

Day 10/180: Pattern Printing-2

First Pattern: Take an input n from the user, and create a pattern like below, for n=5, we have output like this.

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

Solution:

```
#include<iostream>
using namespace std;

int main()
{
    int n;
    cin>>n;
    for(int i=1;i<=n;i++)
    {
        for(int j=1;j<=n;j++){
            if(j <= n - i){
                cout<<" ";
            }
            else{
                cout<<n - j + 1<<" ";
            }
        }
        cout<<endl;
    }
    return 0;
}
```

Second Pattern: Take an input n from the user, and create a pattern like below, for n=5, we have output like this.

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

Solution:

```
#include<iostream>
using namespace std;

int main()
{
    int n;
    cin>>n;
    for(int i=1;i<=n;i++)
    {
        for(int j=1;j<=n;j++){
            if(j <= n - i){
                cout<<" ";
            }
            else{
                char value = ('A' + i - 1);
                cout<<value<<" ";
            }
        }
        cout<<endl;
    }
    return 0;
}
```

Third Pattern: Take an input n from the user, and create a pattern like below, for n=5, we have output like this.

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

Solution:

```
#include<iostream>
using namespace std;

int main()
{
    int n;
    cin>>n;
    for(int i=1;i<=n;i++)
    {
        for(int j=1;j<=n-i;j++){
            cout<<" ";
        }
        for(int j=n;j>n-i;j--){
            cout<<j<<" ";
        }
        cout<<endl;
    }
    return 0;
}
```

Fourth Pattern: Take an input n from the user, and create a pattern like below, for n=5, we have output like this.

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

Solution:

```
#include<iostream>
using namespace std;

int main()
{
    int n;
    cin>>n;
    for(int i=1;i<=n;i++)
    {
        for(int j=1;j<=n-i;j++){
            cout<<" ";
        }
        for(int j=n;j>n-i;j--){
            char value = ('A' + j - 1);
            cout<<value<<" ";
        }
        cout<<endl;
    }
    return 0;
}
```

