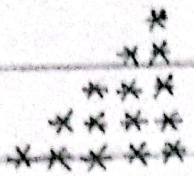
PROGRAMMING

Q '01:

```
#include<iostream>
Using namespace std;
int main ( )
{
for (int i= 1 ; i<=5 ; i++)
{
for (int j= 1; j<= i; j++)
{
cout << " * " ;
}
cout << endl;
}
return 0;
}
```

Q '02:



```
# include <iostream>
using namespace std ;
int main ( ) {
int i, j, k;
```

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

Q '03:

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

```
#include <iostream>
using namespace std;
int main() {
for (int i=1 ; i<=5 ; i++)
{
for (int j=5 ; j>=i ; j--)
{
    cout << " * " ;
}
    cout << endl;
}
    return 0;
}
```

Q '04:

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

```
#include <iostream>
using namespace std;
int main () {
int n=5;
int i,j,K;
for(int i=n , i>=1 ; i--) {
for (int j=n-1 ; j>= i , j--) {
cout << " ";
}
for(int K=1 ; K<=i ; K++)
{
cout << " * ";
}
cout << endl;
}
return 0;
}
```

Q '05:

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

```
# include <iostream>
using namespace std;
int main ( ) {
for(int i=1 ; i<=5 ; i++)
{
for (int j=1 ; j<=5 ; j++)
```

```
cin >> n;
if (n % 2 == 0)
cout << " Number is Even ";
else
cout << " Number is Odd ";
return 0;
}
```

Q'08: Factorial

```
#include <iostream>
using namespace std;
int main () {
int i, n, fact = 1;
cout << " Enter a number ";
cin >> n;
for(int i= 01; i<=n; i++)
{
fact = fact * i;
}
cout << " Factorial of " << n << " is " << fact << endl;
return 0;
}
```

Q'09: Prime Number.

```
#include <iostream>
using namespace std;
int main()
{
    int n;
    cout << "Enter number";
    cin >> n;
    if (n % 2 == 0)
        cout << "Number is not Prime";
    else
        cout << "Number is Prime";
    return 0;
}
```

Q 10: Swapping of numbers

```
#include <iostream>
using namespace std;
int main() {
    int a, b;
    cout << "Enter numbers";
    cin >> a;
    cin >> b;
    a = a+b;
    b = a-b;
```

```
a = a - b;
cout << "After swapping" a = " << a << "b = "
        << b << endl;
return 0;
}
```

Q'11: Leap Year

```
#include <iostream>
using namespace std;
int main()
{
    int year;
cout << "Enter Year ";
    cin >> year
if ( year % 4 == 0 && year % 100 == 0) {
    cout << Year << "is leap year "<<
                                    endl;
else {
    cout << year << " is not leap" <<endl;
}
    return 0;
}
```

Q'12: Area of Circle

#include <iostream>

using namespace std;

int main()

{

int radius;

float area;

cout << " Enter radius of circle";

cin >> radius

area = 3.14 * radius * radius (πr^2)

cout << "Area of circle is:" << area;

return 0;

}

Q '13 Area of Triangle.

#include <iostream>

using namespace std;

int main()

{

int b, h;

float area;

cout << "Enter breadth and height";

cin >> b >> h;

area = $\frac{(b*h)}{2}$

```
cout << "area of triangle is : " << area;
return 0;
```

Q 14: Area of Rectangle

```
#include <iostream>
using namespace std;
int main () {
int lenght, breadth, area;
cout << " Enter lenght, breadth of rectangle";
cin >> length >> breadth;
area = lenght * breadth;
cout << " Area of rectangle is: " << area <<
                                    endl;
return 0;
}
```

Q 15: Area of square

```
#include <iostream>
using namespace std;
int main () {
int side, area;
cout << " Enter length of side: ";
area = side * side;
cout << " Area of square is: " << area << endl;
return 0;
```

Q'16: Volume of Sphere

```
#include <iostream>
using namespace std;
int main() {
float radius;
float volume;
cout << "Enter radius of sphere";
cin >> radius;
```

$$Volume = \frac{4}{3} \pi r^3$$

```
cout << "Volume of sphere is:" << volume <<
                                    endl;
return 0;
}
```

