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PATTERNS

Pattern 1

```
#include<stdio.h>

main()
{
    int i,j,n;
    printf("SIZE : ");
    scanf("%d",&n);
    printf("\n");

    for(i=1;i<=n;i++)
    {

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

            printf(" ");

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

            printf("* ");

        }

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

```

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

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

    printf(" ");

}

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

    printf("* ");

}

printf("\n");

}
}

```

```

G:\c\a3\1.exe
SIZE : 5
  *
 * *
* * *
* * * *
* * * * *
 * * * *
  * * *
   * *
    *

Process returned 4 (0x4)   execution time : 2.172 s
Press any key to continue.

```

Pattern 2

```
#include<stdio.h>
```

```
main()
```

```
{
```

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

```
    printf("SIZE : ");
```

```
    scanf("%d",&n);
```

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

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

```
    {
```

```
        for(j=n;j>i;j--)
```

```
        {
```

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

```
        }
```

```
        for(k=1;k<=2*i-1;k++)
```

```
        {
```

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

```
        }
```

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

```
    }
```

```
    for(i=1;i<=n-1;i++)
```

```
    {
```

```

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

```

```

G:\c\a3\2.exe
SIZE : 5
  *
 ***
*****
*****
*****
*****
*****
  *
 ***
  *
Process returned 4 (0x4)   execution time : 2.469 s
Press any key to continue.

```

Pattern 3

```
#include<stdio.h>
```

```
main()
```

```
{
```

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

```
    printf("SIZE : ");
```

```
    scanf("%d",&n);
```

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

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

```
    {
```

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

```
        {
```

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

```
        }
```

```
        for(j=n;j>=i;j--)
```

```
        {
```

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

```
        }
```

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

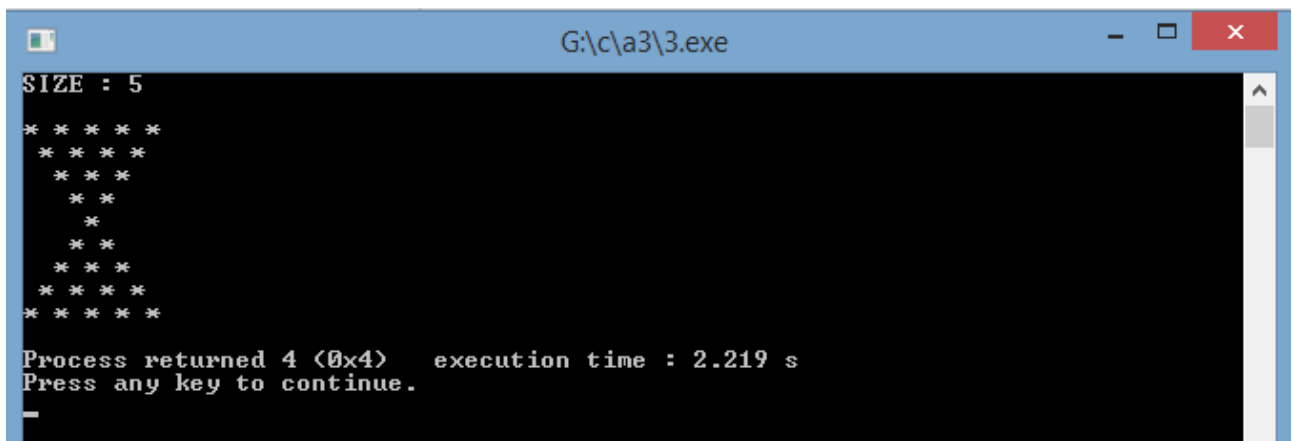
```
    }
```

```
    for(i=1;i<=n-1;i++)
```

```

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

```



```

G:\c\a3\3.exe
SIZE : 5
* * * * *
* * * * *
 * * *
  * *
   *
  * *
 * * *
* * * * *
* * * * *

