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### This reflection is to be completed individually, although consultations with TAs and classmates are encouraged as long as they are appropriately acknowledged.

### This assignment, number 12, is designed for you to work with a C++ program that uses recursion to print the digits of a number in a new base, creating a Python version of that program.

### This reflection document is intended to help you think about (1) some of the surface level differences between C++ and Python versus some of the fundamental similarities between the two languages and (2) the structure of a recursive function in solving a problem. To start, describe what is used in C++ to define the beginning and end of a block of code, one advantage and one disadvantage of that strategy.

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| 1. Description: Curly braces are used to define blocks of code. “{“ starts a block of code and “}” ends it 2. Advantage: You can make your code more compact by making it fit on one line 3. Disadvantage: This may become confusing to read if you are not used to it. |

Explain why the recursive function *printDigits()* does not work correctly when number of be converted is negative.

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| Because the assert checks to make sure that base is greater than one. If it is not, the program errors out. |

The recursive part of the *printDigits()* function has the recursive function call before the statement to output the digit at that particular point. What happens when these two lines (numbered 31 and 32 in the C++ version) are reversed? Briefly explain why this happens.

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| The numbers that are printed are in reverse order. Because the number will be printed every time the recursive function is called. If it is the correct way, the numbers won’t be printed until all of the recursive calls have finished. |

Describe the pseudocode for an iterative version of this function. *Hint: you have encountered a version of this algorithm before*.

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