Q'17:

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

```
#include <iostream>
using namespace std;
int main() {
for (int i=1 ; i<=5 ; i++)
{
for (int j=1; j<=5; j++)
{
cout << " j "
}
```

return 0;

}

Q'18:

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

```
# include <iostream>
using namespace std;
int main() {
for(int i = 1 ; i<=5;i++) {
for (int j = 1 ; j<=5; j++){
cout << j;
}
cout << endl;
}
return 0;
}
```

Q'19:

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

```
# intlude <iostream>
using namespace std;
int main () {
for(int i=5; i>=1 ; i++)
{
for (int j = 1 ; j<=5; j++) {
cout << i ;
}
cout << endl;
```

return 0;

}

Q'18:

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

```
# include <iostream>
using namespace std;
int main() {
for(int i = 1 ; i<=5;i++) {
for (int j = 1 ; j<=5; j++){
cout << j;
}
cout << endl;
}
return 0;
}
```

Q'19:

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

```
# intlude <iostream>
using namespace std;
int main () {
for(int i=5; i>=1 ; i++)
{
for (int j = 1 ; j<=5; j++) {
cout << i ;
}
cout << endl;
}
return 0;
}
```

Q 20:

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

```
#include<iostream>
using namespace std;
int main() {
char i,j;
for(int i='A'; i<='E'; i++)
{
for(int j='A'; j<='E'; j++)
{
cout << i;
}
cout << endl;
}
return 0;
}
```

Q '21:

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

```
#include<iostream>
using namespace std;
int main() {
for(int i='A'; i<='E'; i++){
for(int j='A'; j<='E'; j++){
cout << j;
}
cout << endl;
}
return 0;
}
```

Q'22:

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

```
#include <iostream>
using namespace std;
int main() {
    for(int i=1; i<=5; i++) {
        for(int j=1; j<=5; j++) {
            cout<<j; }
        cout<<endl; }
    return 0;
}
```

Q'23:

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

```
#include <iostream>
using namespace std;
int main() {
    for(int i=1; i<=5; i++) {
        for(int j=1; j<=i; j++) {
            cout<<i;
        }
        cout<<endl;
    }
    return 0;
}
```

Q'24: Add two number without using "+" operator.

```
#include<iostream>
using namespace std;
int main ()
{
int num1, num2;
ind Sum;
cout<<" Enter 2 number;
cin >> num1>>num2;

Sum = num1-(-num2);
cout<<"|Sum is "<< sum<<endl;
return 0;
}
```

Q '25: Subtract two number without using "-" operator:

```
#include<iostream>
using namespace std;
int main (){
int num1, num2;
cout<<"Enter number";
cin >> num1>>num2;
Subtract = num1+(~num2+1)
cout<<"(num1<<)"-!(num2<<)"<<
```

```
#include<iostream>
using namespace std;
    int main ()
{
    int num1, num2;
    ind Sum;
cout<<" Enter 2 number;
    cin >> num1>>num2;

    Sum = num1-(-num2);
cout<<"| Sum is "<< sum<<endl;
return 0;
}
```

Q '25: Subtract two number without using "-" operator.

```
#include<iostream>
using namespace std;
int main (){
int num1, num2;
cout<<"Enter number";
    cin >> num1>>num2;
Subtract = num1+(~num2+1)
cout<<"(num1<<)"-(num2<<)"<<
```

Q 26: Number is palindrome or not

Remains same after its digits reverse

```
#include<iostream>
using namespace std;
int main () {
char a, b;
cout<<"Enter string to check if it is palindrome";
        cin>>a;
if ((a, b)== 0)
     cout <<" Entered string is palindrome"
else
     cout <<" Entered string is not palindrome";
return 0;
}
```

