```
C→ evenOdd.cpp > ...
      //c++ program to check a number is even or odd
      #include<iostream>
      using namespace std;
      int main(){
 5
           int n;
 6
           cout<<"enter the number : ";</pre>
           cin>>n;
 8
           if (n\%2 == 0)
               cout<<n<<" is even number ";
10
11
           }else{
12
               cout<<n<<" is odd number ";
13
14
15
           return 0;
16
17
```

```
G prime.cpp X
G prime.cpp > ...
      // c++ program to check wheather a number is prime or composite
      #include(iostream>
      using namespace std;
  4
      int main(){
  5
           int n;
  6
          cout<<"enter the number: ";</pre>
  8
          cin>>n;
  9
           int count=0;
          for (int i = 1; i <=n; i++)
 10
 11
               12
 13
 14
                  count++;
 15
 16
 17
           if (count==2)
 18
 19
               cout<<n<<" is prime number";</pre>
 20
 21
           }else{
               cout<<n<<" is composite number";</pre>
 22
 23
 24
          return 0;
 25
```

```
G table.cpp X
G table.cpp > ...
       //c++ program to print table of "n" upto "i"
      #include(iostream>
      using namespace std;
  5
       int main(){
            int n,i;
            cout ("enter the number : ";
  8
            cin>>n;
            cout<<"table of "<<n<<" upto : ";
            cin>>i;
 10
            for ( int j = 1; j<=i; j++)
 11
 12
               int t;
 13
               t=n*j;
 14
               cout<<n<<"x"<<j<<"="<<t<<"\n";
 15
 16
           return 0;
 17
 18
```

```
G greatestOfTwo.cpp > ...
      //c++ program to print greater of two numbers
      #include<iostream>
      using namespace std;
  4
      int main(){
  5
         int a,b;
  6
         cout << "enter the two number : ";
         cin>>a>>b;
         8
  9
            cout<<b<<" is greatest of two ";
 10
 11
          }else{
             cout<<a<<" is greatest of two ";
 12
 13
 14
         return 0 ;
 15
 16
 17
```

```
G greatestOfThree.cpp X
```

```
G greatestOfThree.cpp > ...
```

```
//c++ program to print greatest of three numbers
 1
     #include<iostream>
 2
     using namespace std;
 3
     int main(){
 4
         int a,b,c;
 5
         cout<<"enter the three number : ";</pre>
 6
7
         cin>>a>>b>>c;
          if (a>b)
8
 9
          {
              if (a>c)
10
11
                 cout<<a<<" is greatest of three ";
12
              }else{
13
                  cout<<c<" is greatest of three ";
14
15
          }else{
16
              if (b>c)
17
18
                  cout<<b<<" is greatest of three ";
19
20
              }else{
21
                  cout<<c<" is greatest of three ";
22
23
24
          return 0;
25
26
27
```

```
//c++ program to print the sum of "n" natural number
      #include <iostream>
  3
      using namespace std;
  4
      int main(){
  5
         int n;
         cout<< "enter the natural number : ";
  6
         cin>>n;
  8
         int sum=0;
         for (int i = 1; i <=n; i++)
  9
 10
             sum+=i;
 11
 12
         cout<<"sum of first "<<n<<" natural number is : "<<sum;
 13
 14
         return 0;
 15
 16
```

```
G factorial.cpp X

  factorial.cpp > 分 main()

      // c++ program print factorial of 'n
  2 #include(iostream)
  3 using namespace std;
  4 ∨ int main(){
          int num;
  5
  6
          cout<< "enter the number : ";
          cin>>num;
          int fact=1;
          for (int i = 1; i \le num; i++)
 10
              fact*=i;
 11
 12
          cout<< "Factorial of "<<num<<" is : "<<fact;
 13
          return 0;
 14
 15
```

```
• reverseOfNumber.cpp X
G reverseOfNumber.cpp > ...
       //c++ program to print reverse of given number
       #include<iostream>
  3
      using namespace std;
       int main(){
  4
  5
           int num;
  6
           cout<<"enter the number : ";
           cin>>num;
  8
           int reverse=0;
           for (int i = 1; num! =0; i++)
 10
               int t=num%10;
 11
               reverse=(reverse*10)+t;
 12
 13
               num=num/10;
 14
           cout<<"reverse of "<<num<<" is : "<<reverse;
 15
 16
           return 0;
 17
```

```
@ palindrome.cpp X
G palindrome.cpp > ♥ main()
       //c++ program to check wheather a number is palidrome or not
  1
      #include(iostream>
       using namespace std;
       int main(){
  4
  5
           int num;
           cout<<"enter the number : ";
  6
           cin>>num;
           int og=num;
  8
           int reverse=0;
  9
           while (num!=0)
 10
 11
               int t=num%10;
 12
 13
               reverse=(reverse*10)+t;
 14
               num=num/10;
 15
 16
           if (reverse==og)
 17
              cout<<og<<" is palindrome number ";</pre>
 18
           }else{
 19
 20
               cout<<og<<" is not palindrome number";
 21
 22
           return 0;
 23
```

```
G armstrong.cpp X
G armstrong.cpp > ...
