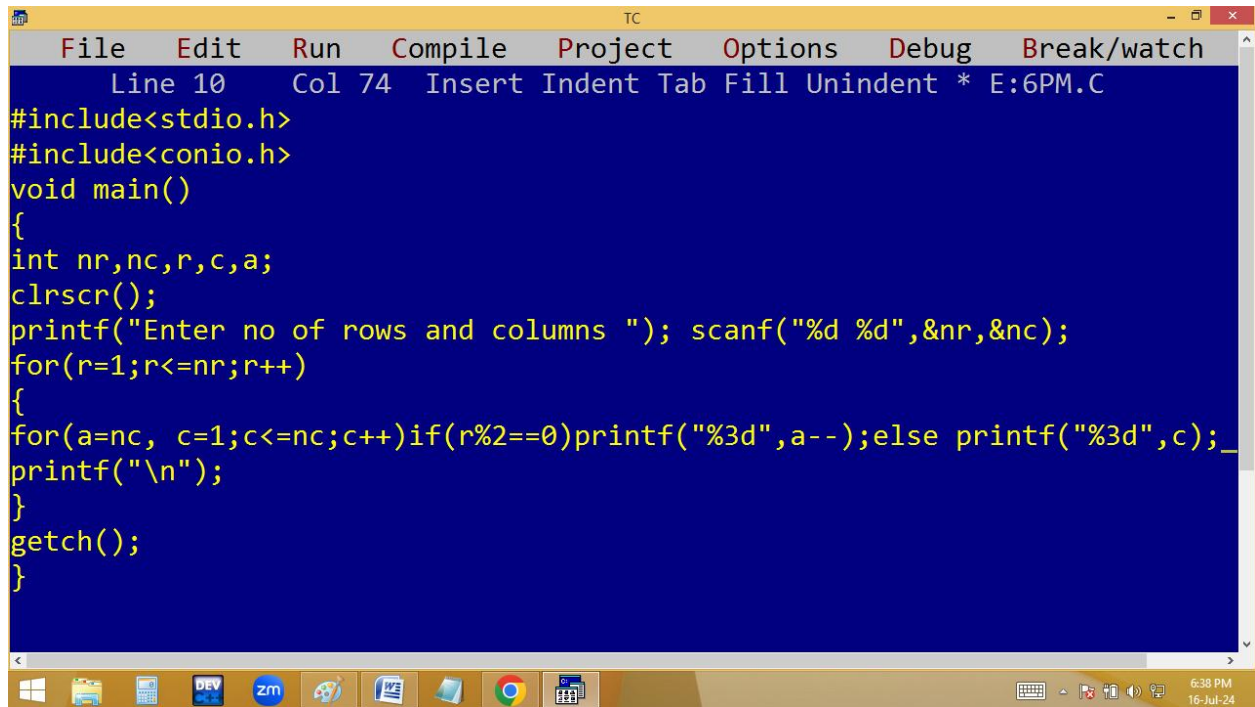


The image shows two screenshots of the Turbo C++ (TC) IDE. The top screenshot displays the source code of a C program designed to print a 10x10 grid of numbers. The code includes standard headers, declares variables for rows and columns, and uses nested loops to print the sequence. The bottom screenshot shows the program's execution output, where the user has entered '10 10' for rows and columns, resulting in a printed grid of numbers from 1 to 19.

```
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 37 Insert Indent Tab Fill Unindent * E:6PM.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",c+r-1);
printf("\n");
}
getch();
}
```

Enter no of rows and columns 10 10

1	2	3	4	5	6	7	8	9	10
2	3	4	5	6	7	8	9	10	11
3	4	5	6	7	8	9	10	11	12
4	5	6	7	8	9	10	11	12	13
5	6	7	8	9	10	11	12	13	14
6	7	8	9	10	11	12	13	14	15
7	8	9	10	11	12	13	14	15	16
8	9	10	11	12	13	14	15	16	17
9	10	11	12	13	14	15	16	17	18
10	11	12	13	14	15	16	17	18	19



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 top indicates "Line 10", "Col 74", and "Insert Indent Tab Fill Unindent * E:6PM.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 nr,nc,r,c,a;
clrscr();
printf("Enter no of rows and columns "); scanf("%d %d",&nr,&nc);
for(r=1;r<=nr;r++)
{
for(a=nc, c=1;c<=nc;c++)if(r%2==0)printf("%3d",a--);else printf("%3d",c);_
printf("\n");
}
getch();
}
```

The Windows taskbar is visible at the bottom, showing icons for Windows, File Explorer, Calculator, DEV C++, Zoom, and other applications. The system clock in the bottom right corner shows "6:38 PM" and "16-Jul-24".

