

# Programming Assignment 4: Hexadecimal Arithmetic

D1271450 Eileen 李宇恩

## The process of writing the code for the Hexadecimal Arithmetic

Firstly, I went through the assignment's requirements, then I wrote down the steps needed to be made, and started on the hexadecimal addition. The first step is to print out the two inputs hexadecimal in the format as the sample by calculating the spaces needed through the length of the input numbers and the result, and also the line separating the numbers and the result's length must be calculated.

Secondly, is to add the two hexadecimal numbers by starting from the rightmost digit, getting the individual digits from the right and converting hexadecimal digits to decimal, add the digits and the carry, update the carry, Update the result string and if there is a final carry, add it to the leftmost digit, and to change the hexadecimals into decimals by converting each character into decimal, printing it out as an equation on a line below, then to use a while to let the code run until the two hexadecimal numbers I input is zero and zero and if to decide whether the result overflows.

Lastly, I turn to finish the multiplication, which is more complicated, some steps above are the same, the only difference is that you have to multiply the hexadecimals before adding to get the answer.

## The problems I faced when writing the code, and the solutions

The first problem I faced is that I wanted to use %x initially, but after I heard that it isn't an acceptable solution to write the code, I turned to other methods, such as using ASCII table to convert decimals and hexadecimals.

The next problem I encountered is small but aggravating, which is I don't know how is the space is the sample is calculated, after talking it through with my peers, we found that it is just to find the longest length of numbers or the

result and it is two spaces away from the wall, which leads to my next big problem.

Lastly, I found it hard to write the code to calculate the spaces and the length of the line between the numbers and the result, and also to add and multiply the numbers, but after getting the hang of the carry and the convert of the numbers, I eventually came up with the equation to solve them.