1. n = 3

```
*
**   printf("*");
***
```

```
#include<stdio.h>
    int  main()
    {
        int  n , i , j ;
        printf(" ENTER NO OF ROWS \n ");
        scanf("%d" , &n);

        for( i  = 1 ; i <= n ; i++ )
        {
            for( j = 1;j <= i ; j++)
            {
                printf("*");
            } // j
            printf("\n");
        } // i
    }
```

2.

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

```
n = 3
for ( i = n ; i >= 1 ; i-- )
```

---

n = 3 i = 3 to 1
i = 3 j = 1 to 3

j = 1 ***
j = 2
j = 3

---

i = 2 j = 1 to 2

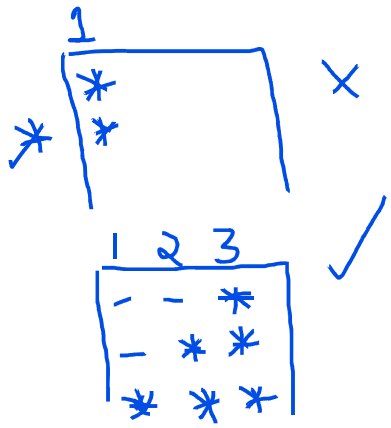
j = 1 **
j = 2

---

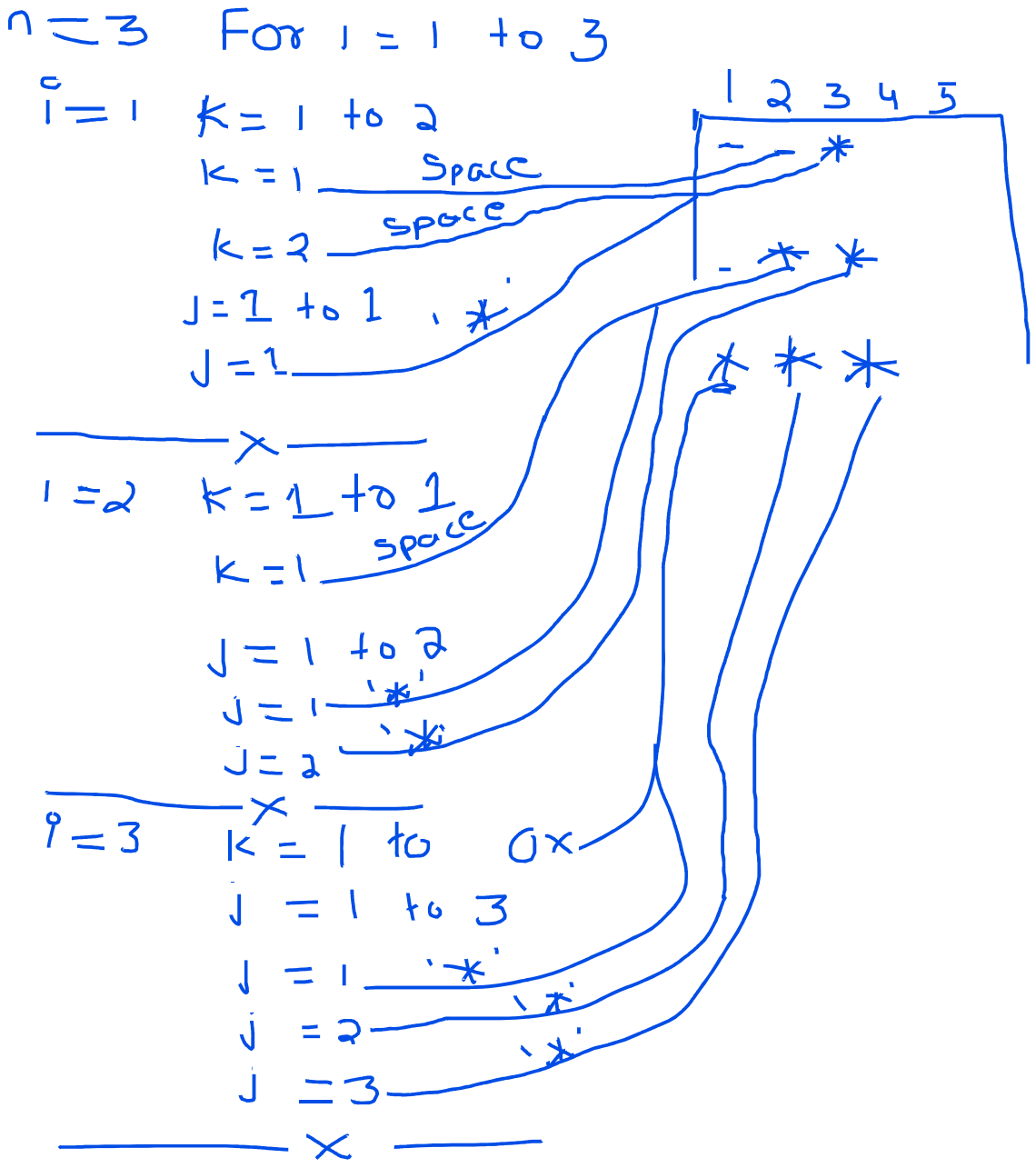
i = 1 j = 1 to 1
j = 1 *

```
#include<stdio.h>
int   main()
{
          int  n , i , j ;

         printf(" ENTER NO OF ROWS \n");
         scanf("%d" , &n);


         for( i  = n ; i >= 1 ; i-- )
         {
               for( j = 1 ; j <= i ; j++)
               {
                     printf("*" ) ;
               }
               printf("\n");
         }
   }
```

