

Sameer Sir Classes, Jabalpur
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9407077858

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
}
```

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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 *

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

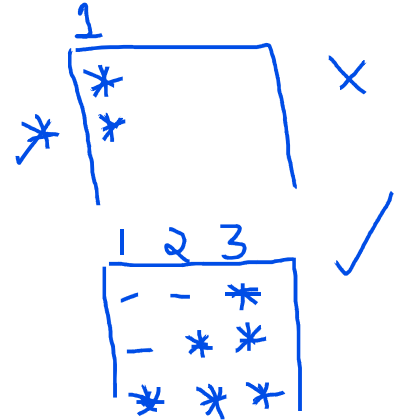
    printf(" ENTER NO OF ROWS \n");
    scanf("%d" , &n);

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

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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
```

```
}
```

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$n = 3$ For $i = 1$ to 3

$i = 1$ $k = 1$ to 2

$k = 1$ Space

$k = 2$ Space

$j = 1$ to 1 , *

$j = 1$

_____ X _____

$i = 2$ $k = 1$ to 1

$k = 1$ Space

$j = 1$ to 2

$j = 1$, *

$j = 2$, *

_____ X _____

$i = 3$ $k = 1$ to 0 X

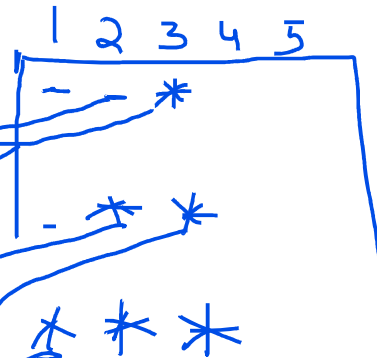
$j = 1$ to 3

$j = 1$, *

$j = 2$, *

$j = 3$, *

_____ X _____



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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++)
```

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```

    {
        printf("*");
    } // j
    printf("\n");
} // i
}
5.
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
        {

```

Handwritten diagram illustrating the pattern for N=3:

1	2				
1	2	3	1	2	3
			*		
				*	
					*

Handwritten code snippets:

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

```
        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

*

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*
** *
*** *



$n=3$

	1	2	3	4	5
i=1			*		
i=2		*	*	*	
i=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");
```

3 3 // 1

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}

}

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

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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(" ");
```

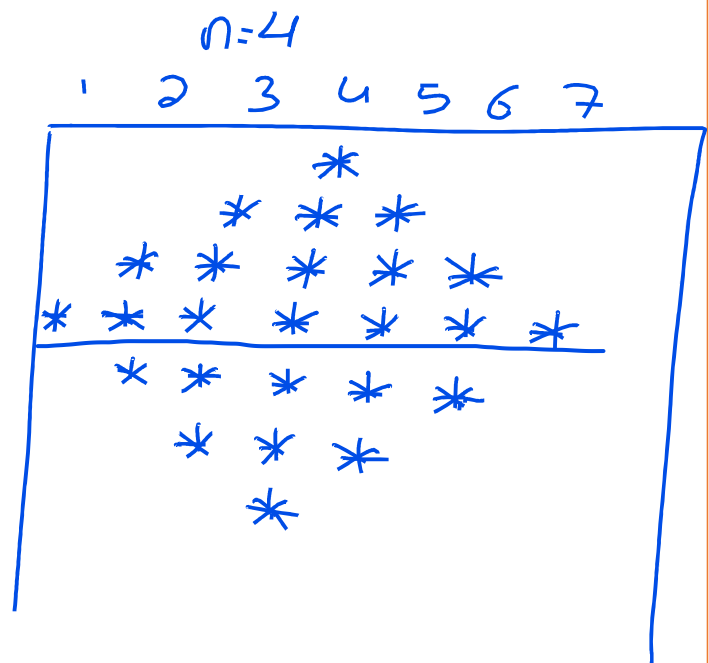
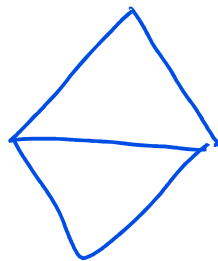
} // k --> for space

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

9.

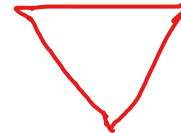
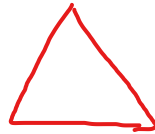
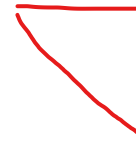
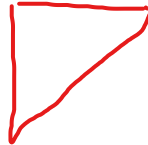
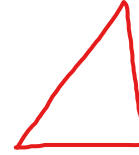
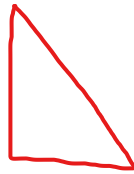
n = 4

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



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```
***  
*  
  
#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++)
    {

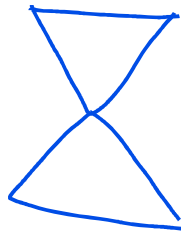
        printf("*");
    }
    printf("\n");
}

}
/*
```

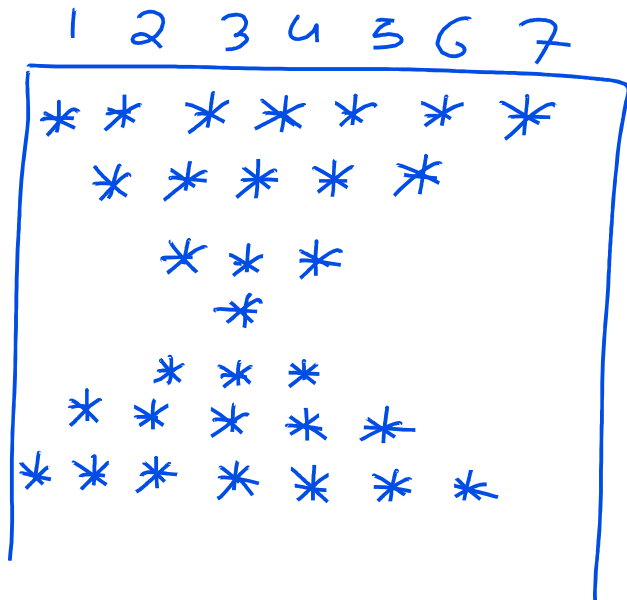

10.

n = 4

*



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++)
{
```

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

