**PROGRAMMING**

TOPIC

2

**ASSIGNMENT 2-1**



**TIME TO COMPLETE: 1 HOUR 30 MINS**

Write your responses to parts 2 and 4 in the ‘Programming Assignment Documentation Template’ found in ManageBac. Make sure to include your name and the programming assignment number. Your code can be uploaded alongside the accompanying word document.

PART 1: PROBLEM STATEMENT

We’ve been doing a lot of conversions to and from binary. These are fun and all, except for when they’re not. So, we’re going to eliminate the need to do that conversion ourselves. The robots are already replacing human labor.

You’ll create a program that allows us to convert decimal numbers into binary numbers, as well as convert binary numbers into decimal numbers. Your program will need to support both (ideally using some sort of menu to allow the user to select which path to go down).

PART 2: BRAINSTORMING THE ALGORITHM

1. What will the overall structure of your program be? How do you plan on breaking the program’s different functionalities into Python functions?
2. What’s your algorithm for converting a binary number into a decimal number using Python?
3. What’s your algorithm for converting a decimal number into a binary number using Python?

PART 3: WRITE THE PROGRAM

Write your code in a replit project, or PyCharm .py file, whichever is easiest.

Your code should loop to take input for as many binary or decimal numbers as I’d like to feed it. Nom nom. Your program is not expected to convert negative decimal or binary numbers. Your code should be error resistant and not crash if given a number that it cannot convert.

Upload the .py file with your program to ManageBac.

PART 4: REFLECTION

Answer the following questions in the "Programming Assignment Documentation Template" that can be found in ManageBac.

1. Are there any significant or notable errors or deficiencies in your program?
2. How did the process of converting the numbers using Python code differ from your general process of doing it by hand?
3. What part of this program are you most proud of?
4. List any sources used in the creation of your program and how you used them.