Roots of quadratic equation

```
#include <iostream>
include <cmath>
using namespace std;
int main() {
        double a, b, c;
        double root1, root2, realPart, imgPart;
        cout <<  " Enter the coefficients of the quadratic equation(a, b, c):  ";
        cin >> a >> b >> c;
        double disc = b* b – 4*a*c;
        if( disc > 0) {
                root1 = (- b + sqrt(disc)) / (2*a);
                root2 = (- b – sqrt(9disc))/(2*a);
                cout << " Real and Imaginary roots \ n ";
                cout << " Root 1: " << root1 <<" \ n ";
                cout << " Root 2: " << root2 <<" \ n ";
        } else if ( disc == 0) {
                root1 = -b / (2 * a );
                cout << " Two Roots are equal .\ n ";
                cout << " Root : " << root1 ;
        } else {
                realPart = -b/(2*a);
                imgPart = sqrt ( - disc ) / (2 * a ) ;
                cout < < " Complex Roots \ n " ;
                cout <<" Root 1: " << realPart << " + " << imgPart << "i\n";
                cout <<" Root 2: " << realPart << " - " << imgPart << "i\n";
        }
        return 0;
}
```

Display word corresponding to a digit

```
#include <iostream>
using namespace std;
int main () {
        int num ;
        cout << " Input the digit to display in words :  ";
        cin >> num ;
        switch(num) {
                case 0:
                        cout << " Zero " ; break;
                case 1:
                        cout << " One ";  break;
                case 2:
                        cout << " Two "; break;
                case 3:
                        cout << " Three "; break;
                case 4:
                        cout << " Four ";  break;
                case 5:
                        cout << " Five ";  break
                case 6:
                        cout << "Six";  break ;
                case 7:
                        cout << " Seven " ; break ;
                case 8:
                        cout << " Eight " ; break ;
                case 9:
                        cout << " Nine " ; break ;
                default :
                        cout << " Invalid input " ;
}       return 0;       }
```

Input a number and check if it is positive negative or zero

```
#include <iostream>
using namespace std;
int main()
{
        int num;
        cout << " Enter the integer to check: ";
        cin >> num;
        if (num >0)
                cout << " \n The given number is Positive ";
        else if (num<0)
                cout << " \n The given number is Negative ";
        else
                cout << " \n The given number is Zero ";
        return 0;
}
```

Factorial of a number

```
#include <iostream>
using namespace std;
long fact(int n)  {
        long result = 1;
        for ( int i = 1; i <= n ; ++ i ) {
                result = result * i;
        }
        return result;
}
int main() {
        int n;
        cout << " Enter the value of n(positive integer): " ;
        cin >>n;
        cout << " factorial: " << fact(n);
        return 0;
}
```

Display day corresponding to the day number of the week

```
#include <iostream>
using namespace std;
int main() {
        int num;
        cout << " Input the day number of the week: ";
        cin >> num ;
        switch(num) {
                case 1:
                        cout << "Sunday";  break;
                case 2:
                        cout << " Monday"; break;
                case 3:
                        cout << " Tuesday"; break;
                case 4:
                        cout << " Wednesday";  break;
                case 5:
                        cout << "Thursday ";  break;
                case 6:
                        cout << "Friday";  break ;
                case 7:
                        cout << "Saturday" ; break ;
                default :
                        cout << " Invalid input " ;
}
return 0;
}
```

Sum of n natural numbers

```
#include <iostream>
using namespace std;
int main ()
{
        int n ;
        cout << " Enter a positive integer ( n ) : " ;
        cin >> n ;
        int sum = 0;
        for ( int i = 1; i <= n ; i ++) {
                sum += i ;
        }
        cout <<" The sum of the first " <<n << " natural numbers is: " << sum ;
        return 0;
}
```

Check integer for palindrome

```
#include <iostream>
using namespace std ;
int main() {
        int n , num , digit , rev = 0;
        cout << " Enter a positive number : " ;
        cin >> num ;
        n = num ;
        while ( num > 0) {
                digit = num % 10;
                rev = ( rev * 10) + digit ;
                num = num / 10;
        }
        cout << " The reverse of the number is : " << rev;
        if ( n == rev )
                cout << " \n The number is a palindrome . ";
        else
                cout << " \n The number is not a palindrome . ";
        return 0;
}
```