       //c++ program to check whether a number is armstrong or not
       #include <iostream>
  2
       #include <cmath>
  3
  4
  5
       using namespace std;
  6
  7
       int main() {
           int num, original, sum = 0, count = 0, digit, temp;
  8
  9
           cout << "Enter a number: ";</pre>
 10
 11
           cin >> num;
 12
           original = num;
 13
 14
           temp = num;
 15
           // Count the number of digits
 16
           while (temp != 0) {
 17
               temp /= 10;
 18
 19
               count++;
 20
 21
 22
           temp = num;
           while (temp != 0) {
 23
                digit = temp % 10;
 24
                sum += round(pow(digit, count));
 25
               temp /= 10;
 26
 27
 28
 29
           if (sum == original) {
               cout << num << " is an Armstrong number.";</pre>
 30
 31
           } else {
               cout << num << " is not an Armstrong number.";</pre>
 32
 33
 34
 35
           return 0;
 36
```

```
← fibonacciByRecurrsion.cpp ×

//c++ program to print upto nth term of fibonnaci series using recursion
       #include<iostream>
  2
  3
      using namespace std;
       int fib(int n){
  4
           if (n==1)
  5
  6
  7
               return 1;
  8
           if (n==0)
  9
 10
               return 0;
 11
 12
           int fibNm1=fib(n-1); Int fibNm1=fib(n-1);
 13
 14
           int fibNm2=fib(n-2);
           int fibN=fibNm1+fibNm2;
 15
 16
 17
           return fibN;
 18
       int main(){
 19
 20
           int num;
           cout<<"enter the number of term : ";
 21
 22
           cin>>num;
           cout<<"fibonacci series from 0 to "<<num<<" term : ";</pre>
 23
           for (int i = 0; i < num; i++)
 24
 25
               cout<<fib(i)<<" , ";
 26
 27
 28
 29
           return 0;
 30
 31
```

```
← fibonacciByLoops.cpp ×

G fibonacciByLoops.cpp > ...
       //c++ program to print upto nth term of fibonnaci series using loops
  1
  2
       #include<iostream>
       using namespace std;
       int main() {
  4
  5
           int n, t1 = 0, t2 = 1, nextTerm = 0;
  6
           cout << "Enter the value of n: ";
  7
  8
           cin >> n;
  9
           if (n == 1)
 10
               cout << "The " << n << "st term of Fibonacci series is: " << t1;
 11
             else if (n == 2) {__
 12
               cout << "The " << n << "nd term of Fibonacci series is: " << t2;
 13
             else {
 14
 15
               for (int i = 3; i <= n; i++) {
 16
                   nextTerm = t1 + t2;
 17
                   t1 = t2;
 18
                   t2 = nextTerm;
 19
               cout << "The " << n << "th term of Fibonacci series is: " << nextTerm;</pre>
 20
 21
 22
           return 0;
 23
 24
```

```
    pattern1.cpp X

    pattern1.cpp > ...

  1 //c++ program to print the pattern
  2 #include<iostream>
      using namespace std;
       int main(){
  5
           int row;
           cout<<"enter the number of rows : ";
  6
           cin>>row;
           for (int i = 0; i < row; i++)
  8
  9
                for (int j = 0; j < = i; j + +)
 10
 11
                    cout<<"* ";
 12
 13
                cout<<endl;
 14
 15
           return 0;
 16
 17
```

```
⊕ pattern2.cpp X

G pattern2.cpp > ...
      //c++ program to print the pattern
     #include<iostream>
       using namespace std;
       int main(){
  5
           int row;
           cout<<"Enter the number of rows : ";
  6
           cin>>row;
           for (int i = row; i > 0; i--)
  9
               for (int j = 0; j < i; j++)
 10
 11
                    cout<<"* ";
 12
 13
               cout<<endl;
 14
 15
           return 0;
 16
 17
```

```
    ⊕ pyramidPattern.cpp ×

G pyramidPattern.cpp > ...
       //c++ program to print the pyramid pattern
       #include<iostream>
       using namespace std;
       int main(){
  4
  5
            int row;
            cout<<"enter the no. of row:";
  6
            cin>>row;
  8
            for (int i = 1; i \leftarrow row; i++)
  9
                for (int space = 1; space<=row-i; space++)</pre>
 10
 11
                    cout<<" ";
 12
 13
                for (int j = 1; j <= i; j ++)
 14
 15
                    cout<<"* ";
 16
 17
                cout<<"\n";
 18
 19
 20
            return 0;
 21
 22
```

```
//c++ program to print the flyodd triangle
      #include<iostream>
      using namespace std;
      int main(){
  4
          int n;
  5
          cout<<" enter the number rows : ";
 6
          cin>> n;mini Jatav
  7
          int num=1;
  8
          for (int i = 0; i <= n; i++)
  9
          {
 10
             for (int j = 1; j <= i; j ++)
 11
 12
                 cout<<num<<" ";
 13
 14
                 num++;
 15
             cout<<endl;
 16
 17
```

return 0;

18

19

```
    ⊕ evenForARange.cpp ×

    evenForARange.cpp > 
    main()

       //c++ program to print the even number within a given range
       #include<iostream>
       using namespace std;
       int main(){
  4
            int upper, lower;
  5
            cout<<"enter the lower range : ";
  6
            cin >>lower;
            cout<<" enter the upper range : ";
  8
           cin >>upper;
for (int i = lower; i <= upper; i++)</pre>
  9
 10
 11
                if (i%2==0)
 12
 13
                   cout<<i<<",";
 14
 15
 16
 17
 18
            return 0;
 19
 20
```

## **G** printPrimeNumber.cpp ×

```
@ printPrimeNumber.cpp > ...
