# Assignment 2

1. Take an quadratic equation and find its roots

#include <iostream>

#include <cmath>

using namespace std;

int main() {

float a, b, c, x1, x2, discriminant, realPart, imaginaryPart;

cout << "Enter coefficients a, b and c: ";

cin >> a >> b >> c;

discriminant = b\*b - 4\*a\*c;

if (discriminant > 0) {

x1 = (-b + sqrt(discriminant)) / (2\*a);

x2 = (-b - sqrt(discriminant)) / (2\*a);

cout << "Roots are real and different." << endl;

cout << "x1 = " << x1 << endl;

cout << "x2 = " << x2 << endl;

}

else if (discriminant == 0) {

cout << "Roots are real and same." << endl;

x1 = -b/(2\*a);

cout << "x1 = x2 =" << x1 << endl;

}

else {

realPart = -b/(2\*a);

imaginaryPart =sqrt(-discriminant)/(2\*a);

cout << "Roots are complex and different." << endl;

cout << "x1 = " << realPart << "+" << imaginaryPart << "i" << endl;

cout << "x2 = " << realPart << "-" << imaginaryPart << "i" << endl;

}

return 0;

}

1. Given the expression convert them into c++ statements

C++ expression:

a\*b – c\*d

(m+n) \* (a+b)

3 \* x \* x + 2 \* x + 5

(a + b + b) / (d + e)

2 \* b \* y / (d + 1) – x / 3\* (z + y)