3.
```
  *
 **
***
```
N = 3




```
#include<stdio.h>
  int   main()
  {
          int  i , j , k , n ;
          printf(" ENTER NO. OF ROWS \n ");
          scanf("%d", &n);

          for(  i = 1 ; i <= n ; i++ )
          {
              for( k = 1 ; k <= (n-i) ; k++)  // for spaces

              } // k (imp)

              for( j = 1 ; j <= i ; j++)
              {               printf("*");
                 } // j
                     printf("\n");
          } // i
  }
```


n=3 For i = 1 to 3
i=1 k=1 to 2
k=1 space
k=2 space
j=1 to 1
j=1
i=2 k=1 to 1
k=1 space
j=1 to 2
j=1
j=2
i=3 k=1 to 0
j=1 to 3
j=1
j=2
j=3
1 2 3 4 5

4. N = 3

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

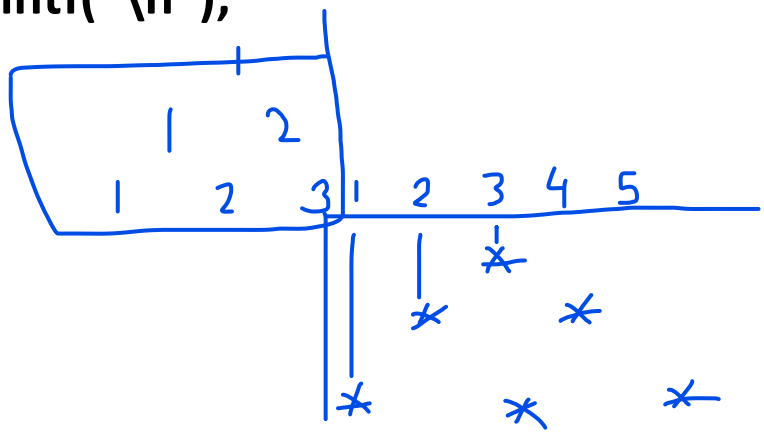
for(i = n, i >= 1, i--)

```
#include<stdio.h>
  int   main()
  {
          int  i , j , k , n ;

          printf(" ENTER NO. OF ROWS \n ");
          scanf("%d", &n);

          for( i = n ; i >= 1 ; i-- )
          {

                    for( k = 1 ; k <= (n-i) ; k++)  // for
    spaces
                       {
                            printf(" ");
                      } // k (imp)

                   for( j = 1 ; j <= i ; j++)
```

```
                {
                   printf("*");
                   } // j
                   printf("\n");
          } // i
 }
```

5.

N = 3




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

printf(" *");
printf(" ");

```
#include<stdio.h>
  int   main()
  {
          int  i , j , k , n ;
          printf(" ENTER NO. OF ROWS \n ");
          scanf("%d", &n);

          for(  i = 1 ; i <= n ; i++ )
          {
               for( k = 1 ; k <= (n-i) ; k++)  // for spaces
              {
```

```
                printf(" ");
            } // k (imp)

            for( j = 1 ; j <= i ; j++)
            {
                    printf("*");    printf(" ");
                } // j
                printf("\n");
        } // i
    }
```