Process returned 4 (0x4)   execution time : 2.219 s
Press any key to continue.
_

```

Pattern 4

```
#include<stdio.h>
```

```
main()
```

```
{
```

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

```
    printf("SIZE : ");
```

```
    scanf("%d",&n);
```

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

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

```
    {
```

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

```
        {
```

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

```
        }
```

```
        for(j=2*n;j>2*i-1;j--)
```

```
        {
```

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

```
        }
```

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

```
    }
```

```
    for(i=1;i<=n-1;i++)
```

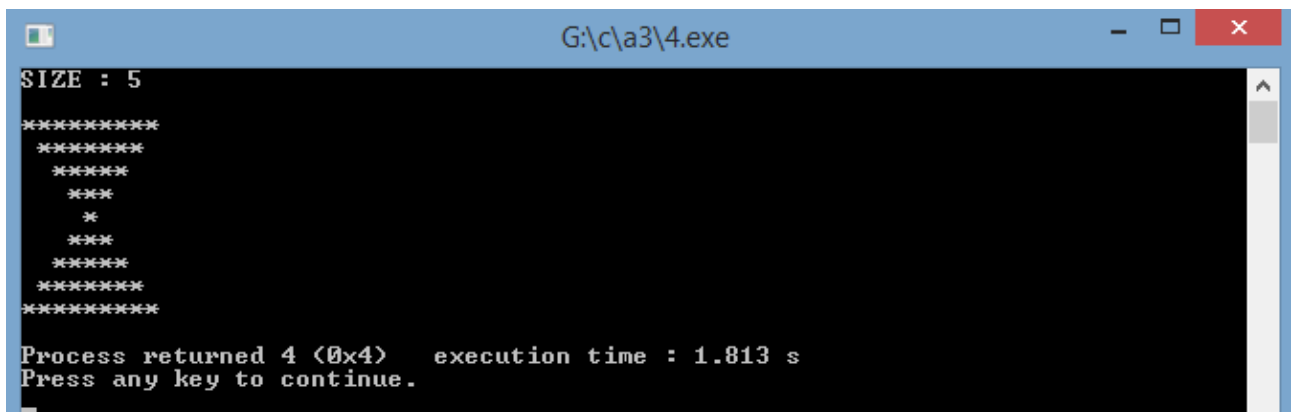
```
    {
```



```

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

```



```

G:\c\a3\4.exe
SIZE : 5
*****
 ***
*****
***
 *
***
 *****
*****
*****
Process returned 4 (0x4)  execution time : 1.813 s
Press any key to continue.

```

Pattern 5

```
#include<stdio.h>
```

```
main()
```

```
{
```

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

```
    printf("SIZE : ");
```

```
    scanf("%d",&n);
```

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

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