Q 27: Strong Number · sum of factorial of digits is equal to original number

```
#include<iostream>
using namespace std;
int main () {
int n;
cout<<" Enter number";
      cin>>num;
   originalNum = num;
While (num>0) {
      int digit = num%10;
      int fact = 1;
for (int i = 1; i<= digit; i++) {
```

```
        fact *= i;  }
            sum += fact
    if (sum == orginal num)
        cout << original num << " is a strong num" << endl;
    else
        cout << orginal num << " is not strong num" << endl;
    return 0;
}
```

Q 28: Neon Number

```
#include <iostream>
using namespace std;
int main () {
    int n, sq, sum;
        cout << "Enter number";
            cin >> number;
        sq = n * n;
    while (sq > 0)
{
        sum = sum + sq % 10;
            sq = sq % 10;
    if (sum == n)
        cout << n << " is neon number" << endl;
    else
        cout << n << " is not neon number" << endl;
```

return 0;

}

Q 29: All prime numbers from 1 to 50

```
#include <iostream>
using namespace std;
int main () {
int n;                    int i,j;
cout << "Enter number";
cin >> number;
for (int i = 1; i<=n; i++) {
for (int j = 1; j<=n; j++) {
if (n % j == 0)
{ count ++;
} }
if (count == 2) {
cout << n << endl;
} return 0;
} }
```

Q 30: Farkenheit to Celsius.

```
#include <iostream>
using namespace std;
int main () {
float c;
float f;
```

c=(f-32)/1.8

cout << "Temperature in Centigrade";

return 0;

}

Q 31: Celsius To Fahrenheit

#include <iostream>

using namespace std;

int main() {

float c; float f;

cout << "Enter temp in Celsius";

cin >> c;

f = (1.8 * c) + 32;

cout << "Temperature in Farenheit is" << f;

return 0;

}

Q 32: Circumference of Circle

#include <iostream>

using namespace std

int main() {

int radius; float cir;

cout << "Enter radius of circle";

cin >> radius;

cir = 2 π r

cout << " circumference of circle " << cir << endl;

return 0;

}

Q 33:

```
A B C D E
F G H I J
K L M N O
P Q R S T
U V W X Y.
```

```
#include <iostream>
using namespace std;
int main()
{
    int n = 5;
    char ch = 'A';
for (int i = 1; i <= n ; i++) {
 for (int j = 1 ; j <= n ; j++) {
{
   cout << ch << " ";
 if ( ch < 'Z')
    ch++;
else
      ch = 'A'; }
cout << endl;
}
 return 0;
}
```

Question 34:

Q 34:

```
0
1 1
0 0 0
1 1 1 1
0 0 0 0 0
1 1 1 1 1
```

```
#include <iostream>
using namespace std;
int main() {
    int n=5;
    for(int i=0; i<n; i++) {
        for(int j=0; j<=i; j++) {
            cout << (i%2) << " ";
        }
        cout << endl;
    }
    return 0;
}
```

Q 35:

```
1
1 0
1 0 1
1 0 1 0
1 0 1 0 1
```

```
#include <iostream>
using namespace std;
int main() {
    int n=5;
    for(int i=1; i<=n; i++) {
        for(int j=1; j<=i; j++) {
            cout << (j%2) << " ";
        }
        cout << endl;
    }
    return 0;
}
```

Q 30:

```
0
0 1 0
0 1 0 1
0 1 0 1 0
0 1 0 1 0 1
```

```
#include <iostream>
using namespace std;
int main() {
    int n = 5;
    for (int i=0 ; i<n ; i++) {
        for (int j=0; j<=i ; j++) {
            cout << (j % 2) << " ";
        }
        cout << endl;
    }
    return 0;
}
```

Q 31:

```
0
1 0
0 1 0
1 0 1 0
0 1 0 1 0
```

```
#include <iostream>
using namespace std;
int main() {
    int n = 5;
    for (int i = 1; i <= n ; i++) {
        for (int j = 1; j <= i ; j++) {
            cout << (i+j) % 2 << " ";
        }
        cout << endl;
    }
    return 0;
```

