CS 381 Homework 1
Goal: Research and Explore a new programming language

1. Select a programming language you have not used (NOT Haskell or Prolog). Give a brief history of this language. Who developed the language? When? Where?

   The software system for document preperation LaTex uses the programming language Tex. It is similar to other word processors such as Microsoft Word. Latex was created in the 1980s by Leslie Lamport. It was created to write Tex macros for his own use. Eventually, he Lamport was convinced to publish a user's manual.

2. Give a description of the language. What is its paradigm(s)? How is it categorized? Describe some of the features of the language. What is typing method/discipline?

   LateX code is compiled to produce a PDF document. Which is done through pdflatex. There are two different types of modes: text and math mode. Typing content in text mode would grant whitspace significance; a blankline starts a new paragraph and spaces between typed symbols are text spaces. Meanwhile, typing content in math mode ignores whitespace and a math font is utilized. Majority of the commands available in LaTeX are translated into various other code. This makes LaTeX a macro language. Most importantly, LaTeX documents require a 'begindocument' and an 'enddocument' to signify the contents presented. Additionally, the command '*usepackage*' allows the use of libraries.

3. Is the language compiled or interpreted? On what platforms is the language available? Is the language standardized? Are there different implementations?

4. Give examples of at least two control structures in the language (ie. for-loop or if-statement). Explain.

5. To complete questions 6- 8 you will need to find an online complier/interpreter to run code in your language,
   for example https://onecompiler.com/.
   Alternatively you can install the software or use the school's server. What will you be using?

Note: You can use code you find online to answer questions 6-8 just include this information in the reference list for question 9.

6. Write a "Hello World" program written in the language. Describe how it works. Provide a screenshot of the execution of the program.

7. Write a program to compute the first n Fibonacci numbers where the user is prompted for n (if possible). Describe how the code works. Is the program iterative or recursive? Provide a screenshot of the execution of the program.

8. Write a program to sort a list of integers. You can use any sorting algorithm, but do not use library functions. Describe how the code works. Provide a screenshot of the execution of the program.

9. List at least three references you used for this assignment. Include any sites that you used to obtain code

10. Would you like to learn more about this language? Would anticipate using this language in the future? Explain