```

Enter no of rows and columns 3 4
1 2 3 4
4 3 2 1
1 2 3 4

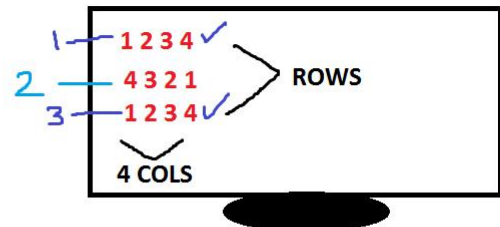
```

```

for( r=1; r<=3; r++)
{
    a=nc;
    for( c=1; c<=4; c++)
    {
        if(r%2==0)p(a--);
        else p(c);
    }
    printf("\n");
}

```

a--	r	c=1 to 4 ✓
4	1	1 2 3 4
3	2	2 3 4 5
2	3	3 4 5 6
1	✓	



1-3 → c to 4
 a=4 4 3 2 1

```
TC
#include<stdio.h>
#include<conio.h>
void main()
{
int nr,nc,r,c,a=1;
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++)
{
if(c==1||r==1||c==nc||r==nr)printf("%3c",'*');else printf("%3d",a++);
}
printf("\n");
}
getch();
}
```

Enter no of rows and columns 4 5

```
* * * * *
* 1 2 3 *
* 4 5 6 *
* * * * *
```

6:42 PM
16-Jul-24

6:43 PM
16-Jul-24

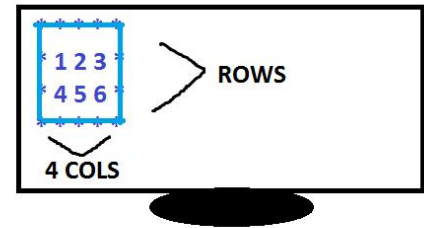
```

a=1
for( r=1; r<=3; r++ )
{
    for( c=1; c<=4; c++ )
    {
        if( c==1 || r==1 || c==nc || r==nr ) p(*);
        else p(a++);
    }
    printf("\n");
}

```

Handwritten annotations:

- Red numbers 1, 2, 3 next to the first three iterations of the inner loop.
- Red numbers 1, 2, 3 next to the first three iterations of the outer loop.
- Red numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.



```
TC
#include<stdio.h>
#include<conio.h>
void main()
{
int nr,nc,r,c,o=1,e=2;
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++)
{
if(r%2==0){printf("%3d",e);e+=2;}else {printf("%3d",o);o+=2;}
}
printf("\n");
}
getch();
}
```

Enter no of rows and columns 5 5

```
1  3  5  7  9
2  4  6  8 10
11 13 15 17 19
12 14 16 18 20
21 23 25 27 29
```

TC

```

Line 17   Col 58   Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int nr,nc,r,c,o=-1,e=0;
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++)
{
if(r%2==0)printf("%3d",e,e+=2);else printf("%3d",o,o+=2);
}
printf("\n");
}
getch();
}

```

Enter no of rows and columns 10 10

```

 1  3  5  7  9 11 13 15 17 19
 2  4  6  8 10 12 14 16 18 20
21 23 25 27 29 31 33 35 37 39
22 24 26 28 30 32 34 36 38 40
41 43 45 47 49 51 53 55 57 59
42 44 46 48 50 52 54 56 58 60
61 63 65 67 69 71 73 75 77 79
62 64 66 68 70 72 74 76 78 80
81 83 85 87 89 91 93 95 97 99
82 84 86 88 90 92 94 96 98 100

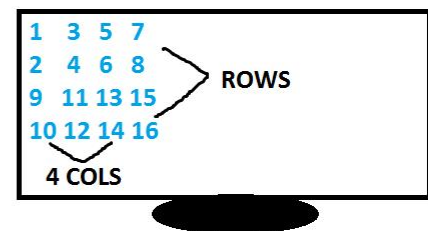
```

```

e=0; o=-1
for( r=1; r<=3; r++)
{
for( c=1; c<=4; c++)
{
if(r%2)p(o ,o+=2; else p(e , e+=2)
}
printf("\n");
}

```

Handwritten annotations: A vertical line with numbers 1, 2, 3, 4 next to the loops. A red 'X' is drawn below the loop structure.



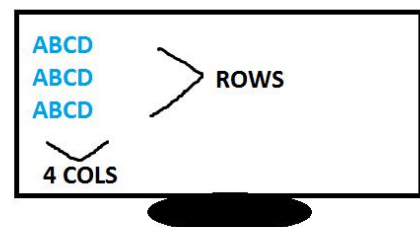

```
TC
#include<stdio.h>
#include<conio.h>
void main()
{
int nr,nc,r,c;
clrscr();
printf("Enter no of rows and columns "); scanf("%d %d",&nr,&nc);
for(r=1;r<=nr;r++)
{
for(c=1;c<=nc;c++)
{
printf("%2c",64+c);
}
printf("\n");
}
getch();
}
```

Enter no of rows and columns 10 26

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

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

Y c = 1 to 4
1 64+1 2 3 4
2 64+1 2 3 4
3 64+1 2 3 4
X




```
TC
#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",96+c);
}
printf("\n");
}
getch();
}
```

Enter no of rows and columns 10 26

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z

```
TC
#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++)
{
if(r%2==0)printf("%2c",96+c); else printf("%2c",64+c);
}
printf("\n");
}
getch();
}
```

Enter no of rows and columns 10 26

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z