Q38:

```
1
0 1
1 0 1
0 1 0 1
1 0 1 0 1
```

```
#include <iostream>
using namespace std;
int main() {
    int n = 5;
    for (int i = 1; i <= n; i++) {
        for (int j = 0; j < i; j++) {
            cout << i+j % 2 << " ";
        }
        cout << endl;
    }
    return 0;
}
```

Q39:

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

```
#include <iostream>
using namespace std;
int main() {
    char i, j;
    for (int i = 'A'; i <= 'E'; i++) {
        for (int j = 'A'; j <= i; j++) {
            cout << char i;
        }
        cout << endl;
    }
    return 0;
}
```

Q 40:

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

```
#include <iostream>
using namespace std;
int main () {
char i, j;
for (int i = 'A'; i <= 'E'; i++) {
for (int j = 'A'; j <= i; j++) {
cout << char j;
}
cout << endl;
}
return 0;
}
```

Q 41:

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

```
#include <iostream>
using namespace std;
int main () {
int n = 5;
for (int i = n-1; i >= 0; i--) {
for (int j = n-1; j >= i; j--) {
cout << char (j+65) << " ";
}
cout << endl;
}
return 0;
}
```

Q 42:

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

```
#include <iostream>
using namespace std;
int main () {
    int n=5;
    for (int i=n-1; i>=0; i--){
        for(int j=n-1; j>=i; j--) {
            cout << char(i+65)<<" ";
        }
        cout << endl;
    }
    return 0;
}
```

Q 43:

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

```
# include <iostream>
using namespace std;
int main () {
    int n=5;
    for(int i=0; i<n; i++) {
        for (int j=i; j>=0; j--){
            cout<< char(j+65)<<" ";
        }
        cout << endl;
    }
    return 0;
}
```

Q.44:

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

```
#include <iostream>
using namespace std;
int main() {
for(int i=1; i<=5; i++) {
for(int j=5; j>=i; j--) {
cout << i;
}
cout << endl;
}
return 0;
}
```

Q.45:

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

```
#include <iostream>
using namespace std;
int main() {
for (int i=5; i>=1; i--) {
for (int j=1; j<=i; j++) {
cout << j;
}
cout << endl;
}
return 0;
}
```

Q.44:

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

```
#include <iostream>
using namespace std;
int main() {
    for(int i=1; i<=5; i++) {
    for(int j=5; j>=i; j--){
        cout << i;
    }
    cout << endl;
    }
    return 0;
}
```

Q.45:

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

```
#include <iostream>
using namespace std;
int main() {
    for(int i=5; i<=1; i--){
    for(int j=1; j<=i; j++){
        cout << j;
    }
    cout << endl;
    }
    return 0;
}
```

Q.44:

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

```
#include <iostream>
using namespace std;
int main() {
    for(int i=1; i<=5; i++) {
        for(int j=5; j>=i; j--){
            cout << i;
        }
        cout << endl;
    }
    return 0;
}
```

Q.45:

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

```
#include <iostream>
using namespace std;
int main() {
    for(int i=5; i<=1; i--) {
        for(int j=1; j<=i; j++) {
            cout << j;
        }
        cout << endl;
    }
    return 0;
}
```

Q46:

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

```
#include <iostream>
using namespace std;
int main() {
    for (int i=5; i>=1; i--){
        for (int j=1; j<=i; j++){
            cout << i;
        }
        cout << endl;
    }
    return 0;
}
```

Q47:

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

```
#include <iostream>
using namespace std;
int main () {
    for (int i=1; i<=5; i++){
        for (int j=5; j>=i; j--){
            cout << j;
        }
        cout << endl;
    }
    return 0;
}
```

Q48:

```
5 4 3 2 1
6 5 4 3
7 6 5
8 7
9
```

```
#include<iostream>
using namespace std;
int main(){
int n=5;
for(int i=1; i<=n; i++){
for(int j=1; j<=n-i+1; j++){
cout<<n-j+1<<" ";
}
cout<<endl;
}
return 0;
}
```