      //c++ program to print prime number upto 50
  1
  2
      #include<iostream>
  3
      using namespace std;
      void Prime(int num){
  4
           int fact=0;
 5
           for (int i = 1; i <=num; i++)
  6
  7
               if (num%i==0)
  8
 9
                   fact++;
10
11
12
           if (fact==2)
13
14
15
               cout<<num;
16
17
      int main(){
18
           int count=0;
19
           int num=2;
20
           while (count<50)
21
22
               Prime(num);
23
24
               num++;
               count++;
25
 26
           return 0;
27
28
```

```
G fourDigitArmstrong.cpp > 分 main()
      //c++ program to print all 4 digit armstrong number
      #include<iostream>
  2
      #include<cmath>
  3
      using namespace std;
  4
  5
      bool isArmstrong(int num){
           int temp=num;
  6
           int count=0;
  7
  8
           int r:
          //count no of digits
  9
          while (temp!=0)
 10
 11
              r=temp%10;
 12
              count++;
 13
               temp/=10;
 14
                    dmini Jatav
 15
           temp=num;
 16
           int lastDigit=0; //
 17
           int sum=0;
 18
           while (temp!=0)
 19
 20
               lastDigit=temp%10;
 21
               sum+=pow(lastDigit,count);
 22
               temp/=10;
 23
 24
           return sum==num;
 25
 26
       int main(){
 27
           for (int num = 1000; num <= 9999; num++) {
 28
               if (isArmstrong(num)) {
 29
                   cout << num << " ";
 30
 31
 32
 33
           return 0;
 34
 35
```

```
G palidromeForARange.cpp > 分 main()
      //c++ program to print palidrome from 500-1000
  1
      #include<iostream>
  2
      using namespace std;
  3
      bool isPalidrome(int num){
  4
           int temp=num;
  5
           int r=0;
  6
  7
           int reverse=0:
          while (temp!=0)
  8
  9
              r=temp%10;
 10
               reverse=(reverse*10)+r;
 11
               temp/=10;
 12
 13
 14
           return reverse==num;
 15
       int main(){
 16
           for (int i = 500; i <=1000; i++)
 17
 18
               if (isPalidrome(i))
 19
 20
                   cout<<i<" ";
 21
 22
 23
           return 0;
 24
 25
```

```
    decimalToBinary.cpp 
    X

G decimalToBinary.cpp > ♦ decToBin(int)
       //c++ program to convert decimal to binary
  1
       #include<iostream>
  2
       #include<math.h>
   3
       using namespace std;
  5
       int decToBin(int n){
  6
           int binary=0;
  7
  8
           int p=1;
           int r=0;
  9
           while (n>Padmini Jatav
 10
 11
                          T-2k24-61
 12
               binary+=r
 13
               p=p*10;
 14
               n=n/2;
 15
 16
 17
           return binary;
 18
 19
 20
       int main(){
 21
 22
           int n;
           cout<<"enter the decimal number : ";
 23
 24
           cin>> n;
           cout<<"binary number for "<<n<<" is : "<<decToBin(n);</pre>
 25
           return 0;
 26
 27
```

```
    decimalToOctal.cpp 
    X

    decimalToOctal.cpp > ...

       //c++ program to convert decimal to octal
       #include<iostream>
  2
       #include<math.h>
  3
       using namespace std;
  4
  5
       int decTooct(int n){
  6
           int octal=0;
  7
           int p=1;
  8
           int r=0;
  9
           while (n) Padmini Jatav
 10
 11
               r=n%8; [T_2k24_61
 12
               octal+=r*p;
 13
               p=p*10;
 14
               n=n/8;
 15
 16
 17
           return octal;
 18
 19
 20
       int main(){
 21
           int n;
 22
           cout<<"enter the decimal number : ";
 23
           cin>> n;
 24
           cout<<"octal number for "<<n<<" is : "<<decTooct(n);</pre>
 25
           return 0;
 26
 27
```

```
    oddForARange.cpp 
    ×

    oddForARange.cpp > 分 main()

       //c++ program to print the odd number within a given range
      #include<iostream>
  2
      using namespace std;
       int main(){
           int upper, lower;
  5
           cout<<"enterplandering lait
  6
           cin >>lower;
           cout<<" enter the upper page 64
  8
           cin >>upper;
           for (int i = lower; i <= upper; i++)
 10
 11
               if (i%2!=0)
 12
 13
                  cout<<i<<",";
 14
 15
 16
           return 0;
 17
 18
```

19

```
← octalToDecimal.cpp ×

//c++ program to convert octal to decimal
      #include<iostream>
  2
      using namespace std;
      int octToDec(int n){
  4
  5
          int decimal=0;
          int remain=0;
  6
          int pow=1;
          while (n>Padmini Jatav
  8
  9
              remain=n%FF 6
 10
              decimal=remain*pow;
 11
              pow=pow*8;
 12
 13
              n=n/10;
 14
          return decimal;
 15
 16
       int main(){
 17
          int n;
 18
          cout<<"enter the number :";
 19
 20
          cin>>n;
          cout <<"octal number for "<<n<<" is : "<<octToDec(n);</pre>
 21
          return 0;
 22
 23
```

```
← binaryToDecimal.cpp ×

    ⊕ binaryToDecimal.cpp > ...

