

# **ULTIMATE CONVERTER**

**Installation and usage instructions**

## **INTRODUCTION**

Welcome to Ultimate Converter, the best tool for converting numerical data. This program will serve the purpose of teaching its users about the various numbering systems that are prevalent, especially in computer engineering and coding. Secondly, it will provide the opportunity for the user to explore how numbering manipulation can be achieved through programming.

What makes Ultimate Converter different from other platforms is that the source code is readily available to everyone. This means that it is perfect for use within various classrooms and learning spaces, particularly with programming classes, in which the students may manipulate the code to their liking in order to explore and see what happens when they change different aspects of the code.

The end result is a fun, interactive, and interesting experience with a topic that is otherwise usually dull and boring. So, let's dive into how to get set up!

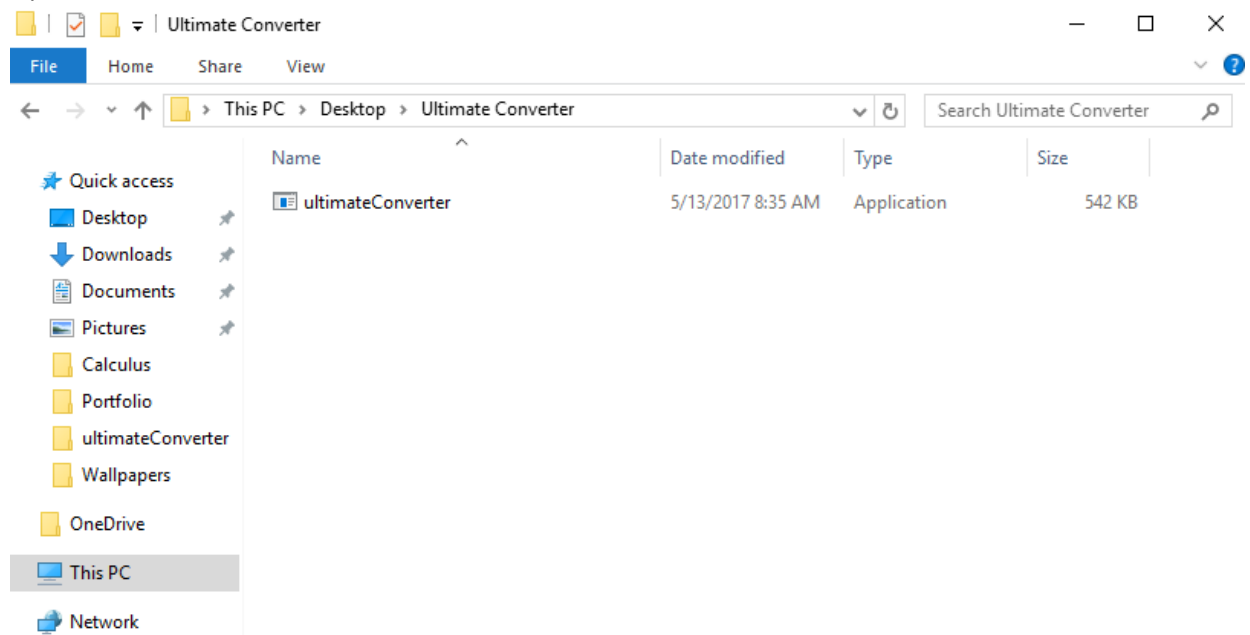
## **INSTALLATION GUIDE**

Ultimate Converter is available in two formats. The first is the original C++ file, whereas the second is the exe program. Below are the installation instructions for each format.

