

Day 13 :- 30/07/24

⇒ prog 1 :-

1
2 1
3 2 1
4 3 2 1
5 4 3 2 1

$i = 0 \rightarrow j = 1$
 $i = 1 \rightarrow j = 2$
 $i = 2 \rightarrow j = 3$
 $i = 3 \rightarrow j = 4$
 $i = 4 \rightarrow j = 5$

~~$j < i$~~
 $j < i$

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

```
{
    int k = 0;
    k = k + i;
```

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

```
{
    cout << k << " ";
```

```
    k --;
```

```
}
```

```
cout << endl;
```

```
}
```


⇒ prog 2:-

```

a
b  b
c  c  c
d  d  d  d
e  e  e  e  e

```

```

char name = 'a';
for (int i = 1; i <= n; i++)
{
    for (int j = 1; j <= i; j++)
    {
        cout << name << " ";
    }
    name++;
    cout << endl;
}

```

⇒ prog 3:-

```

5
5 4
5 4 3
5 4 3 2
5 4 3 2 1

```

```

for (int i = 1; i <= n; i++)
{
    int k = 5;
    for (int j = 1; j <= i; j++)
    {
        cout << k << " ";
        k--;
    }
    cout << endl;
}

```


prog 4: -

```

      *
     **
    ***
   ****
  *****
 1  2  3  4  5

```

i = 1

i = 2

i = 3

i = 4

i = 5

```

      *
     **
    ***
   ****
  *****
 1  2  3  4  5

```

~~j = 1 & i = 5~~

~~j = 6 - i~~

i = 1

i = 2

i = 3

i = 4

i = 5

4 , 1

3 , 2

2 , 3

1 , 4

0 , 5

space star

↓

↓

$j \leq n - i$

$j \leq i$


```

for (int i = 1; i <= n; i++)
{
    for (int j = 1; j <= n - i; j++)
    {
        cout << " "; // space
    }
    for (int j = 1; j <= i; j++)
    {
        cout << "* "; // star
    }
    cout << endl;
}

```

Q) prog 5 :-

```

1
2 2
3 3 3
4 4 4 4
5 5 5 5 5

```

```

for (int i = 1; i <= n; i++)
{
    int k = i;
    for (int j = 1; j <= n - i; j++)
    {
        cout << " ";
    }
    for (int j = 1; j <= i; j++)
    {
        cout << k << " ";
        k--;
    }
    cout << endl;
}

```


* prog 6 :-

```

1
2 2
3 3 3
4 4 4 4
5 5 5 5 5

```

```

for (int i = 1; i <= n; i++)
{
    int k = i;
    for (int j = 1; j <= n - i; j++)
    {
        cout << " ";
    }
    for (int j = 1; j <= i; j++)
    {
        cout << k << " ";
    }
}

```

cout << endl;

}

* prog 7 :-

```

1
1 2
1 2 3
1 2 3 4
1 2 3 4 5

```

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

{

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

{

cout << j << " ";

}

} prog 8

A

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


```

for (int i = 1; i <= n; i++)
{
    for (int j = 1; j <= n - i; j++)
    {
        cout << " ";
    }
    int k = 1;
    for (int j = 1; j <= i; j++)
    {
        cout << k << " ";
        k++;
    }
    cout << endl;
}

```

Q) prog 8 :-

```

      A
    A B
  A B C
A B C D
A B C D E

```

```

for (int i = 1; i <= n; i++)
{
    char name = 'A';
    for (int j = 1; j <= n - i; j++)
    {
        cout << " ";
    }
    for (int j = 1; j <= i; j++)
    {
        cout << name << " ";
        name++;
    }
    cout << endl;
}

```