```
    {
```

```
        for(j=1;j<=2*i-1;j++)
```

```
        {
```

```
            if(j%2)
```

```
                printf("%d",i);
```

```
            else
```

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

```
        }
```

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

```
    }
```

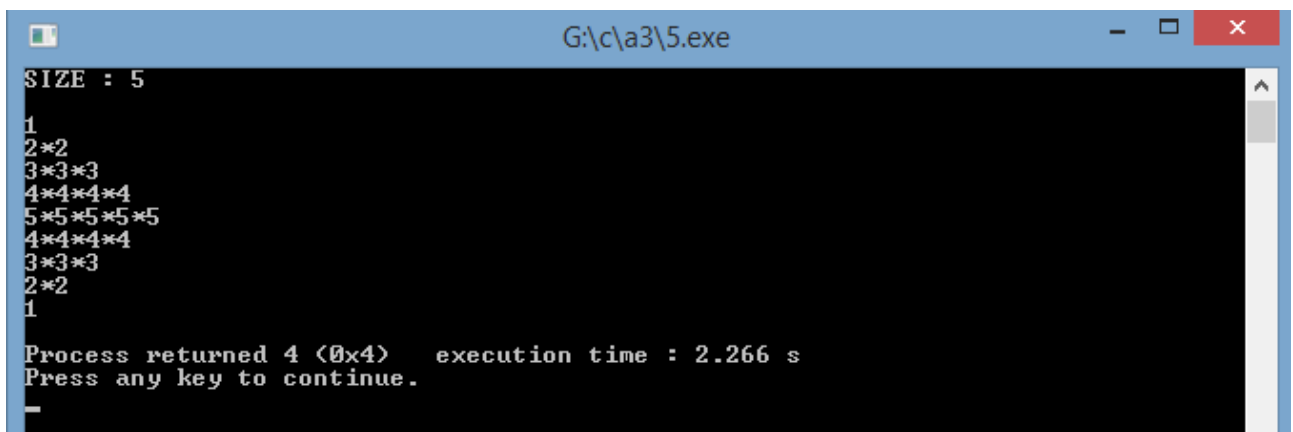
```
    k=i-2;
```

```
    for(i=1;i<=n-1;i++)
```

```
    {
```

```
        for(j=2*(n-1);j>2*i-1;j--)
```

```
{  
    if(!(j%2))  
        printf("%d",k);  
    else  
        printf("*");  
}  
k--;  
printf("\n");  
}  
}
```



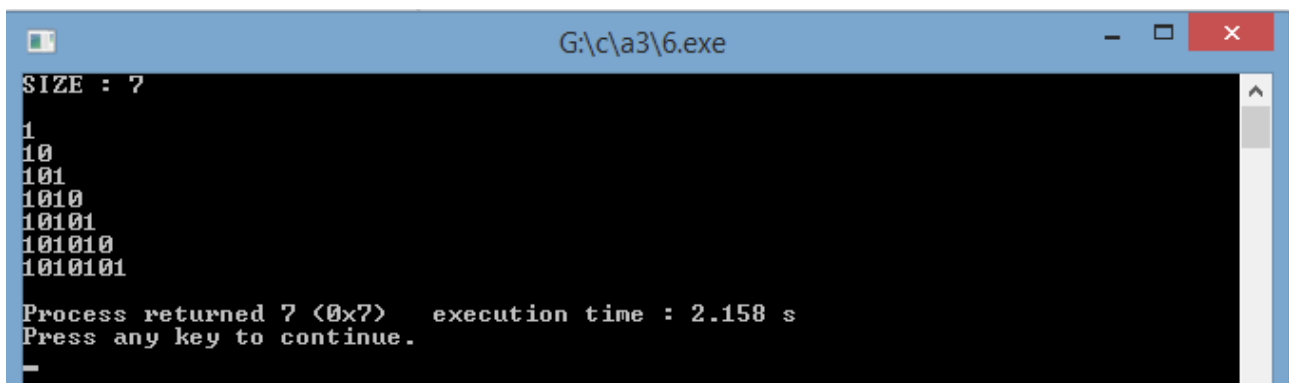
```
G:\c\a3\5.exe  
SIZE : 5  
1  
2*2  
3*3*3  
4*4*4*4  
5*5*5*5*5  
4*4*4*4  
3*3*3  
2*2  
1  
Process returned 4 (0x4) execution time : 2.266 s  
Press any key to continue.  
-
```

Pattern 6

```
#include<stdio.h>

main()
{
    int i,j,n;
    printf("SIZE : ");
    scanf("%d",&n);
    printf("\n");

    for(i=1;i<=n;i++)
    {
        for(j=1;j<=i;j++)
        {
            (j%2) ? printf("1"):printf("0");
        }
        printf("\n");
    }
}
```



```
G:\c\a3\6.exe
SIZE : 7
1
10
101
1010
10101
101010
1010101
Process returned 7 (0x7)   execution time : 2.158 s
Press any key to continue.
-
```

Pattern 7

