

# Programming Languages

The goal of the presentation is to discuss the busy beaver problem and explain why it isn't computable.

- [http://en.wikipedia.org/wiki/Programming\\_language](http://en.wikipedia.org/wiki/Programming_language)
- [http://en.wikipedia.org/wiki/C\\_%28programming\\_language%29](http://en.wikipedia.org/wiki/C_%28programming_language%29)
- [http://en.wikipedia.org/wiki/Pascal\\_%28programming\\_language%29](http://en.wikipedia.org/wiki/Pascal_%28programming_language%29)
- <http://en.wikipedia.org/wiki/ALGOL>

Your presentation should include a discussion of

- What a programming language is.
- How you can write blocks of code (i.e. functions or procedure) which can be referenced in other places in the code.
- How to define a function via recursion (i.e. referencing the function in the definition) and how it relates to definition by primitive recursion.
- Variables and pointers and how they can be used to represent numbers.
- “While” loops, “Goto” statements and “If” statements

In addition your presentation should include at least one of the following

- The *C* programming language.
- The *PASCAL* programming language.
- The *ALGOL* programming language.

You should also feel free to expand on the above in any directions you would like (so long as they are related to the topic and not directly covered in class). If you have any questions regarding the presentation feel free to e-mail your TA or Dr. Ackerman