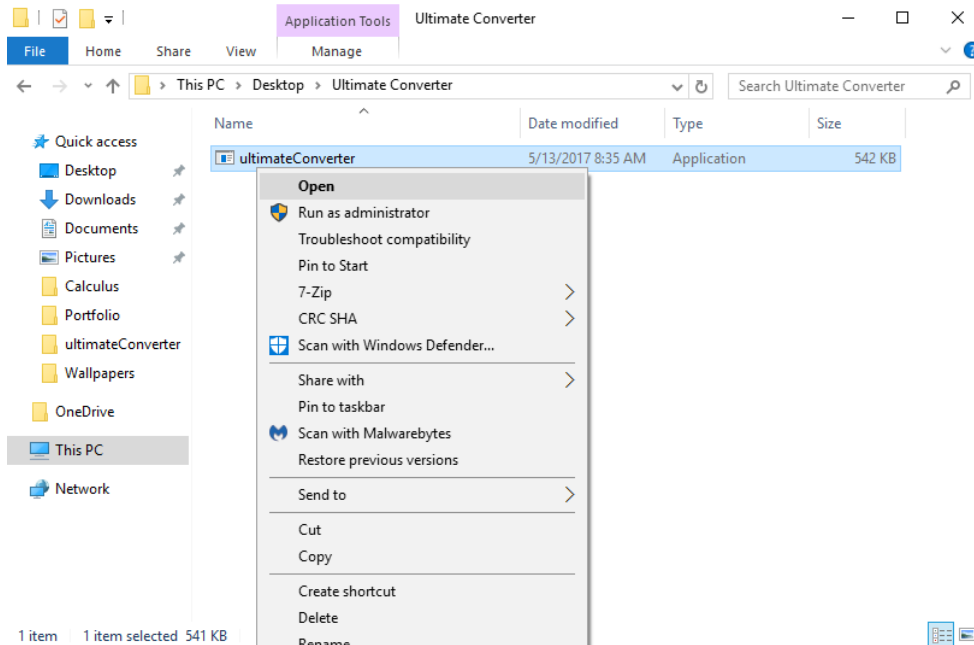
*Please note, both of these methods will only be successful for Windows Operating systems. A Mac version is currently in the works and will be released soon.*

*Using the exe program:*

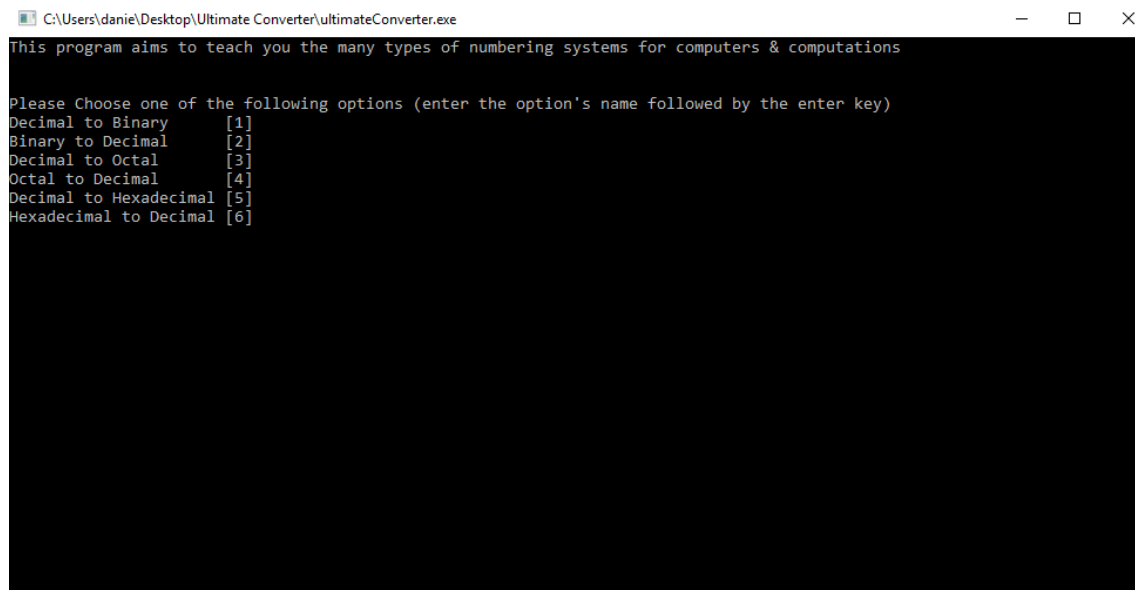
- 1) Download the exe file provided to a known location on your computer
- 2) Open the folder that the file was downloaded to



