Goal:
To develop a 2-5 day curriculum which introduces students from grade 5-10 to programming using the Lego Mindstorms education kit.

The Programming Interface:
The Mindstorms programming interface is very graphical. This is an easy and intuitive way to learn basic programming concepts.

Key Concepts
- Loops
- Variables
- If statements
- Debugging
- Building
- Adding to existing code
- Commenting code
- Timing
- Math
- Problem solving
- Planning
- Teamwork
- Loops
- Variables
- If statements
- Debugging
- Building
- Adding to existing code

If Statement
- Statements are based on sensor input.
- In this case pushing a button determines the direction the robot moves.

Variables and Style
- Variables can store data and later be used in logic statements.
- This code is commented. Commenting early on will help enforce good programming practices.

Loops
- Program flows from left to right.
- Each action has an intuitive picture (loop is a circular arrow).
- Details of each action can be set in the bottom pane.

Debugging
- Students are given completed code with bugs.
- Helps reinforce commenting and problem solving.
- Introduces new ideas through the use of completed code.

Lesson Plans
The final project is in the form of a website. The site contains lessons broken down for summer camp instructors. The content of the lessons vary and include example programs, presentations, workstations, and programming challenges.