4. N = 3

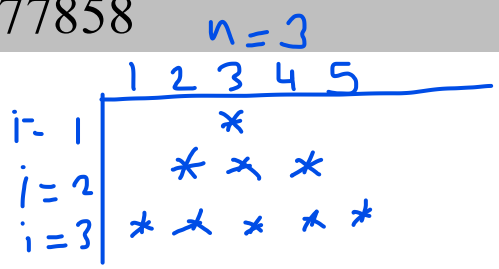
```
    * * *
     * *
      *
#include<stdio.h>
  int   main()
```

```
{
        int  i , j , k , n ;

        printf(" ENTER NO. OF ROWS \n ");
        scanf("%d", &n);

        for( i = n ; i >= 1 ; i-- )
        {

              for( k = 1 ; k <= (n-i) ; k++)  // for spaces
                    {
                          printf(" ");
                    } // k (imp)

                 for( j = 1 ; j <= i ; j++)
                 {
                    printf("*");  printf(" ");
                    } // j
                    printf("\n");
        } // i
}
```

7 . n = 3

*

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




```
#include<stdio.h>
    int  main()
    {
        int  i , j , k , n ;

        printf(" ENTER NO. OF ROWS \n ");
        scanf("%d", &n);

        for( i = 1 ; i <=n ; i++)
        {
            for( k = 1 ; k <= (n -i)  ; k++)
            {
                printf(" ");
            } // k --> for space

            for(  j = 1 ; j <=(2*i-1) ; j++)
            {
                printf("*");
            }
            printf("\n");
```

```
        }

    }
      n = 3

            for  i  = 1  to 3
            i = 1   k = 1 to 2

                        k = 1

                        k = 2

                        j = 1 to  1

                        j = 1                    *

          ---------------------------
            i = 2   k = 1 to 1

                        k = 1

                        j = 1 to  3
```

j = 1

j = 2

j = 3 ***

---

i = 3 k = 1 to 0

j = 1 to 5

j = 1

j = 2
j = 3
j = 4
j = 5 *****

---

8. n = 4

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

for (i = n; i >= 1; i--)

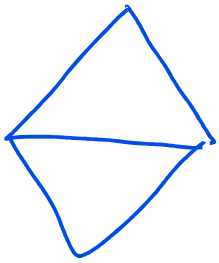
```
#include<stdio.h>
    int  main()
    {
        int  i , j , k , n ;

        printf(" ENTER NO. OF ROWS \n ");
        scanf("%d", &n);

        for( i = n ; i >=1 ; i--)
        {
            for( k = 1 ; k <= (n -i)  ; k++)
            {
                printf(" ");
```

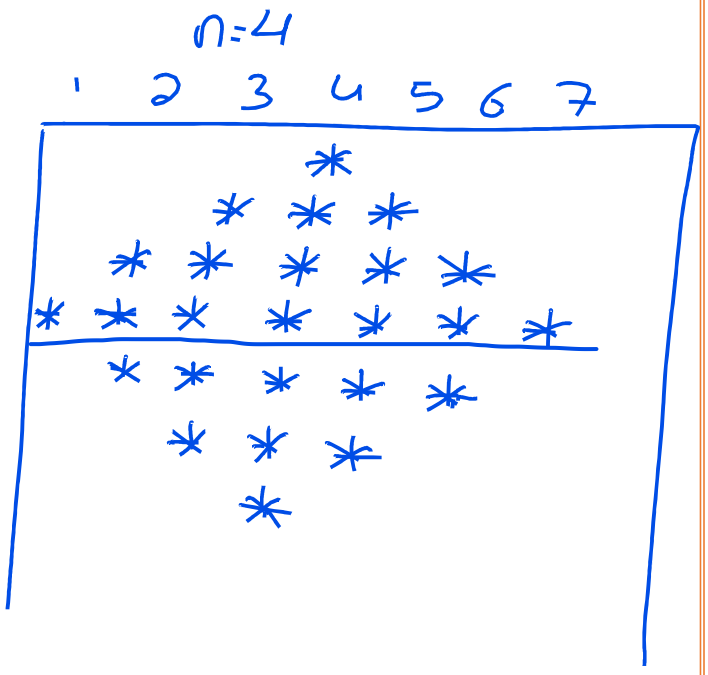
```
            } // k --> for space

            for(  j = 1 ; j <=(2*i-1) ; j++)
            {
                    printf("*");
            }
            printf("\n");
        }

    }
```

9.

