28/07/2020

Q

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

```
#include<stdio.h>
void main () {
    for (int row=1 ; row<=4; row++) {
        for(int space=1; space<row; space++){
            printf(" ");
        }
        for(int col = 4; col>=row ; col--){
            printf("* ");
        }
        printf("\n");
    }
}
```

- Dry Run

variables			conditions		statements		increment/decrement
row	space	col	row<=4	space<row	col>=row	space++	col-- row++
					pf(*)		
1	1	4	1<=4	1<1 X	4>=1	*	3
		3			3>=1	*	2
		2			2>=1	*	1
		1			1>=1	*	0
		0			0>=1 X		2

classmate
Date
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row	space	col	row<=4	space<row	col>=row	PF(*)	space++	col--	row++
					PF(" ")				
1	1	4	2<=4	1<2	- 4>=2	*	2	3	
	2	3		2<2 X	3>=2	*		2	
		2			2>=2	*		1	
		1			1>=2 X				3
3	1	4	3<=4	1<3	- 4>=3	*	2	3	
	2	3		2<3	- 3>=3	*	3	2	
	3	2		3<3 X	2>=3 X				4
4	1	4	4<=4	1<4	- 4>=4	*	2	3	
	2	3		2<4	- 3>=4 X		3		
	3			3<4	-		4		
	4			4<4 X					5
5			5<=4 X						

Q.

```
A B C D
  A B C
    A B
      A
```

```
#include<stdio.h>
void main (){
    for (int row = 1 ; row<=4; row++){
        char ch= 'A';
        for (int space =1 ; space< row; space--){
            printf(" ");
        }
        for (int col = 4; col>=row ; col--){
            printf("%c", ch);
            ch++;
        }
        printf("\n");
    }
}
```

- Dry Run

variables conditions statements incre/decre

row	space	col	ch	row<=4	space<row	pf(" ")	col>=row	pf(ch)	ch++	space--	col++	row++
1	1	4	A	1<=4	1<1 X		4>=1	A	B		3	
		3	B				3>=1	B	C		2	
		2	C				2>=1	C	D		1	
		1	D				1>=1	D	E		0	
		0					0>=1 X					2
2	1	4	A	2<=4	1<2	–	4>=2	A	B	2	3	
	2	3	B		2<2 X		3>=2	B	C		2	
		2	C				2>=2	C	D		1	
		1					1>=2 X					3
3	1	4	A	3<=4	1<3	–	4>=3	A	B	2	3	
	2	3	B		2<3	–	3>=3	B	C	3	2	
	3	2			3<3 X		2>=3 X					4
4	1	4	A	4<=4	1<4	–	4>=4	A	B	2	3	
	2	3			2<4	–	3>=4 X			3		
	3				3<4	–				4		
	4				4<4 X							5
5				5<=4 X								

Q. 1 4 9 16
25 36 49
64 81
100

```
#include<stdio.h>
void main(){
    int sqr = 1;
    for(int row=1; row<=4; row++){
        for(int space=1; space<row; space++){
            printf(" ");
        }
        for(int col=4; col>=row; col--){
            printf("%d ", sqr*sqr);
            sqr++;
        }
        printf("\n");
    }
}
```

• Dry Run

sqr	row	space	col	row<=4	space<row	pf(" ")	col>=row	pf(sqr²)	sqr ++	space --	col ++	row ++
1	1	1	4	1<=4	1<1 X		4>=1	1	2	3		
2			3				3>=1	4	3	2		
3			2				2>=1	9	4	1		
4			1				1>=1	16	5	0		
5			0				0>=1 X					2
5	2	1	4	2<=4	1<2	—	4>=2	25	6	2	3	
6		2	3		2<2 X		3>=2	36	7		2	
7			2				2>=2	49	8		1	
8			1		⊬		1>=2 X					3
8	3	1	4	3<=4	1<3	—	4>=3	64	9	2	3	
9		2	3		2<3	—	3>=3	81	10	3	2	
10		3	2		3<3 X		2>=3 X					4
10	4	1	4	4<=4	1<4	—	4>=4	100	11	2	3	
11		2	3		2<4	—	3>=4 X			3		
		3			3<4	—				4	5	
		4			4<4 X							
	5			5<=4 X								