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

int factorial (int value)
{
    int i=1;
    int fact=1;

    while(i<value)
    {
        i++;
        fact=fact*i;
    }
    return(fact);
}

main()
{
    int max, a;

    cout << "Enter a non-negative integer less than 20 ";
    cin >> max;

    a=factorial(max);
    cout << max << " factorial is equal to " << a << endl;
    if(max<19)
    {
        max=max+1;
        a=factorial(max);
        cout << max << " factorial is equal to " << a << endl;
    }
}
```

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

// Finds the 2 roots of a polynomial. "which" should be
// only 0 or 1. Different values of which give you the
// different roots. Doesn't work if imaginary roots.
double qroot (double a, double b, double c, int which)
{
    double inside, top, bottom;
    inside=b*b - 4*a*c;
    if(which==0)
        top=-b + sqrt(inside);
    else
        top=-b - sqrt(inside);
    bottom=2*a;
    return(top/bottom);
}
```
main()
{
    double n2coef, n1coef, n0coef;
    double root1, root2;

    cout << "Enter the n squared coefficient ";
    cin >> n2coef;
    cout << "Enter the n coefficient ";
    cin >> n1coef;
    cout << "Enter the constant coefficient ";
    cin >> n0coef;

    root1=qroot(n2coef,n1coef,n0coef,0);
    root2=qroot(n2coef,n1coef,n0coef,1);

    cout << endl << "The roots are " << root1 << " and " << root2 << endl;
}

::::::::::::
ex4.cc
::::::::::::
#include<iostream>
using namespace std;

// Very silly program that prompts the user to enter a set of numbers.
// The user then enters one more number and the program tells the user
// which numbers from the original set are larger than his final number.
main()
{
    const int NUM=5;   // number of values user must enter
    int list[NUM];
    int i=0;
    int ans;           // number user enters.
    int any=0;         // set to 1 if any number is greater.

    cout << "You will be prompted to enter " << NUM << " numbers" << endl;
    while(i<NUM)
    {
        cout << "Enter a number ";
        cin >> list[i];
        i=i+1;
    }
    cout << "Now pick a number ";
    cin >> ans;
    i=0;
    cout << endl;
    while(i<NUM)
    {
        if(ans<list[i])
        {
            cout << "Your number " << ans << " is less than " << list[i];
            cout << " from your list" << endl;
            any=1;
        }
        i=i+1;
    }
    if(any==0)
        cout << "Your number was greater than all numbers in the list" << endl;
    cout << endl << "Bye!" << endl << endl;
}