Q49:

```
5 6 7 8 9
4 5 6 7
3 4 5
2 3
1
```

```
#include<iostream>
using namespace std;
int main(){
int n=5;
for(int i=1; i<=n; i++){
for(int j=1; j<=n-i; j++){
cout<<n-i+j;
}
cout<<endl;
}
return 0;
```

Q 50: Perfect Number

```
#include <iostream>
using namespace std;
int main ( ) {
int n, i= 1, sum= 0;
cout << " Enter a number ";
cin >> n;
if (n%i = 0) {
sum = sum +i;
i++;
}
if (sum == n)
cout <<i<< "is perfect number ";
else
cout <<i<< "is not perfect number";
return 0;
}
```

Q 51:

```
1 2 3 4 5
0 3 4 5 6
0 0 5 6 7
0 0 0 7 8
0 0 0 0 9
```

```
#include <iostream>
using namespace std;
int main ( ) {
int i, j;
for (i=0; i<=3; i++) {
for (j=1; j<=4; j++) {
if (j<=1)
cout<<"0";
```

Q.52:

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

```
#include <iostream>
using namespace std;
int main (){
for(int i = 0; i<4; i++) {
for(int j=i; j<i+4;j++) {
cout <<(j%4)+1
}
cout << endl;
}
return 0;
}
```

Q.53: Area of Octagon

```
#include <iostream>
using namespace std;
int main () {
int side;
float area;
cout<<" Enter lenght of side ";
cin >> side;
area = 2 (1+√2)s^2
cout << " Area of Octagon: " << area;
cout << endl;
return 0;
}
```

Q.54: Area of Trapezoid

```
#include<iostream>
using namespace std;
int main() {
int b1,b2,h;
float area;
cout<<" Enter value of bases";
    cin>>b1>>b2;
cout<<"Enter value of height";
    cin>>h;
area = float(b1+b2)*h/2;
cout<<"Area of Trapezoid is "<<area;
return 0;
}
```

Q.55: Transpose of Matrix

```
#include<iostream>
using namespace std;
int main() {
int matA[3][3]; int matT[3][3];
cout<<"Enter values of matrix";
for(int i=0; i<3; i++) {
  for(int j=0 j<3; j++) {
    cin>> matA;
}}
    cout<<"Transpose of matrix is"<<endl;
}   cout<<endl;
```

Q 56: Sum of Digit

```
#include <iostream>
using namespace std;
int main() {
int n;                    int sum = 0;
cout << "Enter a numbers";
      cin >> n;
while (n>0)
{
      x = n% 10;
      sum = sum + x
      n = n / 10;     }
cout << " Sum of digits of number " << sum;
return 0;
}
```

Q 57: Reverse Number

```
#include <iostream>
using namespace std;
int main () {
int n, a, b;
cout << "Enter any number";
   cin >> n;
   while (n>0) {
   a = n% 10;      n = n/10;
         b = (b*10)+a;
   {
```

```
cout << "reverse is " << b;
return 0;
}
```

Qn 58: Decimal to Octal

```
#include <iostream>
using namespace std;
int main () {
long decimal ;          int reminder;
  long octal = 0, i = 1;
  cout << "Enter a decimal number";
        cin >> decimal
while (decimal != 0) {
  remainder = decimal % 8;
  octal = octal + (reminder * i);
  i = i * 10;       }
cout << " Octal number is" << octal ;
return 0;       }
```

Qn 59: Armstrong Number.

```
#include <iostream>
using namespace std;
int main ( ) {
int num, temp , sum , i = 0, n = 0;
    cout << " Enter num ";
    cin >> num;
```

```
sum = 0;                    i = num;
while (n > 0) {
n = num % 10;
num = num / 10;
sum = sum + (n * n * n) }
if (sum == i) {
cout << " n " << i << " is Armstrong number"; }
else {
cout << " n " << i << " is not Armstrong number"; }
return 0; }
```