       //c++ program to convert octal to decimal
       #include<iostream>
       using namespace std;
       int binToDec(int n){
           int decimal=0;
  5
  6
           int pow=1;
           int remain=0;
           while (n>
  8
                       admini Jatav
  9
               remain=n%年7,分
 10
               decimal+ remain pow;
 11
               pow*=2;
 12
 13
               n/=10;
 14
           return decimal;
 15
 16
       int main(){
 17
           int n;
 18
           cout<<"enter the number : ";
 19
           cin>>n;
 20
           cout<<"decimal number for "<<n<<" is : "<<binToDec(n);</pre>
 21
 22
           return 0;
 23
```

```
    geometricSum.cpp 
    X

G geometricSum.cpp > ♠ main()
       //c++ program to print the geometric sum upto nth term
      #include<iostream>
      #include<math.h>
       using namespace std;
       double geometricSum(double a, double r, double n){
           int sum=0;
  6
           for (int i = 0; i < n; i++)
  7
  8
               sum-sum+ Padmini Jatav
  9
 10
           return sum; 17-2k24-61
 11
 12
 13
       int main(){
 14
           int a,r,n;
           cout<<"enter the first term of geometric series :";</pre>
 15
           cin>>a;
 16
           cout<<"enter the common ratio :";</pre>
 17
           cin>>r;
 18
           cout<<"enter the no. of term :";
 19
           cin>>n;
 20
           cout<<"geometric sum upto "<<n<<" terms : "<<geometricSum(a,r,n);</pre>
 21
           return 0;
 22
 23
```

```
G sumOfDigit.cpp > ...
      //c++ program to print sum of digit of given number
      #include<iostream>
      using namespace std;
      int main(){
          int n;
          cin>>n;
          int t, sum FG, 2K2
  8
          for (int i = 1; n! = 0; i++)
 10
              t=n%10;
 11
              sum=sum+t;
 12
              n=n/10;
 13
 14
          cout<<"sum of digit of "<<n<<" is : "<<sum;
 15
          return 0;
 16
 17
```

G factorialByRecursion.cpp > ...

```
//c++ program to print the factorial by recurrsion
    #include<iostream>
 2
     using namespace std;
 3
     int factorial(int n){
4
         if (n==1)
5
6
             return 1;
7
8
         if (n==@Padmini Jatav
9
             return 17-2k24-61
10
11
12
         int factNm1 = factorial(n-1);
13
         int factN = factNm1 * n;
14
         return factN;
15
16
     int main(){
17
         int n;
18
         cout<<"enter the number :";
19
         cin>>n;
20
         cout<<"factorial of "<<n<<" is : "<<factorial(n);</pre>
21
         return 0;
22
23
```

```
    ⊕ averageOfArray.cpp X

G averageOfArray.cpp > ...
       //c++ program to print of average of 1d array
      #include<iostream>
      using namespace std;
      int main(){
            int afPadmini, UsitaV
           float size=5.0;
int sum=0, 2,24
  6
            for (int i = 0; i < size; i++)
  8
                sum+=arr[i];
 10
 11
            float avg=sum/size;
 12
            cout<<"average : "<<avg;
 13
            return 0;
 14
 15
```

```
    minAndMaxForArray.cpp > 分 main()

      //c++ program to calculate min and max of array
      #include<iostream>
      #include<climits>
      #include<algorithm>
      using namespace std;
 5
      int main(){
 6
          int arr[6]={45,95,65,74,25
          int largest=1000);
 8
          int smallest=INT M
 9
          for (int i = 0; i < 6; i++)
10
11
               largest=max(largest,arr[i]);
12
               smallest=min(smallest,arr[i]);
13
14
          cout<<"minimum element of array : "<<smallest<<endl;</pre>
15
          cout<<"maximum element of array : "<<largest;</pre>
16
          return 0;
17
18
```

```
transposeOf2dArray.cpp X
G transposeOf2dArray.cpp > ...