```
TC
#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++)
{
if(c%2==0)printf("%2c",96+c); else printf("%2c",64+c);
}
printf("\n");
}
getch();
}
```

Enter no of rows and columns 10 26

A	b	C	d	E	f	G	h	I	j	K	l	M	n	O	p	Q	r	S	t	U	v	W	x	Y	z
A	b	C	d	E	f	G	h	I	j	K	l	M	n	O	p	Q	r	S	t	U	v	W	x	Y	z
A	b	C	d	E	f	G	h	I	j	K	l	M	n	O	p	Q	r	S	t	U	v	W	x	Y	z
A	b	C	d	E	f	G	h	I	j	K	l	M	n	O	p	Q	r	S	t	U	v	W	x	Y	z
A	b	C	d	E	f	G	h	I	j	K	l	M	n	O	p	Q	r	S	t	U	v	W	x	Y	z
A	b	C	d	E	f	G	h	I	j	K	l	M	n	O	p	Q	r	S	t	U	v	W	x	Y	z
A	b	C	d	E	f	G	h	I	j	K	l	M	n	O	p	Q	r	S	t	U	v	W	x	Y	z
A	b	C	d	E	f	G	h	I	j	K	l	M	n	O	p	Q	r	S	t	U	v	W	x	Y	z
A	b	C	d	E	f	G	h	I	j	K	l	M	n	O	p	Q	r	S	t	U	v	W	x	Y	z
A	b	C	d	E	f	G	h	I	j	K	l	M	n	O	p	Q	r	S	t	U	v	W	x	Y	z

```
TC
#include<stdio.h>
#include<conio.h>
void main()
{
int nr,nc,r,c; char a;
clrscr();
printf("Enter no of rows and columns "); scanf("%d %d",&nr,&nc);
for(r=1;r<=nr;r++)
{
for(a=64+nc, c=1;c<=nc;c++)
{
if(r%2==0)printf("%2c",a--); else printf("%2c",64+c);
}
printf("\n");
}
getch();
}
```

Enter no of rows and columns 10 26

```
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Z Y X W V U T S R Q P O N M L K J I H G F E D C B A
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Z Y X W V U T S R Q P O N M L K J I H G F E D C B A
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Z Y X W V U T S R Q P O N M L K J I H G F E D C B A
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Z Y X W V U T S R Q P O N M L K J I H G F E D C B A
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Z Y X W V U T S R Q P O N M L K J I H G F E D C B A
```

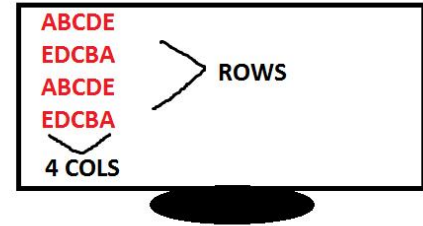
TC

```

for( r=1; r<=3; r++ )
{ char a = 64+nc;
for( c=1; c<=4; c++ )
{
o p( a-- ); e 64+c
}
}
printf("\n");
}

```

γ $c = 1$ to 4
 $\frac{1}{2} \frac{64+1}{2} \frac{2}{3} \frac{3}{4}$
 $\frac{2}{3} \frac{64+1}{2} \frac{2}{3} \frac{3}{4}$
 $\frac{3}{4} \frac{64+1}{2} \frac{2}{3} \frac{3}{4}$
 \times



$a-- = 64+5 = 69$ EDCBA
 $64+c = 65 \ 66 \ 67 \ 68 \ 69$

$1 \ 2 \ 3 \ 4$
 $4 \ 3 \ 2 \ 1$

```
TC
#include<stdio.h>
#include<conio.h>
void main()
{
int nr,nc,r,c; char a;
clrscr();
printf("Enter no of rows and columns "); scanf("%d %d",&nr,&nc);
for(r=1;r<=nr;r++)
{
for(a=64+nc, c=1;c<=nc;c++)
{
printf("%2c",64+r);
}
printf("\n");
}
getch();
}
```

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


```
TC
#include<stdio.h>
#include<conio.h>
void main()
{
int nr,nc,r,c; char U='A', L='a';
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++)
{
if(r%2==0)printf("%2c",L); else printf("%2c",U);
}
if(r%2==0)L++; else U++;
printf("\n");
}
getch();
}

TC
Enter no of rows and columns 14 20
A A A A A A A A A A A A A A A A A A A A
a a a a a a a a a a a a a a a a a a a a
B B B B B B B B B B B B B B B B B B B B
b b b b b b b b b b b b b b b b b b b b
C C C C C C C C C C C C C C C C C C C C
c c c c c c c c c c c c c c c c c c c c
D D D D D D D D D D D D D D D D D D D D
d d d d d d d d d d d d d d d d d d d d
E E E E E E E E E E E E E E E E E E E E
e e e e e e e e e e e e e e e e e e e e
F F F F F F F F F F F F F F F F F F F F
f f f f f f f f f f f f f f f f f f f f
G G G G G G G G G G G G G G G G G G G G
g g g g g g g g g g g g g g g g g g g g
```