Or 60: Spy Number

```
#include <iostream>
using namespace std;
int main () {
int n;                      int sum = 0, prod = 1;
int d;
cout << "Enter any number: ";
cin >> n;
while (n > 0) {
d = n % 10;
sum = sum + d;
prod = prod * d;            n = n / 10;
}
```

```
sum = 0;                    i = num;
while (n > 0) {
n = num % 10;
num = num / 10;
sum = sum + (n*n*n) }
if (sum == i) {
cout << " n " << i << " is Armstrong number"; }
else {
cout << "n" << i << " is not Armstrong number"; }
return 0; }
```

Q 60: Spy Number

```
#include <iostream>
using namespace std;
int main () {
int n;                      int sum = 0, prod = 1;
int d;
cout << "Enter any number: ";
cin >> n;
while (n>0) {
d = n % 10;
sum = sum + d;
prod = prod * d;            n = n/10;
}
if (sum == prod)                    is spy ";
```

```
else
cout << "Given number is not spy";
return 0;
}
```

Q61: Happy Numbers.

```
#include <iostream>
using namespace std;
int main() {
int n;
int sum = 0;
cout << "Enter number";
cin >> n;
while (sum != 1 && sum != 4) {
sum = 0;
while (num > 0) {
temp = num % 10;
sum += Temp * Temp
num = num / 10;
}
num = sum;
}
if (sum == 1)
cout << "Happy Number";
else
cout << "Unhappy number.";
return 0.
}
```

Q 62: Floyd Triangle

```
#include <iostream>
using namespace std;
int main () {
int n, i, c, a=1;
cout <<" Enter no of rows of Floyd Triangle";
        cin >> n;
for (i=1; i<=n; i++) {
for (c=1; c<=i; c++) {
   cout << a;
      a++;    }
cout <<"      ";  }
return 0;
}
```

Q 63: Power of Given number

```
# include <iostream>
using namespace std;
int main () {
int power, num, i=1;
, cout <<". Enter a number ";
        cin >> num;
cout <<" Enter power ";
   cin >> power;
while (i<=power) {
```

```
    i++;
}
cout << num << " to the power " << power << " is " << num;
return 0;
}
```

Q64:

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

```
#include <iostream>
using namespace std;
int main () {
    int n = 4;
    for (int i = 0; i <= n; i++) {
        for (int j = n; j > 0; j--) {
            if (j > i)
                cout << "*";
            else
                cout << char (i + 65); }
        cout << endl; }
    return 0;
}
```

Q65:

```
#
* *
# # #
* * * *
# # # # #
```

```
#include <iostream>
using namespace std;
int main () {
    int n = 5;
    for (int i = 1; i <= n; i++) {
        for (int j = 1; j <= i; j++) {
```

```
if (j % i == 0)
    cout << "* ";
else
    cout << "# ";
}
cout << endl;
}
return 0;
}
```

Q66:

```
*                   #include <iostream>
# *                 using namespace std;
# * #
# * # *             int main () {
# * # * #
    int n = 5;
for (int i = 1; i <= n; i++) {
for (int j = 1; j <= n; j++) {
  if (j % i == 0)
    cout << "* ";
else
    cout << "# ";
}
    cout << endl;
}
    return 0;
}
```

Q 61:

```
1
* *
3 3 3
* * * *
5 5 5 5 5
```

```
# include <iostream>
using namespace std;
int main () {
int n = 5;
for (int i = 1; i <= n; i++) {
for (int j = 1; j <= i; j++) {
if (i % 2 == 0)
cout << " * ";
else
cout << i;
}
cout << endl;
}
return 0;
}
```

Q 68:

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

```
# include <iostream>
using namespace std;
int main () {
int n = 5;
for(int i = 1; i <= n; i++) {
for ( int j = 1; j <= i; j++) {
if (i % 2 == 0)
cout << " * ";
else
```

Q 69:

```
1
1 *
1 * 3
1 * 3 *
1 * 3 * 5
```

```
#include <iostream>
using namespace std;
int main() {
int n=5;
for(int i=1; i<=n; i++) {
for(int j=1; j<=i; j++) {
if (j%2==0)
cout<<" * ";
else
cout<<j;
}
cout<<endl;
}
return 0; }
```

Q 70:

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

```
#include <iostream>
using namespace std;
int main() {
if (j%2==0)
cout<<" * ";
else
cout<<i;
} cout<<endl;
} return 0;
```

Or 71:

```
# # #* # #
* * * *
# # #
* *
#
```

```
#include <iostream>
using namespace std;
int main () {
    int n = 5;
    for (int i = n; i >= 1; i--) {
        for (int j = 1; j <= i; j++) {
            if (i % 2 == 0)
                cout << " * ";
            else
                cout << " # ";
        } cout << endl;
    }
    return 0; }
```

Or 72:

```
# *#* #
#*#*
#*#
#*
#
```

```
# include <iostream>
using namespace std;
int main () {
    int n = 5;
    for (int i = n; i >= 1; i--) {
        for (int j = 1; j <= i; j++) {
            if (j % 2 == 0)
                cout << " * ";
            else
                cout << " # ";
        } return 0;
```

Qn 13:

```
# * # * #
# * # *
# * #
# *
#
```

```
#include <iostream>
using namespace std;
int main () {
int n = 5;
for(int i=n; i>=1 ; i--){
for (int j = 1; j<= i ; j++) {
if (j % 2) == 0)
cout << " * ";
else
cout << " # ";
}
cout << endl; }
return 0; }
```

Qn 14:

```
5 5 5 5 5
* * * *
3 3 3
* * #
1
```

```
#include <iostream>
using namespace std;
int main () {
int n = 5;
for(int i=n ; i>=1 ; i--){
for(int j=1; j<= i ; j++) {
if (i % 2 == 0)
cout << " * ";
else
cout << i;
}
cout << endl;
```

Q 76:

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

```
#include <iostream>
using namespace std;
int main () {
    int n= 5 ;
    for(int i=n; i>=1 ;i=-) {
    for (int j = 1 ; j<= i ; j++) }
    if (i% 2 ==0)
        cout << "*";
    else    cout << j;
    }
        cout <<endl;
    }
    return 0;
}
```

Q 77:

```
1 * 3 * 5
1 * 3 *
1 * 3
1 *
1
```

```
#include <iostream>
using namespace std;
int main () {
    int n=5;
    for (int i=n; i>=1 ; i--) {
    for (int j=1 ; j<= i ; j++) }
    if (j% 2 ==0)
        cout <<"*";
else cout << j;
} cout <<endl;
} return 0; }
```

Q 78:

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

```
#include <iostream>
using namespace std;
int main() {
int n=5;
for(int i=1; i<=n; i++) {
for(int j=n; j>=1; j--) {
if (i>=j) {
cout<<"* ";
else cout<<j;
}
else {
cout<<"  ";
}}
cout<<endl; }
return 0; }
```

Q 79:

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

```
#include <iostream>
using namespace std;
int main() {
for(int i=n; i>=1; i--) {
for(int j=1; j<=n; j++) {
if (i<=j) {
if (i%2==0)
cout<<"* ";
else cout<<j;
}
```

```
}}
cout << endl;
}
return 0;
}
```

Q 80:

```
#
* *
# # #
* * * *
# * # # #
```

```
#include <iostream>
using namespace std;
int main () {
int n = 5;
for (int i = n ; i >= 1 ; i--) {
for (int j = 1; j <= n ; j++) {
if (i <= j) {
if (i % 2 == 0)
cout << " * ";
else
cout << " # ";
}
else {
cout << " ";
}}
cout << endl;
}
return 0;
}
```

Q 81:

```
A
2 2
C C C
4 4 4 4
E E E E E
```

```
# include <iostream>
Using namespace std;
int main () {
int n = 5;
for (int i = 1; i <= n ; i++) {
for ( int j =1 ; j<= i ; j++) {
if (i % 2 = 0)
cout << char (i+65);
else
cout << i;
} cout << end;
}
return 0; }
```