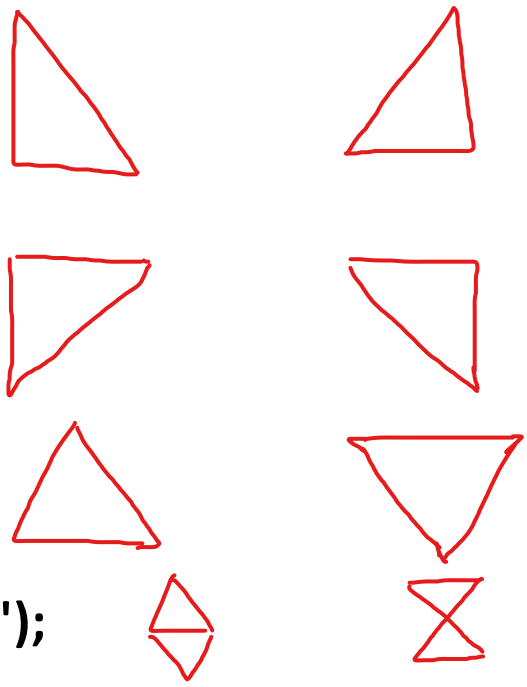
n = 4

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





```
***
 *
```



```
#include<stdio.h>

  int  main()
  {
        int i,j, k, n ;

     printf("enter n\n");

     scanf("%d", &n);

     for(i= 1; i<=n ; i++)    // 1
     {
        for ( k =1 ;k <= n-i ; k++)
        {
            printf(" ");  // for spaces
        }
        for(j= 1 ; j <= (2*i-1) ; j++)
        {

           printf("*");
        }
```

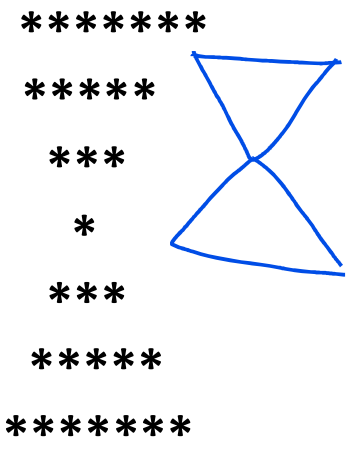
```
        printf("\n");

    }

    for(i=n-1; i>=1; i--)  // 2
    {
       for ( k =1 ;k <= n-i ; k++)
       {
            printf(" ");  // for spaces
       }
       for(j= 1;j <= (2*i-1) ; j++)
       {

          printf("*");
       }
       printf("\n");

    }
 }
/*
```

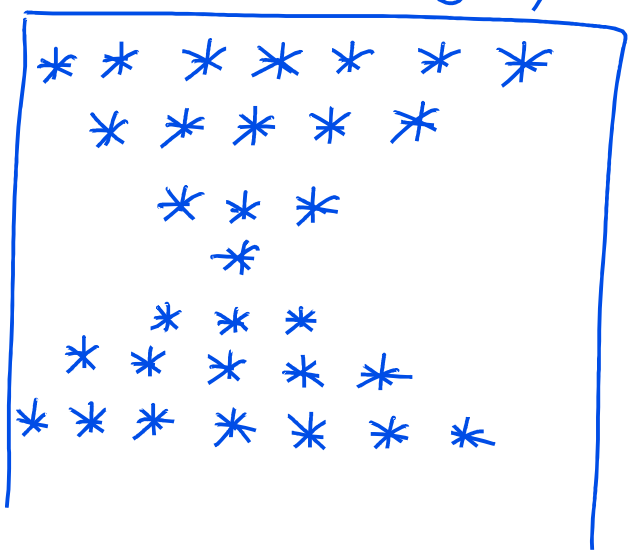
---

n = 4

1 2 3 4 5 6 7

10. **n = 4**





```
*/

#include<stdio.h>

  int  main()
  {

        int i,j, k, n ;
```

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

scanf("%d", &n);

for(i=n; i>=1; i--)

{
   for ( k =1 ;k <= n-i ; k++)
   {
        printf(" ");  // for spaces
   }
   for(j= 1 ; j <= (2*i-1) ; j++)
   {

      printf("*");
   }
   printf("\n");

}

for(i= 2; i<=n ; i++)
{
```

```
        for ( k =1 ;k <= n-i ; k++)
        {
             printf(" ");  // for spaces
        }
        for(j= 1;j <= (2*i-1) ; j++)
        {
           printf("*");
        }
        printf("\n");
    }
}
```