ASSIGNMENT - 8

Write ~~Write~~ Write a Program to draw the following patterns:

1.
```
*
* *
* * *
* * * *
* * * * *
```

Step-1

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

Step-2

i	j				
1	1				
2	1	2			
3	1	2	3		
4	1	2	3	4	
5	1	2	3	4	5

Step-3

i	j
1	j <= 1
2	j <= 2
3	j <= 3
4	j <= 4
5	j <= 5

Step-4

$$j <= i$$

```c
#include <stdio.h>
int main ( )
{
    int i, j;
    for ( i = 1; i <= 5; i++)
    {
        if ( i <= i )
        printf (" * ");
        else
            printf ("  ");
    }
        printf (" \n");

}
    return 0;
}
```

2.

Step 1   J   Step - 2
                     i   j
                     1   1   5
          i   2   4   5
                     3   3   4   5
                     4   2   3   4   5
                     5, 1 2   3   4   5

Step - 3 :
i   j   Step 4
1   i >= 5
2   i >= 4   J >= 6 - i,
3   i >= 3
4   i >= 2
5   i >= 1

#include <stdio.h>
int main ()
{
    int i, j;
    for (i=1 ; i<= 5 ; i++)
    {
        for (j=1 ; j <= 5 ; j++)
        {
        if (i >= 6 - i)
        Printf (" * ");
        else
            Print f ("   ");
        }
        Printf (" \n");
    }
    return 0;
}

3.

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

Step-1

*	*	*	*	*
*	*	×	*	
*	*	*		
*	*			
*				

Step-2

i	j				
1	1	2	3	4	5
2	1	2	3	4	
3	1	2	3		
4	1	2			
5	1				

Step-3

i	j
1	$j <= 5$
2	$j <= 4$
3	$j <= 3$
4	$j <= 2$
5	$j <= 1$

Step-4

$$j <= 6 - i$$

```c
#include <stdio.h>
int main ()
{
    int i, j;
    for (i =1; i<=5; i++)
    {
        for (j =1; j<=5; i++)
        {
            if ( i<=6-i)
            printf(" * ");
            else
            printf(" ");
        }
        printf(" \n");
    }
    return 0;
}
```

4.

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

Step - 1

```
*  |  *  | *  *  *  *
   |  *  | *  *  *  *
   |     | *  *  *
   |     |    *  *
   |     |       *
```

Step - 3

i	j
1	1 2 3 4 5
2	2 3 4 5
3	3 4 5
4	4 5
5	5

Step - 3

i	j
1	j >= 1
2	j >= 2
3	j >= 3
4	j >= 4
5	j >= 5

Step - 4

i	j
	j >= i

```c
#include <stdio.h>
int main ()
{
    int i, j;
    for (i = 1; j <= 5; i++)
    {
        for (i = 1; i <= 5; j++)
        {
            if (j >= i)
                Printf ("* ");
            else
                Printf ("  ");
        }
        Printf ("\n");
    }
    return 0;
}
```

5.

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

Step - 2

i	j
1	5
2	4 5 6
3	3 4 5 6 7
4	2 3 4 5 6 7 8
5	1 2 3 4 5 6 7 8 9

Step - 3

i	j
1	$i <= 5$
2	$i >= 4 \ \&\& \ i <= 6$
3	$i >= 3 \ \&\& \ j <= 7$
4	$i >= 2 \ \&\& \ j <= 8$
5	$i >= 1 \ \&\& \ j <= 9$

Step - 4

i	j
i	$j >= 6 - i \ \& \ j <= 4 + i$

```
#include <stdio.h>
int main()
{
  int i, j;
  for (i=1; i<=5; i++)
  {
    for (j=1; j<=9; i++)
    {
      if (j >= 6-i && i <= u+i)
      printf("*");
      else
      printf(" ");
    }
    printf("\n");
  }
  return 0;
}
```

6.

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

Step-2

i	j
1	5
2	4 5 6
3	3 4 5 6 7
4	2 3 4 5 6 7 8
5	1 2 3 4 5 6 7 8 9

Step - 3

i	j
1	$j <= 5$
2	$j >= 4 \ \&\& \ j <= 6$
3	$j >= 3 \ \&\& \ j <= 7$
4	$j >= 2 \ \&\& \ j <= 8$
5	$j >= 1 \ \&\& \ j <= 9$

Step - 4

i	j
i	$j >= 6-i \ \&\& \ j <= 4+i$

```c
#include <stdio.h>
int main()
{
    int i, j;
    for (i=1; i<=5; i++)
    {
        for (j=1; j<=9; i++)
        {
            if (j>=6-i && j<=4+i)
            printf(" * ");
            else
            printf(" . ");
        }
        printf("\n");
    }
    return 0;
}
```