       //c++ program to print the transpose of 2d array
  1
       #include<iostream>
  2
       using namespace std;
  3
       int main(){
  4
           int arr[3][3]=\{\{1,2,3\},\{4,5,6\},\{7,8,9\}\};
  5
           int row=3;
  6
           int col=3;
  7
           cout<<"array :"<<endl;
  8
           for (int i = 0; i < row; i++)
  9
 10
               for Padmini Jatav j++)
 11
 12
                      T-2k24-61" ":
 13
 14
               cout<<endl;
 15
 16
           cout<<endl;
 17
           cout<<"transpose of array : "<<endl;</pre>
 18
           for (int i = 0; i < col; i++)
 19
 20
               for (int j = 0; j < row; j++)
 21
 22
                   cout<<arr[j][i]<<" ";
 23
 24
               cout<<endl;
 25
 26
           return 0;
 27
 28
```

```
    add2dMatrices.cpp 

    x
```

```
G add2dMatrices.cpp > 分 main()
      //c++ program to add 2 matrices
  1
      #include<iostream>
  2
      using namespace std;
  3
      int main(){
 4
          int matrix1[3][3]=\{\{1,2,3\},\{4,5,6\},\{7,8,9\}\};
  5
          int matrix2[3][3]=\{\{9,8,7\},\{6,5,4\},\{3,2,1\}\}\};
 6
          int sumMatrix[3][3];
 7
          int row=3;//no.of rows of each array
 8
          int col=3;//no. of column of each array
 9
          for (int iPadmimi italav
10
11
              for (int | 2 2 2 1 6 4)
12
13
                   sumMatrix[i][j]=matrix1[i][j]+matrix2[i][j];
14
15
16
          cout<<"sum of 2 matrices : "<<endl;</pre>
17
          for (int i = 0; i <row; i++)
18
19
              for (int j = 0; j < col; j++)
20
21
                   cout<<sumMatrix[i][j]<<" ";
22
 23
24
             cout<<endl;
25
          return 0;
26
 27
```

```
G sortingAscendingOrder.cpp X
G sortingAscendingOrder.cpp > ♠ main()
       //c++ program to sorting and array in ascending order
   1
       #include<iostream>
   2
       using namespace std;
   3
       int main(){
   4
            int array[5]={85,95,25,2,4};
   5
   6
            int size=5;
            cout<<"unsorted array : "<<endl;
   7
            for (int i = 0; i < size; i++)
  8
  9
                cout<<array[i]<<" ";</pre>
 10
 11
            cout < < end Padmini, Jatav for (int i = 8; dmini, Jatav
 12
 13
                for (int ) 12, 24, 6, 1,++)
 14
 15
 16
                     if (array[j] < array[i])</pre>
 17
 18
                         int temp=array[j];
 19
                         array[j]=array[i];
 20
                         array[i]=temp;
  21
  22
  23
 24
            cout<<"sorted array : "<<endl;
 25
            for (int i = 0; i < size; i++)
  26
 27
                cout<<array[i]<<" ";
  28
  29
```

return 0;

30 31

```
← palidromeString.cpp ×

    palidromeString.cpp > 分 main()

       //c++ program to check whether a string is palidrome or not
  1
       #include<iostream>
  2
       #include<string>
  3
       using namespace std;
  4
       bool isPalidromeString(string str){
  5
  6
           int start=0;
           int end =str.length()-1;
  7
           while (start<end)
  8
  9
               if (str[start]!=str[end])
 10
 11
                  return false; ni JataV
 12
 13
               start++;
 14
               end--; 2k24-61
 15
 16
 17
           return true;
 18
       int main(){
 19
           string str;
 20
           cout<<"enter the string :";
 21
           getline(cin,str);
 22
           if (isPalidromeString(str))
 23
 24
               cout<<str<<" is palidrome string ";
 25
           }else{
 26
               cout<<str<<" is not a palidrome string ";</pre>
 27
 28
 29
           return 0;
 30
```

```
@ pascalTriangle.cpp X

    pascalTriangle.cpp > 分 nCr(int, int)

       //c++ program to print the pascal triangle
       #include <iostream>
   2
       using namespace std;
   3
       // Function to calculate factorial
  4
       long long fact(int n) {
   5
            if (n == 0 || n == 1) {
  6
                return 1;
  7
  8
           return n * fact(n - 1);
  9
 10
       // Function to calculate nCr
 11
       long long nCr(int n, int r) {
  return fact(n) / (fact(r) * fact(n - r));
 12
 13
 14
       int main() +2
 15
           int row;
 16
           cout << "Enter number of rows: ";
 17
 18
            cin >> row;
           for (int i = 0; i < row; i++) {
 19
                for (int space = 0; space <=row - i; space++) {
 20
                    cout << " ";
 21
 22
                for (int num = 0; num <= i; num++) {
 23
                    cout << nCr(i, num) << " ";
 24
 25
 26
                cout << endl;
 27
           return 0;
 28
 29
```

```
G countVowel.cpp > ♠ main()
      //c++ program to count vowel in string
       #include<iostream>
       #include<string>
  4
       using namespace std;
       int main(){
  5
  6
           string str;
           cout<<"enter the string :";
getline(cin, str);</pre>
  7
  8
           int count=0;
for (char i = 0; i < str.length(); i++)</pre>
  9
 10
 11
               if (str[i]=='a'||str[i]=='e'||str[i]=='o'||str[i]=='i'||str[i]=='u')
 12
 13
 14
                   count++;
 15
 16
           cout<<"no. of vowel in the given string : "<<count;
 17
           return 0;
 18
 19
```

```
Ger reverseOfString.cpp > 分 main()
      //c++ program to reverse a string
  1
      #include<iostream>
  2
      #include<string>
  3
  4
      using namespace std;
      int main(){
  5
          string str;
  6
           cout<<"enter the string :";
  7
           getline(cin,str);
  8
           int start=0;
  9
           int end=str.length()-1;
 10
          while (startkend)
 11
 12
               char temp=str[end];
 13
               str[end]=str[start];
 14
               str[start]=temp;
 15
               start++;
 16
               end--;
 17
 18
           cout<<"reversed string is : "<<str;
 19
           return 0;
 20
 21
```

```
G sortingDecendingOrder.cpp > ...
