1. Write a program to print the pattern

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

CODE:

```
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

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

Code:

```
for i in range(1,6,1):

    for j in range(1,i+1,1):

    print("*",end=" ")

    print()
```

```
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: 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("")
```