```
#include<stdio.h>

main()
{
    int i,j,k,n;
    printf("SIZE : ");
    scanf("%d",&n);
    printf("\n");

    for(i=1;i<=n;i++)
    {
        if(i%2)
            k=1;
        else
            k=2;
        for(j=1;j<=i;j++)
        {
            printf("%d ",k);
            k+=2;
        }

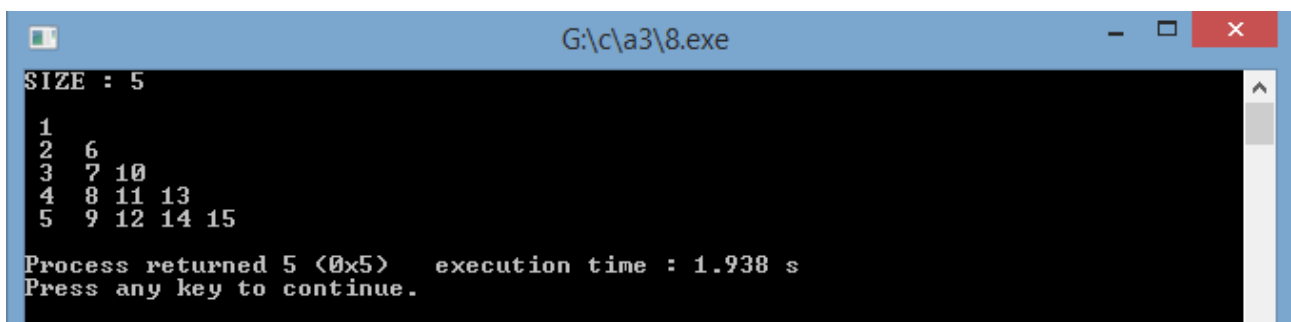
        printf("\n");
    }
}
```

```
G:\c\a3\7.exe
SIZE : 7
1
2 4
1 3 5
2 4 6 8
1 3 5 7 9
2 4 6 8 10 12
1 3 5 7 9 11 13
Process returned 7 (0x7)   execution time : 2.125 s
Press any key to continue.
```

Pattern 8

```
#include<stdio.h>

main()
{
    int i,j,k,n;
    printf("SIZE : ");
    scanf("%d",&n);
    printf("\n");
    for(i=1;i<=n;i++)
    {
        k=i;
        for(j=1;j<=i;j++)
        {
            printf("%2d ",k);
            k=k+n-j;
        }
        printf("\n");
    }
}
```



```
G:\c\a3\8.exe
SIZE : 5
1
2 6
3 7 10
4 8 11 13
5 9 12 14 15
Process returned 5 (0x5)   execution time : 1.938 s
Press any key to continue.
```

Pattern 9

```
#include<stdio.h>
```

```
main()
```

```
{
```

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

```
    printf("SIZE : ");
```

```
    scanf("%d",&n);
```

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

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

```
    {
```

```
        k=1;
```

```
        for(j=n;j>i;j--)
```

```
        {
```

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

```
        }
```

```
        for(j=1;j<=2*i-1;j++)
```

```
        {
```

```
            printf("%2d ",k++);
```

```
        }
```

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

```
    }
```

```
}
```



```
G:\c\a3\9.exe
SIZE : 5
      1
    1 2 3
  1 2 3 4 5
1 2 3 4 5 6 7 8 9
Process returned 5 (0x5)   execution time : 1.891 s
Press any key to continue.
```

Pattern 10

```
#include<stdio.h>
```

```
main()
```

```
{
```

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

```
    printf("SIZE : ");
```

```
    scanf("%d",&n);
```

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

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

```
    {
```

```
        k=1;
```

```
        for(j=n;j>i;j--)
```

```
        {
```

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

```
        }
```

```
        for(j=1;j<=2*i-1;j++)
```

```
        {
```

```
            printf("%2d ",k++);
```

```
        }
```

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

```
    }
```

```
    for(i=1;i<=n-1;i++)
```

```

{
k=1;
for(j=0;j<i;j++)
{
    printf(" ");
}
for(j=2*(n-1);j>2*i-1;j--)
{
    printf("%2d ",k++);
}
printf("\n");
}
}

```