Sorting of array

```
using namespace std;
int main() {
        int heights [20] , i , j ,n , temp;
        cout << " Enter the number of students : \n ";
        cin >> n ;
        cout << " Enter the heights of students : \n ";
        for ( i = 0; i < n ; i ++) {
                cout << " Student " << ( i + 1) << " : ";
                cin >> heights [ i ];
        }
        for ( i =0; i < n ; i ++) {
                for ( j = i +1; j < n ; j ++) {
                        if ( heights[ i ] > heights[ j ]){
                                temp = heights[ i ];
                                heights[ i ] = heights[ j ];
                                heights[ j ] = temp;
                        } } }
        cout << " The Sorted Heights \n ";
        for ( i = 0; i < n ; i ++) {
                cout << heights[ i ] << " \n ";
        }
        return 0;
}
```

Compute length of a string

```
#include <iostream>
using namespace std;
int main()
{
        char str[50] = "";
        int i, length = 0;
        cout << " Enter the string: ";
        cin.getline(str, 50);
        for(i =0; str[i] != "\0"; ++i)
                length ++;
        cout << " Length of the string is : " << length ;
        return 0;
}
```

Compute nCr using a user-defined function

```
#include <iostream>
using namespace std;
long fact(int n)
{
        long result = 1;
        for ( int i = 1; i <= n ; ++ i )
        {
                result = result * i ;
        }
        return result;
}
int main()
{
        int n , r , ncr ;
        cout << " Enter the value of n and r ( positive integer ) " ;
        cin >>n >> r ;
        if (( n >= r ) && (r >=0) ) {
                ncr = fact ( n ) / ( fact ( r ) * fact ( n - r ) ) ;
                cout << " nCr is : " << ncr ;
        }
        else
                cout << " n and r must be non - negative integers and n > r " ;
        return 0;
}
```

Integer swap operation using a user-defined function with pointer arguments

```
#include <iostream>
using namespace std;
void swap( int *x , int *y )
{
        int t;
        t = *x;
        *x =*y;
        *y=t;
}
int main()
{
        int a , b;
        cout << " Enter the values of a and b ";
        cin >>a >> b;
        cout << " \n Before Swap \n ";
        cout << " a = " <<a << " \t b = " <<b;
        swap (& a, &b);
        cout << " \n After Swap \n ";
        cout << " a = " <<a << " \t b = " <<b;
}
```

Kerala tourism web page

```
<html>
        <head>
                <title> Kerala Tourism </title>
        </head>
        <body background = "mountains.jpeg" bgcolor = " Green ">
                <h1 align = "center"> DEPARTMENT OF TOURISM </h1> <br>
                <h2 align = "center"> Kerala State </h2>
                <b> Kerala </b>, in the south-western part of India, is a highly desirable tourist
                destination in Asia, often called
                <font size = " 10 " color = " blue " face = " Cambria "> God's Own Country. </font> <br>
                It was recognized by National Geographic Traveller as one of the world's 50 lifetime
                destinations and one of the thirteen <em> paradises on Earth. </em>
        </body>
</html>
```

Hyperlinking to Various Web Pages

school.html:-

```
<html>
        <head> <title> My School </title> </head>
        <body background = " school.jpeg ">
                <h1 align = "center" color = " blue " > Govt. Tribal HSS Sholayoor </h1> <br>
                Our school, located in the picturesque hilly region of Sholayoor within Palakkad District,
                is nestled in the captivating Attappadi mountain area a renowned hill station in Kerala.
                The school proudly offers four distinct batches of Higher Secondary Courses, namely
                Biology Science, Home Science, Commerce, and Sociology. <br> From first standard to
                twelve about 800 students are studying here. <br> With a student body ranging from the first
                standard to the twelfth, we currently educate approximately 800 students. Furthermore, our
                school is supported by a dedicated team of about 35 staff members who work diligently to
                provide quality education. <br>
                <a href="address.html"> Click here for our school address </a>
        </body>
</html>
```

address.html:-

```
<html>
        <head>
                <title> Address </title>
        </head>
        <body>
                <h2 align = "center" > Govt Tribal HSS </h2>
                <address>
                        Govt Tribal HSS Sholayoor <BR>
                        Sholayoor Post <BR>
                        Attappadi, Mannarkkad <br>
                        Palakkad Dist <br>
                </address>
                <a href = "school.html"> back to school </a>
        </body>
</html>
```

Ordered List Tags

```
<html>
        <head> <title>Entrance Exams After Plus Two</title> </head>
        <body>
                <h1>Entrance Exams After Plus Two</h1>
                <ol>
                        <li> KEAM </li>
                        <li> JEE </li>
                        <li> NEET </li>
                </ol>
        </body>
</html>
```

