CECS 282 Lab 1
Team 6
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SOURCE CODE

```
/**
   CECS 282 LAB 1.2: Displays the decimal number equivalent
   of a binary string
   @authors Danny Nguyen, Nathan Lai
   @file Lab1.2.cpp
   @version 5.11 8/25/20
*/
#include <iostream>
#include <string>
using namespace std;

/**
   Converts binary string into a decimal equivalent
   @param binaryString - binary input from the user
   @return decimalNum - the decimal equivalent of binary string
*/
int bin2Dec(const string& binaryString) {
   int decimalNum = 0;
   // Amount of numbers checked
   int k = 0;
   // Loop through each character from left to right
   for(int i = binaryString.length() - 1; i >= 0; i--) {

         // Check character at index of string
      char binaryChar = binaryString.at(i);

      if(binaryChar == '1') {
         int twoMultiple = 1;

                        // Power function of a binary number
         for(int j = 0; j < k; j++){
            twoMultiple *= 2;
         }
         decimalNum += twoMultiple;
      }
      k++;
   }
   return decimalNum;
```

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}

```
// Controls operation of the program
int main() {
	string binaryString;

	// Checks that the input is valid
	bool done = false;

	// Gets a binary string from the user
	while (done != true) {
	cout << "Enter binary numbers: ";
	cin >> binaryString;
	done = true;

	// Checks each character from left to right
	for(int i = binaryString.length() - 1; i >= 0; i--) {
		char binaryChar = binaryString.at(i);

		// Detects nonbinary characters and gets another input
		if(binaryChar != '1' && binaryChar != '0') {
			done = false;
			cout << "Invalid input. Try again" << endl;
			break;
		}
	}
   }

	// Returns the decimal equivalent of binary string
   cout << "The decimal equivalent value is: ";
   cout << bin2Dec(binaryString);
   return 0;
}
```

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RUNTIME OUTPUT