1. Write a program to print the pattern

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

**CODE:**

```python
for i in range(1,6,1):
    for j in range(5,i,-1):
        print(" ",end="")
    for k in range(1,i+1,1):
        print("*",end=" ")
    print()
```

OUTPUT:

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

Manual tracing:

i = 1,2,3,4,5

Whenever i=1

j=(5,i,-1)=5,4,3,2

k=(1,i+1,1)=1

it prints 4 spaces and 1 star.

For i=2 j=5,4,3 k=2

For i=3 j=5,4 k=3

For i=4 j=5 k=4

For i=5 j=0 k=5


2. Write a program to print


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Code:

```
for i in range(1,6,1):
    for j in range(1,i+1,1):
        print("*",end=" ")
    print()
```

```python
for x in range(1,5,1):
    for y in range(5,x,-1):
        print("*",end=" ")
    print()
```

Output:

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

3. Write a program to print

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

Code:

```python
for i in range(1,6,1):
    print("*"*i,end="")
    print(" "*(2*(5-i)),end="")
    print("*"*i,end="")
    print("")


for j in range(4,0,-1):
    print("*"*j,end="")
    print(" "*(2*(5-j)),end="")
    print("*"*j,end="")
    print("")
```