Client login page

```
<HTML>
        <HEAD>
                <TITLE> LOGIN </TITLE>
        </HEAD>
        <BODY align="center">
                <FORM>
                        <H3>Client Login</H3> <br>
                        User Name    <INPUT Type = " Text "> <br> <br>
                        Password    <INPUT Type = " Password "> <br> <br>
                        <INPUT Type = "Submit"  value = "Submit">   
                        <INPUT Type = "Reset" value = "Clear">
                </FORM>
        </BODY>
</HTML>
```

Unordered List Tags

```
<html>
        <head>
                <title> Higher Education Institutions </title>
        </head>
        <body bgcolor = " Cyan ">
                <h2> Leading Institutions in Kerala for Higher Education </h2 >
                <ul>
                        <li> Indian Institute of Technology, Palakkad </li>
                        <li> National Institute of Technology, Calicut </li>
                        <li> Indian Institute of Science Education and Research , Thiruvananthapuram </li>
                        <li> National University of Advanced Legal Studies, Cochin </ li>
                        <li> Indian Institute of Space science and Technology </li>
                </ul>
        </body>
</html>
```

Table of terrestrial planets

```
<html>
        <head> <title> Terrestrial Planets </title> </head>
        <body>
                <table border = "1">
                        <caption> <b> Terrestrial Planets </ b>(Source NASA) </caption>
                        <tr>
                                <th> Planet </th>
                                < th> Day Length <br> (In Earth hour) </th>
                                <th> Year Length <br> (In Earth days) </th>
                        </tr>
                        <tr>
                                <td> Mercury </td>
                                <td> 1408 </td>
                                <td> 88 </td>
                        </tr>
                        <tr>
                                <td> Venus </td>
                                <td> 5832 </td>
                                <td> 224.7 </td>
                        </tr>
                        <tr>
                                <td> Earth </td>
                                <td> 24 </td>
                                <td> 365.26 </td>
                        </tr>
                </table>
        </body>
</html>
```

Student record management using structure

```
#include <iostream>
#include <cstdio>
using namespace std;
struct student {
        int admNo ;
        char name [25];
        int ceMark ;
        int peMark ;
        int totalMark ; };
int main() {
        student s ;
        cout << " Enter the student details : \n " ;
        cout << " \n Admission Number : " ;
        cin >> s.admNo ;
        cout << " \n Name: " ;
        cin >> ws ;
        cin.getline(s.name, 25) ;
        cout << " \n CE Mark : " ;
        cin >> s.ceMark ;
        cout << " \n PE Mark : " ;
        cin >> s.peMark;
        s.totalMark = s.peMark + s.ceMark;
        cout << " \n The Student Details \n " ;
        cout << " \n Name : " <<s.name;
        cout << " \n Admission No. : "<< s.admNo ;
        cout << " \n CE Mark : " << s.ceMark ;
        cout << " \n PE Mark : " <<s.peMark ;
        cout << " \n Total Mark : " <<s.totalMark ;
        return 0; }
```

Sum of the squares of the first N natural numbers

```
#include <iostream>
using namespace std;
int main() {
        int num, sum =0, i;
        cout << " Enter the limit: ";
        cin >> num;
        for (i =1; i <= num; i ++)
                sum = sum + i*i;
        cout << " Sum of square: " << sum;
        return 0; }
```

Input an integer number and check whether it is a prime or not

```
#include <iostream>
using namespace std;
int main() {
        int num;
        bool isPrime = true;
        cout <<" Provide a positive number:  ";
        cin >> num;
        if (num <=1)
        isPrime = false;
        else {
                for ( int i = 2; i <= num /2; i ++) {
                        if (num % i == 0) {
                                isPrime = false; } } }
        if(isPrime)
                cout << " Number is prime ";
        else
                cout << " Number is not prime ";
        return 0;       }
```

Case converter using JavaScript

```
<html>
        <head>
                <title> Case Converter </title>
                <script language = "javascript">
                        functionconvertToUpperCase() {
                                var textInput = document.myForm.textInput.value;
                                document .myForm.textInput.value = textInput.toUpperCase();
                        }
                        functionconvertToLowerCase() {
                                var textInput = document.myForm.textInput.value;
                                document.myForm.textInput.value = textInput.toLowerCase();
                        }
                </script>
        </head>
        <body bgcolor = " green ">
                <h2> lower case: the celebration of equality and simplicity in language and design </h2>
                <form name = "myForm">
                <table>
                        <tr>
                                <td> Provide a text </td>
                                <td> <input type = "text" name = "textInput"> </td>
                        </tr>
                        <tr>
                                <td> <input type = "button" onclick = "convertToUpperCase()" value = "ToUpperCase">
                        </td> <td> <input type = "button" onclick = "convertToLowerCase()" value ="ToLowerCase"
></td>
                        </tr>
                </table>
                </form>
        </ body >
</html>
```