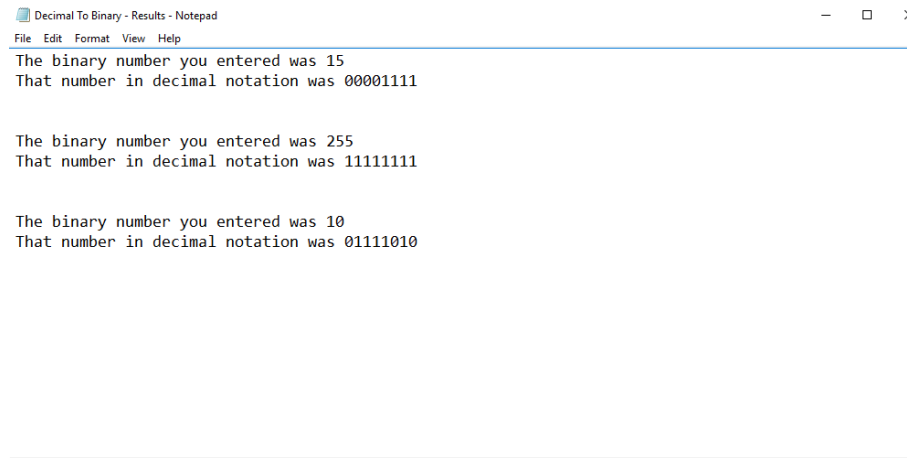
3) Right click on the file and click on “Open”



4) Follow the programs instructions as they are prompted on screen



- 5) When the program has finished running, and output file may have been written to the folder that the program was downloaded to. Check the file to see a record of your inputs.



```

Decimal To Binary - Results - Notepad
File Edit Format View Help
The binary number you entered was 15
That number in decimal notation was 00001111

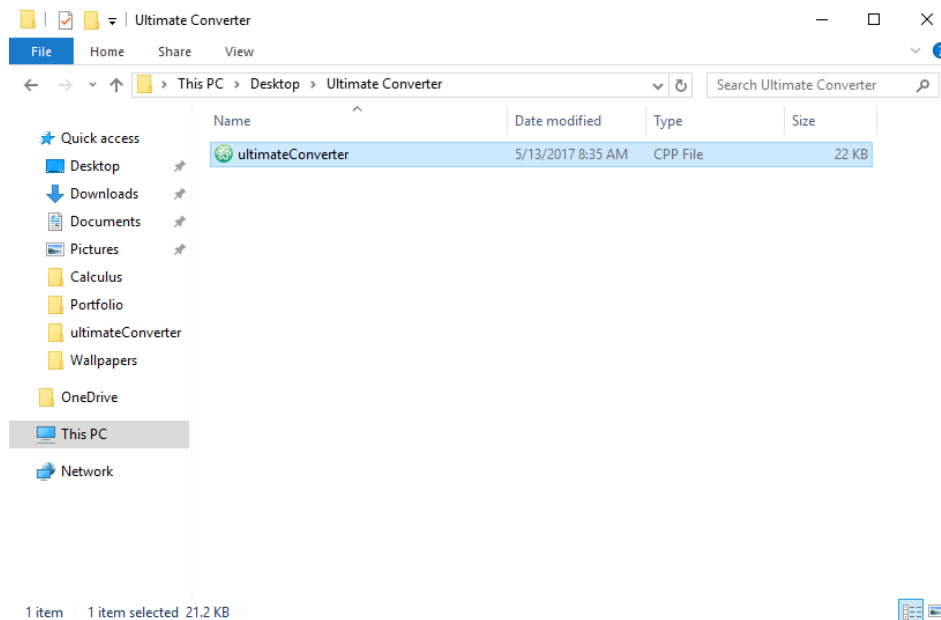
The binary number you entered was 255
That number in decimal notation was 11111111

The binary number you entered was 10
That number in decimal notation was 01111010