       //c++ program to sorting and array in decending order
  1
      #include<iostream>
  2
       using namespace std;
  3
       int main(){
  4
           int array[5]={85,95,25,2,4};
  5
           int size=5;
  6
           cout<<"unsorted array : "<<endl;
  7
           for (int i = 0; i < size; i++)
  8
  9
               cout<<array[i]<<" ";
 10
 11
           cout<<endl;
 12
           for (int i = 0; i < size-1; i++
 13
 14
               for (int j = i+1; j < size; j++)
 15
 16
                   if (array[j]>array[i])
 17
 18
                       int temp=array[j];
 19
                       array[j]=array[i];
 20
                       array[i]=temp;
 21
 22
 23
 24
           cout<<"sorted array : "<<endl;
 25
           for (int i = 0; i < size; i++)
 26
 27
               cout<<array[i]<<" ";
 28
 29
           return 0;
 30
 31
```

```
← classCar.cpp ×

G classCar.cpp > 分 main()
       //extra question 1
  1
  2
       #include<iostream>
  3
       using namespace std;
  4
       class Car
       {
  5
  6
       private:
  7
           string make, model;
  8
           int year;
  9
       public:
 10
           void setData(string m, string M, int y){
 11
               make=m;
 12
               model=M;
               <del>Pad</del>mini Jatav
 13
 14
           void gettata()
 15
               cout<<"detail of Car
 16
               cout<<"make : "<<make<<endl;
 17
 18
               cout<<"model : "<<model<<endl;
               cout<<"year : "<<year;
 19
 20
 21
       };
 22
        int main(){
 23
           string make, model;
 24
           int year;
 25
           Car c1;
 26
           cout<<"enter the detail : "<<endl;
           cout<<"want to make : ";
 27
 28
           cin>>make;
           cout<<"model : ";
 29
 30
           cin>>model;
           cout<<"year : ";
 31
           cin>>year;
 32
 33
           c1.setData(make, model, year);
           c1.getData();
 34
 35
           return 0 ;
 36
        }
```

```
G Arrays.cpp X
```

```
G Arrays.cpp > 分 main()
      //EXTRA QUESTION NUMBER 1:
 1
      #include<iostream>
 2
 3
     #include<climits>
 4
     #include<algorithm>
 5
      using namespace std;
      void inputArrays(int arr[],int size){
 6
 7
          for (int i = 0; i < size; i++)
 8
              cin>>arr[i];
 9
10
11
12
      void outputArrays(int arr[],int size){
          for (int i = 0; i < size; i++)
13
14
15
              cout<<arr[i]<<" ";
16
17
      int max(int arr[],int size){
18
          int largest=INT MIM;
19
          for (int i = 0; i < size; i++)
20
21
22
              largest=max(largest,arr[i]);
23
24
          return largest;
25
26
      int min(int arr[],int size){
27
          int smallest=INT MAX;
          for (int i = 0; i < size; i++)
28
29
30
              smallest=min(smallest,arr[i]);
31
32
          return smallest;
33
      int search(int arr[],int size,int target){
34
          for (int i = 0; i < size; i++)
35
36
37
             if (arr[i]==target)
38
39
               return i;
40
41
42
43
          return -1;
44
45
      int sum(int arr[],int size){
```

```
46
         int sum=0;
         for (int i = 0; i < size; i++)
47
48
49
              sum=sum+arr[i];
50
51
         return sum;
52
53
     int average(int arr[],int size){
54
         int average=sum(arr, size)/size;
55
         return average;
56
57
     int main(){
         int size:
58
59
         int target=0;
         cout<<"enter the size of arrays
60
61
         cin>>size;
62
         int arr[size];
         cout<<"enter the elements of arrays :";
63
64
         inputArrays(arr, size);
65
         cout<<"arrays :";
66
         outputArrays(arr, size);
         cout<<endl;
67
68
         cout<<"sum of the elements of given arrays is : "<<sum(arr, size)<<endl;
         cout<<"minimum of given arrays is : "<<min(arr,size)<<endl;
69
70
         cout<<"maximum of given array is : "<<max(arr,size)<<endl;</pre>
71
         cout<<"average of elements of given array is : "<<average(arr,size)<<endl;
72
         cout<<"for linear search enter the target element : ";
73
         cin>>target;
         cout<<"target is at index : "<<search(arr,size,target);</pre>
74
75
         return 0;
76
```

```
G classStudent.cpp > G Student >  displayData()
       #include<iostream>
  1
  2
       using namespace std;
  3
  4
       class Student
  5
  6
       private:
  7
          int admno;
  8
          char name [20];
  9
          float eng, math, science, total;
 10
       public:
 11
           void inputData(float eg,float mth,float sc){
 12
               eng=eg;
 13
               math=mth;
 14
               science=sc;
 15
           float cResult(){
 16
 17
               total = eng-math-science;
 18
               return total;
 19
 20
           void displayData(){
 21
               cout<<"marks:"<<endl;
 22
               cout<<"english : "<<eng<<endl;
 23
               cout<<"maths : "<<math<<endl;
 24
               cout<<"science : "<<science<<endl;</pre>
 25
               cout<<"total : "<<cResult()<<endl;</pre>
 26
 27
       };
 28
       int main(){
 29
           Student s1;
 30
           int eng, math, science;
 31
           cout<<"for student 1"<<endl;
           cout<<"enter mark of "<<endl;
 32
 33
           cout<<"English: ";
 34
           cin>>eng;
 35
           cout<<endl;
 36
           cout<<"Maths : ";
 37
           cin>>math;
 38
           cout<<endl;
 39
           cout<<"Science : ";
 40
           cin>>science;
 41
           cout<<endl;
 42
           s1.inputData(eng,math,science);
 43
           s1.displayData();
 44
           return 0;
 45
```

```
🕒 classPassenger.cpp > 😭 Passenger
       //lab assignment question 3
  1
      #include<iostream>
  2
      #include<string>
      using namespace std;
  4
      class Passenger{
  5
       private:
  6
           int flightNo;
  7
           string destination;
  8
           float Fuel, distance;
  9
       public:
 10
 11
           float calFuel(float dist){
               float fuel;
 12
               if Pacimini Jatav
 13
 14
                   fuel 1500.01
 15
               }else if ((d/st)1000.0)&(/list<=2000.0))
 16
 17
 18
                   fuel=1100.0;
               }else{
 19
                   fuel=2200.0;
 20
 21
               return fuel;
 22
 23
           void setData(int fgtNo, string dest, float dist){
 24
               flightNo=fgtNo;
 25
               destination=dest;
 26
               distance=dist:
 27
               Fuel=calFuel(dist);
 28
 29
           void displayData(){
 30
               cout<<"Details :"<<endl;
 31
               cout<<"Flight no. : "<<flightNo<<endl;</pre>
 32
               cout<<"Destination : "<<destination<<endl;</pre>
 33
               cout<<"Distance(in km) : "<<distance<<endl;</pre>
 34
               cout<<"Fuel required(in litres) : "<<Fuel<<endl;</pre>
 35
 36
 37
       };
```

```
int main(){
38
          Passenger p1;
39
          int flgtNo;
40
          string dest;
41
          float dist, fuel;
42
          cout<<"Enter the detail : "<<endl;
43
          cout c"flight no ", la V
44
          cin>>flgtNo;
45
          cout < "destination:
46
47
          cin>>dest;
          cout<<"distance : ";
48
          cin>>dist;
49
          p1.setData(flgtNo,dest,dist);
50
          p1.displayData();
51
52
          return 0;
53
```

```
@ multiplyMatrices.cpp X

    multiplyMatrices.cpp > 分 main()

       //c++ program to multiply to matrices
  1
       #include<iostream>
   3
       using namespace std;
       int main(){
  4
   5
            int row1=3;
   6
            int row2=3;
  7
            int col1=3;
  8
            int col2=3;
  9
            int matrix1[row1][col1]=\{\{1,2,3\},\{4,5,6\},\{7,8,9\}\}\};
            int matrix2[row2][col2]={{9,8,7},{6,5,4},{3,2,1}};
 10
            int productMatrix[row1][col2];
 11
 12
            if (col1==row2)
 13
            {
                for (int i = 0; i < row1; i++)
 14
 15
                     for (int j = 0; j < col2; j++)
 16
 17
                         int sum=0;
 18
                         for (int k = 0; k < row2; k++)
 19
 20
                              sum+=matrix1[i][k]*matrix2[k][j];
 21
 22
 23
                         productMatrix[i][j]=sum;
 24
 25
 26
            }else{
                cout<<"Invalid multiplication!!";</pre>
 27
 28
                return 1;
 29
 30
            cout<<"Product matrice : "<<endl;
                for (int i = 0; i < row1; i++)
 31
 32
                     for (int j = 0; j < col2; j++)
 33
 34
                         cout<<pre>cout<<pre>cout<<pre>cout<<pre>cout<<pre>i][j]<<" ";</pre>
 35
 36
 37
                     cout<<endl;
 38
            return 0;
 39
 40
```

```
menuDrivenProgram.cpp > ...
