**C++ Assignment Solutions | | Pattern Printing - 1| Week 3**

Q1.Print the following pattern

1 1 1 1

2 2 2 2

3 3 3 3

4 4 4 4

ANS:

#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) {

cout << i << " ";

}

cout << endl;

}

return 0;

}

Q2.Print the following pattern

Input: n = 4

Output:

1 2 3 4

1 2 3

1 2

1

ANS:

#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+1; ++j) {

cout << j << " ";

}

cout << endl;

}

return 0;

}

Q3.Print the following pattern

Input: n = 4

Output:

A

A B

A B C

A B C D

Solution:

#include <iostream>

using namespace std;

int main() {

int n;

cin >> n;

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

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

cout << (char)('A'+j-1) << " ";

}

cout << endl;

}

return 0;

}

Q4.Print the following pattern

Input: n = 4

Output:

1

A B

1 2 3

A B C D

1 2 3 4 5

Solution:#include <iostream>

int main() {

int n;

cin >> n;

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

if(i % 2 == 1)

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

cout << j << " ";

}

else

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

cout << (char) ('A' + j - 1) << " ";

}

cout << endl;

}

return 0;

}

Q5.Print the following pattern

Input n = 4

Output:

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Solution:

#include <bits/stdc++.h>

int main() {

int n;

cin >> n; // Printing upper triangle

for(int i = 0; i < n; ++i) {

for(int j = 0; j <= i; ++j) {

cout << "\* ";

}

cout << endl;

}

// Printing lower triangle

for(int i = 0; i < n-1; ++i) {

for(int j = 0; j < n - i - 1; ++j) {

cout << "\* ";

}

cout << endl;

}

Q6.Print the following pattern

Sample Input : m = 4, n = 6

Sample Output :

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Solution:

#include <iostream>

using namespace std;

int main() {

int m, n;

cin >> m >> n;

for(int i = 0; i < m; ++i) {

for(int j = 0; j < n; ++j) {

if(i == 0 || j == 0 || i == m-1 || j == n-1) {

cout << "\* ";

} else {

cout << " ";

}

}

cout << endl;

}

return 0;

}

Q7.Print the following pattern

Sample Input : n = 4

Output :

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Solution:

#include <iostream>

using namespace std;

int main() {

int n;

cin >> n;

for(int i = 0; i < n; ++i) {

for(int j = 0; j < n-i-1; ++j) {

cout << " ";

}

for(int j = 0; j < n; ++j) {

cout << "\* ";

}

cout << endl;

}

return 0;

}

Q8.Print the following pattern

Sample Input : n= 4

Output :

1

1 2

1 2 3

1 2 3 4

Solution:

#include <iostream>

using namespace std;

int main() {

int n;

cin >> n;

for(int i = 0; i < n; ++i) {

for(int j = 0; j < n-i-1; ++j) {

cout << " ";

}

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

cout << j << " ";

}

cout << endl;

}

return 0;

}

Q9.Print the following pattern

Input : n = 4

Output :

A

A B

A B C

A B C D

Solution:

#include <iostream>

using namespace std;

int main() {

int n;

cin >> n;

for(int i = 0; i < n; ++i) {

for(int j = 0; j < n-i-1; ++j) {

cout << " ";

}

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

cout << (char)('A' + j - 1) << " ";

}

cout << endl;

}

return 0;

}

Q10.Print the following pattern

Input: n = 4

Output:

1

2 1

3 2 1

4 3 2 1

Solution:

#include <iostream>

using namespace std;

int main() {

int n;

cin >> n;

for(int i = 0; i < n; ++i) {

for(int j = 0; j < n-i-1; ++j) {

cout << " ";

}

for(int j = i+1; j >= 1; --j) {

cout << j << " ";

}

cout << endl;

}

return 0;

}

Q11.Print the following pattern

Input: n = 4

Output:

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Solution:

#include <bits/stdc++.h>

int main() {

int n;

cin >> n;

// Printing upper triangle

for(int i = 0; i < n; ++i) {

for(int j = 0; j < n-i-1; ++j) {

cout << " ";

}

for(int j = 0; j <= i; ++j) {

cout << "\* ";

}

cout << endl;

}

// Printing lower triangle

for(int i = 0; i < n-1; ++i) {

for(int j = 0; j <= i; ++j) {

cout << " ";

}

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