```

G:\c\3\10.exe
SIZE : 5
 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

```

Process returned 4 (0x4) execution time : 1.344 s
Press any key to continue.

Pattern 11

```
#include<stdio.h>

main()
{
    int i,j,k,l,n;
    printf("SIZE : ");
    scanf("%d",&n);

    printf("\n");

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

        for(j=1;j<=i;j++)
        {
            printf("%d ",k);
            k=k+i;
        }

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

```
G:\c\al3\11.exe
SIZE : 7
1
2 4
3 6 9
4 8 12 16
5 10 15 20 25
6 12 18 24 30 36
7 14 21 28 35 42 49
Process returned 7 (0x7)   execution time : 2.344 s
Press any key to continue.
```

Pattern 12

```
#include<stdio.h>
```

```
main()
```

```
{
```

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

```
    printf("SIZE : ");
```

```
    scanf("%d",&n);
```

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

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

```
    {
```

```
        k=i;
```

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

```
        {
```

```
            printf("%d",j);
```

```
        }
```

```
        for(j=2*n;j>2*i;j--)
```

```
        {
```

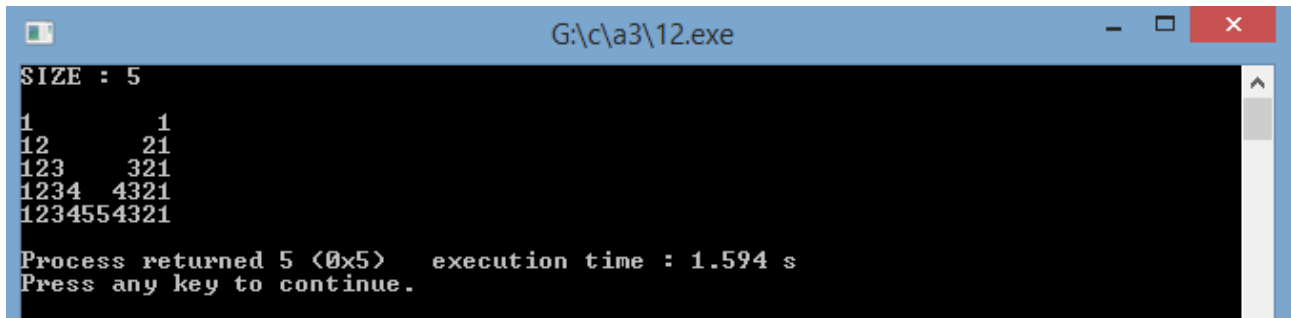
```
            printf(" ");
```

```
        }
```

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

```
        {
```

```
        printf("%d",k--);  
    }  
    printf("\n");  
}  
}
```



```
G:\c\a3\12.exe  
SIZE : 5  
1 1  
12 21  
123 321  
1234 4321  
1234554321  
Process returned 5 (0x5) execution time : 1.594 s  
Press any key to continue.
```

