

C++ PATTERNS PROGRAMS

1) Diamond Pattern

```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     int n;
6     cout<<"Enter the value of n:"<<"\n";
7     cin>>n;
8     for(int i=0;i<=n;i++)
9     {
10         for(int j=i;j<=n;j++)
11         {
12             cout<<" ";
13         }
14         for(int j=1;j<=(2*i-1);j++)
15         {
16             cout<<"*";
17         }
18         cout<<"\n";
19     }
20     for(int i = n; i >= 0; i--)
21     {
22         cout<<" ";
23         for(int j = n; j > i; j--)
24             cout << " ";
25         for(int j = 1; j <= (2*i - 1); j++)
26             cout << "*";
27         cout << "\n";
28     }
29 }
30 return 0;
31 }
32 }
```

5

Enter the value of n:

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

2) Pascals Triangle Program

```
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     int n;
7     cout<<"Enter the value of n:"<<"\n";
8     cin>>n;
9     for(int i = 1; i <= n; i++)
10     {
11         for(int j = i; j < n; j++)
12             cout << " ";
13         for(int j = 1; j <= i; j++)
14             cout << j;
15         for(int j = i-1; j >= 1; j--)
16             cout << j;
17         cout << endl;
18     }
19 }
20
21 return 0;
22 }
23 }
```

5

Enter the value of n:

```
1
121
12321
1234321
123454321
```

3) Right Triangle Program

```
Run Save
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     int n;
7     cout<<"Enter the value of n:"<<endl;
8     cin>>n;
9
10    for(int i = 1; i <= n; i++)
11    {
12        for(int j = 1; j <= i; j++)
13        {
14            cout << i;
15        }
16        cout << endl;
17    }
18
19    return 0;
20 }
21
```

5

Enter the value of n:
1
22
333
4444
55555

4) Pattern Printing Using Nested Loops

```
Run Save Changes Updated, Saved 35
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     int n = 5;
7
8     for(int i = 1; i <= n; i++)
9     {
10
11        for(int j = i; j < n; j++)
12            cout << " ";
13
14        int num = i;
15        for(int j = 1; j <= i; j++)
16            cout << num++;
17
18        num -= 2;
19        for(int j = 1; j < i; j++)
20            cout << num--;
21
22        cout << endl;
23    }
24
25    return 0;
26 }
```

Your INPUT go's here! Give only values. do not give like a=10

1
232
34543
4567654
567898765