```

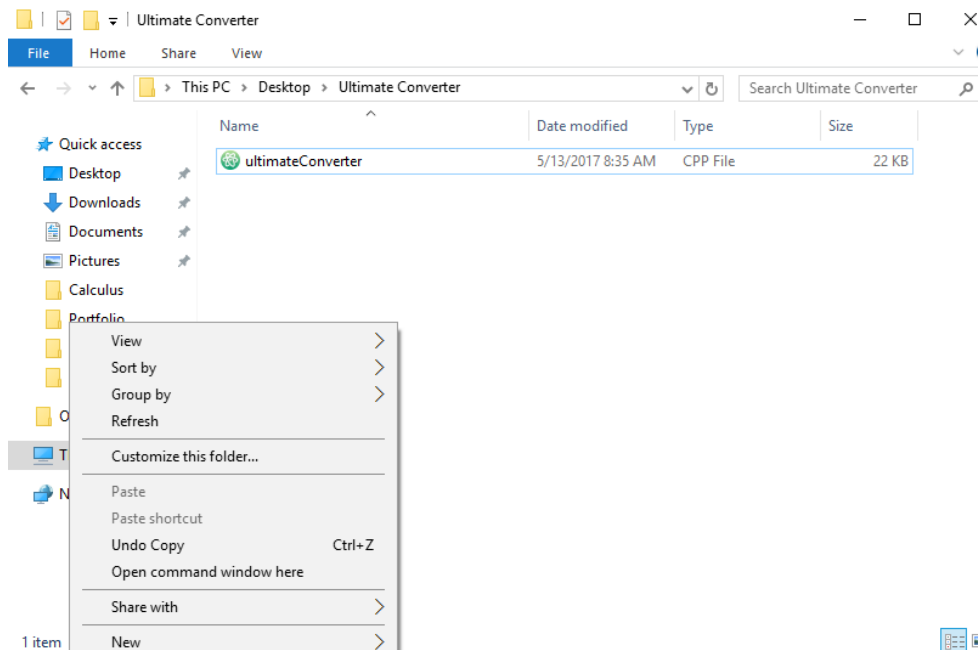
*Using the cpp file:*

- 1) Download the cpp file to a known location on your computer

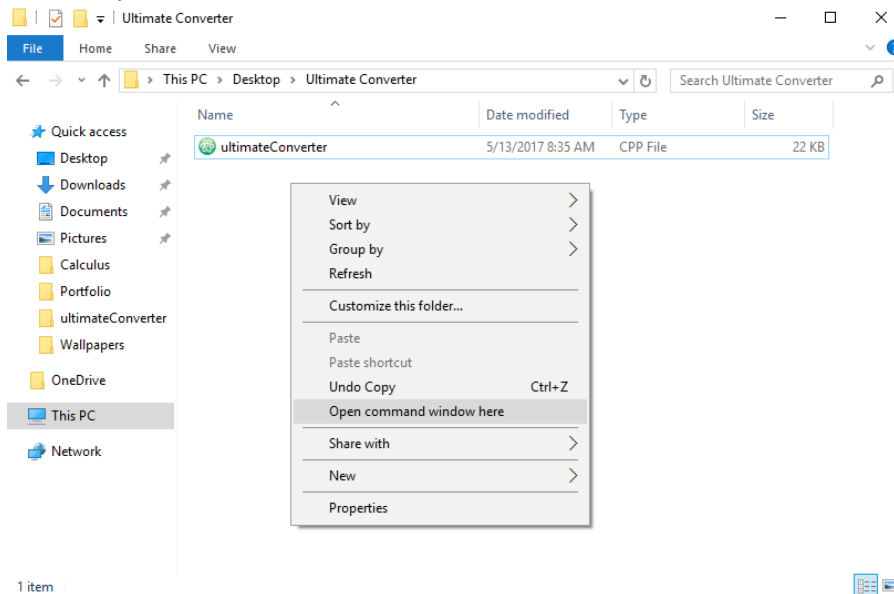


- 2) Make sure an appropriate C++ compiler is installed on the computer. To do this, refer to the MinGW installation instructions which can be found at the following site:  