Pattern 13

```
#include<stdio.h>

main()
{
    int i,j,k,n;
    printf("SIZE : ");
    scanf("%d",&n);

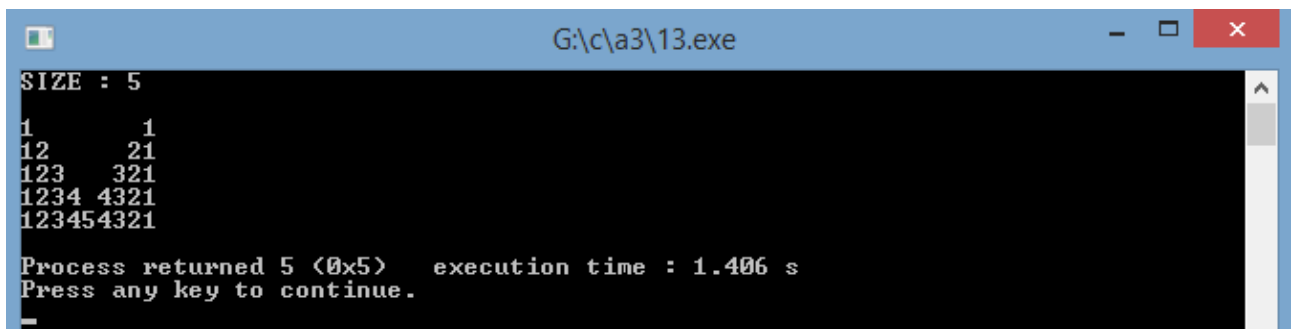
    printf("\n");

    for(i=1;i<=n;i++)
    {
        k=i;
        for(j=1;j<=i;j++)
        {
            if(i==n && j==n)
                continue;
            printf("%d",j);
        }

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



```
    for(j=1;j<=i;j++)  
    {  
        printf("%d",k--);  
    }  
    printf("\n");  
}  
  
}
```



```
G:\c\3\13.exe  
SIZE : 5  
1      1  
12     21  
123    321  
1234   4321  
12345  4321  
Process returned 5 (0x5)   execution time : 1.406 s  
Press any key to continue.  
_
```

Pattern 14

```
#include<stdio.h>

main()
{
    int i,j,k,l,n;
    char c;

    printf("SIZE : ");
    scanf("%d",&n);

    printf("\n");

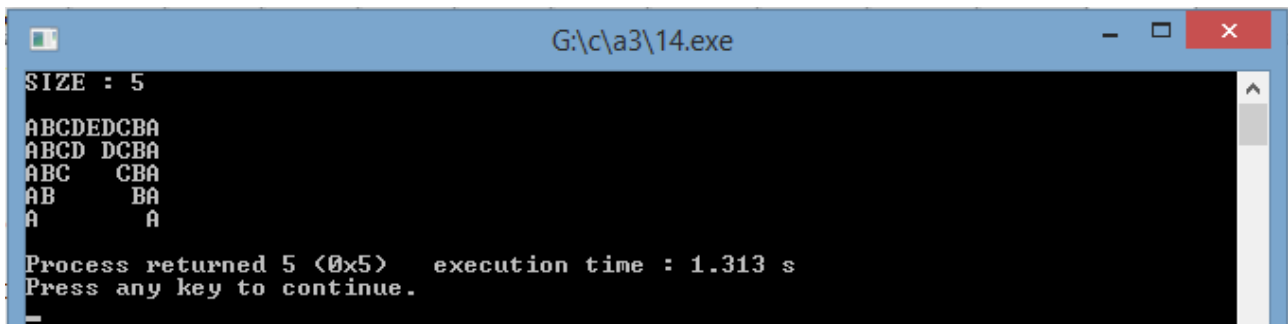
    for(i=1;i<=n;i++)
    {
        c = 'A';
        for(j=n;j>=i;j--)
        {
            printf("%c",c++);
        }

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

```

c = c - 1;
if(i==1)
    c=c-1;
for(j=n;j>=i;j--)
{
    if(i==1 && j==n)
        continue;
    printf("%c",c--);
}
printf("\n");
}

```



```

G:\c\14.exe
SIZE : 5
ABCDEDCBA
ABCD DCBA
ABC CBA
AB BA
A A
Process returned 5 (0x5)   execution time : 1.313 s
Press any key to continue.

```

Pattern 15

```
#include<stdio.h>

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

    printf("SIZE : ");
    scanf("%d",&n);

    printf("\n");

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

```
G:\c\15.exe
SIZE : 7
      1
     1 1
    1 2 1
   1 3 3 1
  1 4 6 4 1
 1 5 10 10 5 1
1 6 15 20 15 6 1
Process returned 7 (0x7)   execution time : 1.766 s
Press any key to continue.
```