

## Assignment #2 Design/Testing

### Understanding the Problem

This problem is asking me to expand the program that I created for my #1 assignment by prompting the user for two sets of information. First off, the program has to prompt to user for a string of characters. Then the program has to print back message as a string of ASCII values in base 2. Secondly, the program has to prompt the user for their own string of ASCII values in base 2. For extra credit, when the user does not enter only ones and zeros for the second string, then have the program recognize the error to the user and have it re-prompt the user for a new binary until they have inputted a valid string. After the user has inputted a valid string of ASCII values in base 2, the program has to print the inputted string's corresponding characters.

### Devising a Plan/Design

Prompt the user for a string of characters.

Calculate the string of the binary number of each character's ASCII values.

Print the string in base 2.

Prompt the user for a string of ASCII values in base 2.

Create an if statement to check for a valid input of the pervious prompt.

Create a loop that re-prompts the user when input is invalid.

Calculate the corresponding characters of the valid string.

Print the string of characters.

### Testing

While putting this program together, external sources I used in order to help me to create this program was the textbook for the course, what was covered in the lecture, documentation from the internet, and my peers. For example, learning how to take my thoughts and ideas on how to apply the problem statement, and transforming that into code was very difficult, and having that outside help really played a large role into actually completing my program.

Values Inputted	Expected	Actual Meet Expected
character string = hi (string of characters)	To print out the correct corresponding binary values for the each inputted character of the inputted string.	Yes
binary string = 0110100001101001 (string of binary numbers)	To print out the correct corresponding characters for each set of binary values inputted of the inputted string of binary values.	No

### Design for Next Assignment:

Create a bin\_to\_dec() function.

Create a dec\_to\_bin() function.

Create a `get_user_inpu()` function.

Create a `check_user_inpu()` function.

Apply the correct organization of the created functions into the main function.

Test Plan:

Input the correct values/characters after the program has been created, checking that each and every output is correct depending on its given input, making sure that the program works correctly when the user inputs the correct inputs. Then I will check if the program can also handle user error and/or see how the program does handle it by inputting incorrect inputs based on what the program prompts the user for.