[http://www.mingw.org/wiki/Getting\\_Started](http://www.mingw.org/wiki/Getting_Started)

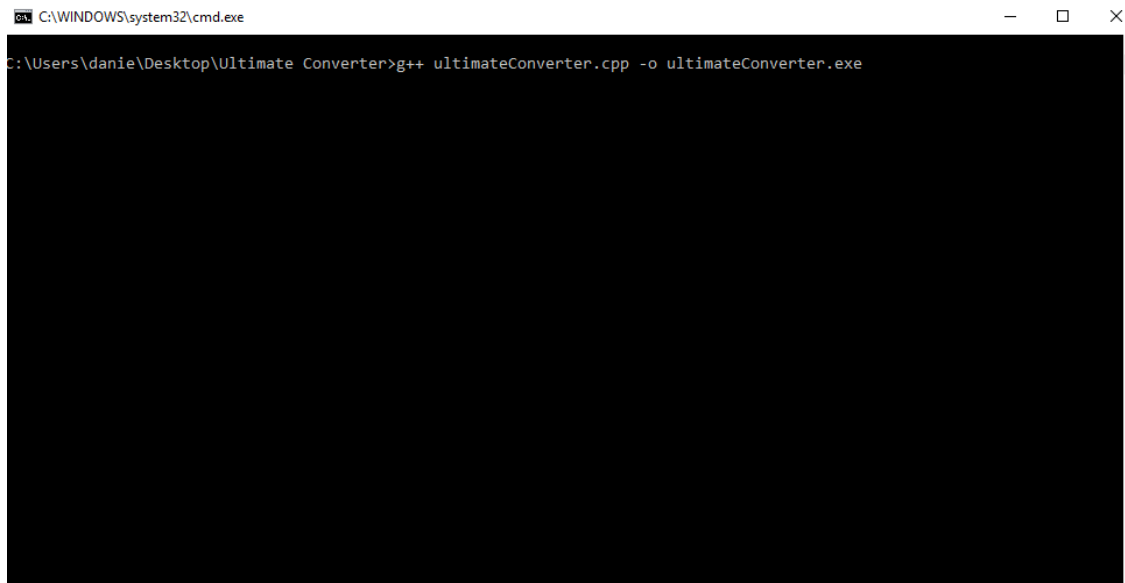
- 3) Press and hold Shift on your keyboard, then right click on any whitespace area in the folder. **Do not click on the file itself.**



- 4) Select “Open command window here”