  1
      //lab assignment question 4
  2
      #include<iostream>
  3
      using namespace std;
  4
      void inputMatrix(int matrix[][20],int &row,int &col ){
  5
          cout<<"Enter the no. of row(1-20): ";
  6
          cin>>row;
  7
          cout<<"Enter the no. of column(1-20): ";
  8
          cin>>col;
          cout<<"Enter the element : ";
  9
          for (int i = 0; i < row; i++)
 10
 11
              for (int j = 0; j < col; j++)
 12
 13
 14
                  cin>>matrix[i][j];
 15
                               idmini Jatav
 16
 17
 18
 19
      void outputMatrix(int matrix[][20], int row, ant call
          for (int i = 0; i < ro); 1+4
 20
 21
 22
              for (int j = 0; j < col; j++)
 23
 24
                  cout<<matrix[i][j]<<" ";</pre>
 25
 26
              cout<<endl;
 27
 28
 29
      void addMatrices(int matrix1[][20],int matrix2[][20],int sum[][20],int row,int col){
          for (int i = 0; i < row; i++)
 30
 31
 32
              for (int j = 0; j < col; j++)
 33
 34
                  sum[i][j]=matrix1[i][j]+matrix2[i][j];
 35
 36
 37
          cout<<"Sum of Matrices : "<<endl;
 38
          outputMatrix(sum,row,col);
 39
 40
      void transpose(int matrix[][20],int row,int col){
 41
          cout<<"transpose of matrix : "<<endl;
 42
          for (int i = 0; i < row; i++)
 43
              for (int j = 0; j < col; j++)
 44
 45
```

```
cout<<matrix[j][i]<<" ";</pre>
46
47
              cout<<endl;
48
49
50
     void multiplyMatrices(int matrix1[][20],int matrix2[][20],int product[][20],int row1,int col1,int row2,int col2){
51
          if (row2==col1)
52
53
54
              for (int i = 0; i < row1; i++)
55
56
                  for (int j = 0; j < col2; j++)
57
58
                      int sum=0;
59
                      for (int k = 0; k < col1; k++)
60
61
62
                      product[i][j]=sum;
63
64
65
66
          }else{
              cout<<"Invalid multiplication!!"<<end;
67
68
69
          outputMatrix(product, row1, col2);
70
     int main(){
71
72
          int matrix1[20][20], matrix2[20][20], sum[20][20], product[20][20];
73
          int row1, row2, col1, col2, choice;
          cout<<"For Matrix 1"<<endl;
74
75
         inputMatrix(matrix1,row1,col1);
76
          cout<<"For Matrix 2"<<endl;
77
          inputMatrix(matrix2,row2,col2);
          cout<<"Matrix Operations Menu :"<<endl;</pre>
78
79
          cout<<"1.Output Matrix 1 "<<endl;
80
          cout<<"2.output Matrix 2 "<<endl;
          cout<<"3.Add 2 Matrices "<<endl;
81
          cout<<"4.Multiply 2 Matrices"<<endl;</pre>
82
          cout<<"5.Transpose Matrix 1 "<<endl;</pre>
83
          cout<<"6.Transpose Matrix 2 "<<endl;</pre>
84
85
         cout<<"7. End the program "<<endl;
86
          while (choice!=7)
87
```

```
cout<<"Enter your Choice(1-6): ";</pre>
 88
 89
               cin>>choice;
 90
               switch (choice)
 91
92
               case 1: {
93
                   cout<<"Matrix 1 : "<<endl;
                   outputMatrix(matrix1,row1,col1);
94
95
96
                   break;
               case 2: {
97
98
                   cout<<"Matrix 2 : "<<endl;
99
                   outputMatrix(matrix2,row2,col2);
100
101
                   break;
102
               case 3: {
103
                   if row1==row2 && col1==col2)
104
                       addMatrices(matrix1, matrix2, sum, row1, col1);
105
106
                   }else{ | Tr @
107
                       cout<< "Invalid Addition → (") kendl;
108
109
110
                   break;
               case 4: {
111
112
                   multiplyMatrices(matrix1, matrix2, product, row1, col1, row2, col2);
113
114
                   break;
115
               case 5: {
116
                   cout<<"For Matrix 1 : "<<endl;
                   transpose(matrix1,row1,col1);
117
118
119
                   break;
               case 6: {
120
                   cout<<"For Matrix 2 :"<<endl;
121
122
                   transpose(matrix2, row2, col2);
123
124
                   break;
125
               default:{
126
                   cout<<"Invalid Choice !!";
127
128
129
```

```
//extra question 2
  1
  2
       #include<iostream>
  3
      #include<string>
  4
      using namespace std;
       class Address{
  5
  6
       private:
  7
          string street, city;
  8
          int zipCode;
  9
       public:
 10
           Address(){}
 11
           Address(string str, string ct, int zip){
 12
               street=str;
 13
               city=ct;
 14
               zipCode=zip;
 15
 16
           void getData(){
               coutex "Street : "<<street <endl;
 17
 18
               cout<<"city : "<<city<<endl;</pre>
               cout<<"zip code _ "<zipCode<<endl;
 19
 20
 21
       };
 22
       class Person{
 23
       private:
 24
           string Name;
 25
           Address address;
 26
       public:
 27
           Person(){}
 28
           Person(string name){
 29
               Name=name;
 30
 31
           void setAddress(Address addr){
 32
               address=addr;
 33
 34
           void getData(){
 35
               cout<<"Name : "<<Name<<endl;</pre>
 36
               cout<<"Address : ";
 37
               address.getData();
 38
 39
       };
 40
       int main(){
 41
           string name, str, ct;
 42
           int zip;
 43
           cout<<"Enter the name : ";
 44
           getline(cin,name);
 45
           Person p1(name);
```

```
cout<<"Enter address details : "<<endl ;
46
47
          cout<<"Street : ";
          getline(cin,str);
48
49
          cout<<"City :";
          getline(cin,ct);
50
          cout<<"Zip Code : ";
51
          cin>>zip;
52
          Address myAddr(str,ct,zip);
53
          p1.setAddress(myAddr);
54
55
          cout<<"details:"<<endl;
56
          p1.getData();
57
         return 0;
58
```