Q 82:

```
    A
  2 2
C C C
4 4 4 4
E E E E E
```

```
# include <iostream>
using namespace std;
int main ( ) {
int n=5;
for(int i=1 ; i<= n ; i++){
for (j = n-1; j >= i ; j--) {
cout << " ";
}
for (int k = 1; k <= i ; k++) {
if(i % 2 ! =0)
```

```
else
        cout << i;
    }
    cout << endl;
}   return 0;
}
```

Qn 83:

```
A B C D E
  1 2 3 4
    A B C
      1 2
        A
```

```
#include <iostream>
using namespace std;
int main () {
int n = 5;
for (int i = n; i >= 1; i--) {
for (int j = i; j <= n; j++) {
    cout << " ";
}
    for (int k = 1; k <= i; k++) {
if (i % 2 != 0)
    cout << char (j+64);
else
    cout << j;
}
    cout << endl;
} return 0;
}
```

Qn 84:

```
0
1 *
2 **
3 ***
4 ****
5 *****
```

Q 88:

```
#include <iostream>
using namespace std;
int main() {
int n = 7;
for (int i = 1; i <= 5; i++) {
for (int j = 1; j <= n; j++) {
if (j == 1 || i == j || i == n) {
cout << "*";
} else cout << " ";
}
cout << endl;
return 0;
}
```

Q 89

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

```
#include <iostream>
using namespace std;
int main() {
for (int i = 0; i < 5; i++) {
for (int j = i; j < 5; j++) {
cout << char('A' + i);
}
cout << endl;
return 0;
}
```

Q 90

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

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

Q 88:

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

```
#include <iostream>
using namespace std;
int main ( ) {
int n = 7;
for (int i = 1; i <= 5; i++) {
for (int j = 1; j <= n; j++) {
if (j == 1 || i == j || i == n) {
cout << " * ";
} cout << " ";
}
cout << endl;
return 0;
}
```

Q 89

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

```
#include <iostream>
using namespace std;
int main ( ) {
for (int i = 0; i <= 4; i++) {
for (int j = 4; j >= i; j--) {
cout << char (i + 65);
} cout << endl;
return 0;
}
```

Q 90

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

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

```
for (int i = 4; i>=0; i--){
for (int j=0; j<= i; j++){
    cout << char (i+65)
} cout << endl;
} return 0;
}
```

Q91:

```
A
B C
D E F
G H I J
K L M N O
```

```
# include <iostream>
using namespace std;
int main ( ) {
int n = 5;   char ch = 'A';
for (int i = 1 ; i <= n; i++) {
for (int j=1; j <= i ; j++) {
  cout << ch<< "  ";
  if (ch >'Z')
      ch++;
else  ch = 'A';
} cout << endl;
} return 0;
}
```

Q92:

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

```
# include <iostream>
using namespace std;
int main ( ) {
for (int i=0; i<n ; i++) {
for (int j = n-1; j>i ; j--){
cout << "  ";
}
```

```
char i, j;
for (int i = 'E'; i >= 'A'; i--) {
  for (int j = 'E'; j >= 'A'; j--) {
    cout << char j;
  } cout << endl;
} return 0;
}
```

Q 99:

```
2
2 4
2 4 6
2 4 6 8
2 4 6 8 10
```

```
#include <iostream>
using namespace std;
int main () {
  int n = 5;
  for (int i = 1; i <= n; i++) {
    for (int j = 1; j <= i; j++) {
      cout << j * 2 << " ";
    } cout << endl;
  } return 0;
}
```

Q 100:

```
1
2 3
4 5 6
7 8 9 10
```

```
#include <iostream>
using namespace std;
int main () {
  int n = 1;
  for (int i = 1; i <= 4; i++) {
    for (int j = 1; j <= i; j++) {
```

```
    cout << n;
        n--;
}
    cout << endl;
}
    return 0;
}
```

Q. 101:

```
1
3  2
6  5  4
10 9  8  7
```

```
#include <iostream>
using namespace std;
int main() {
    int n = 4;
    for (int i = 1; i <= n; i++) {
    {
        k = i;
    for(int j = k; j > k-1; j--)
    {
        cout << j;
}
    cout << "  ";
}
    return 0;
}
```