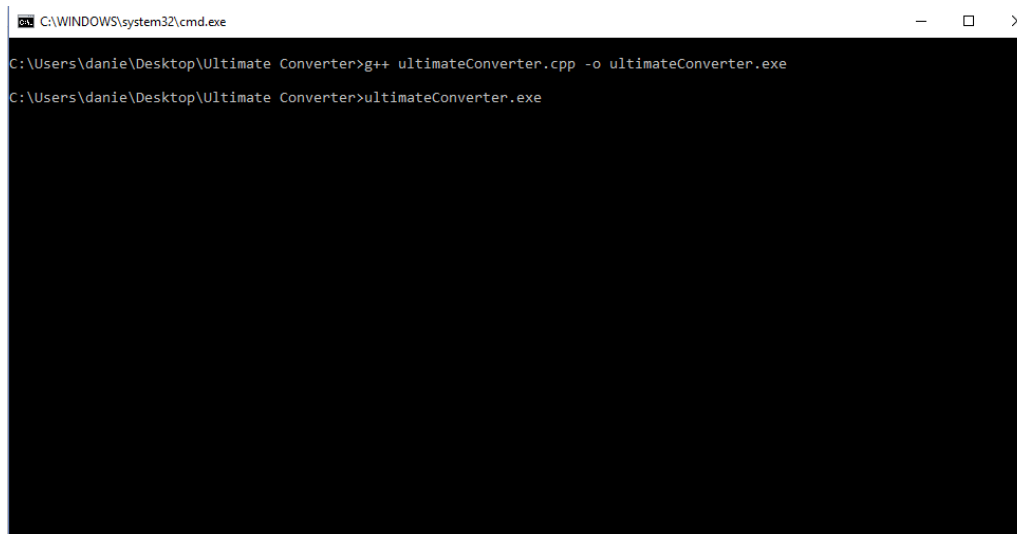


- 5) Type in the following command: `g++ ultimateConverter.cpp -o ultimateConverter.exe`



A screenshot of a Windows command prompt window. The title bar at the top reads "C:\WINDOWS\system32\cmd.exe". The command prompt shows the current directory as "C:\Users\danie\Desktop\Ultimate Converter" and the command being entered is "g++ ultimateConverter.cpp -o ultimateConverter.exe". The command has been executed, and the prompt is now ready for the next input.

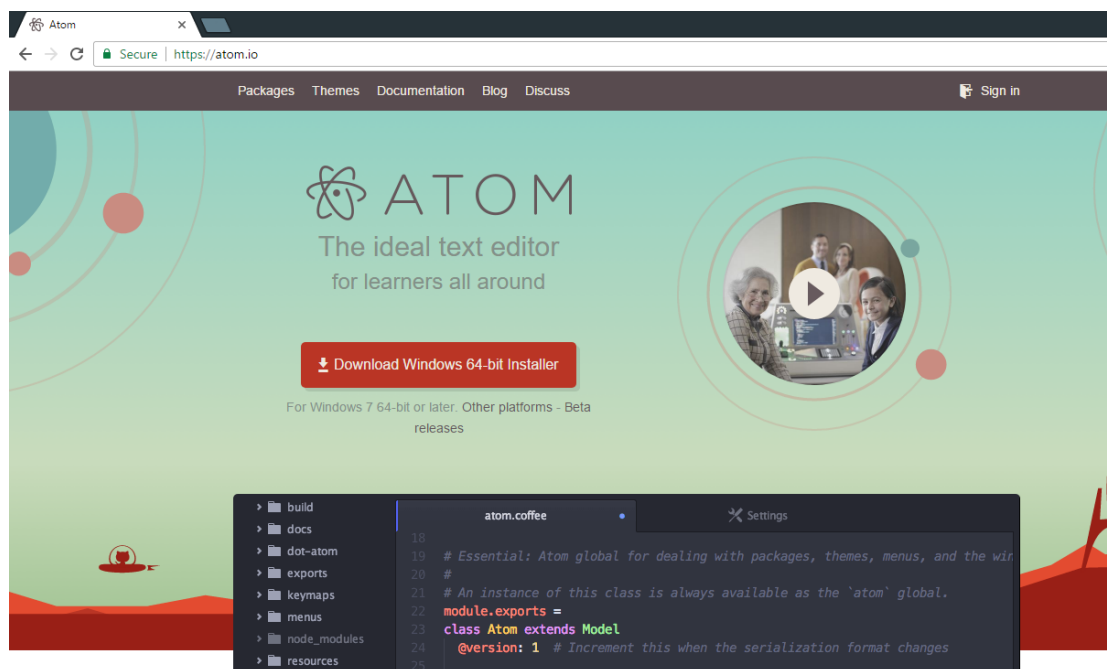
- 6) Press the enter key. After a few sections, you will be able to type again. Type in the following command: `ultimateConverter.exe`



A screenshot of a Windows command prompt window. The title bar at the top reads "C:\WINDOWS\system32\cmd.exe". The command prompt shows the current directory as "C:\Users\danie\Desktop\Ultimate Converter". The first command entered was "g++ ultimateConverter.cpp -o ultimateConverter.exe". After pressing the enter key, the prompt is ready for the next input. The second command entered is "ultimateConverter.exe".

- 7) Press the enter key, and the program will run. Follow the instructions as they are provided on the screen.

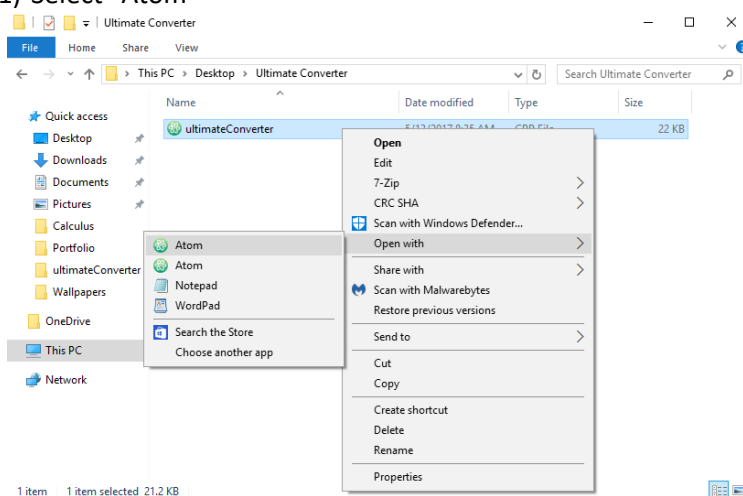
- 8) If you would like to view the source code itself, you will need a program that is capable of viewing C++ files. We recommend downloading Atom Text Editor from the following website address: <https://atom.io/>



- 9) After you have downloaded the Atom Text Editor, go to the folder where the C++ file was downloaded.

10) Right click **on the file**, and select “open with”

11) Select “Atom”



## 12) The source code will be opened in the Atom Text Editor

```

ultimateConverter.cpp — C:\Users\daniel\Desktop\Ultimate Converter — Atom
ultimateConverter.cpp
1  /*=====*/
2  Author   : Danny Hanna
3  Modified by : -
4  Date    : 3/11/2017
5  Course  : CSC-215
6  File Name : ultimateConverter.cpp
7  Version/Rev : 2.3
8  Description : This program converts values from many number systems and
9                teaches of such conversions.
10 /*=====*/
11
12 #include <iostream>           // Include input/output library
13 #include <fstream>           // Include f-stream so an output file can be written
14 #include <cmath>              // Include cmath for math operations
15 #include <string>             // Include string for user inputs
16 #include <windows.h>          // Including windows.h allows for the program to be frozen so not too much info is shown on screen
17
18 using namespace std;         // Using the standard namespace
19
20 int decimalToBinary() {       // decimal to binary exersizes
21     int number = 0;           // number will hold user input
22     int numberCopy = 0;       // keep a copy of number for the output file
23     int remainder = 0;        // remainder will hold the remainder in calculations
24     int indexx = 0;           // index will be the index in the array (index is key word so use indexx)
25     int result[8];            // array with 8 places that is called result
26     cout << "Enter a decimal number between 0 and 255: " << endl;    // prompt for input and take it in
27     cin >> number;
28     if (number < 0 or number > 255) { // make sure number is in range for 8 bits
29         cout << "The number you entered was not between 0 and 255. Try again" << endl;
30         decimalToBinary(); // if incorrect program will repeat this section

```

## 13) Read the comments within the source code to see how the program works