Complex Conditionals

Teacher: Kuri DiFede
Subject: AP Computer Science A

Learning Goal:
- Students will synthesize their knowledge of if/else if/else statements by creating programs which use the statements as well as by predicting what code segments will output.

Assessment:
Students will be formatively assessed on their work done in class and participation. I will use the information in class to tailor instruction to individual students who are struggling or who are interested in pushing further. Additionally I will also use this time to push students who are drifting off task.

Additionally, students will be working on classwork (finish for homework) that is due tomorrow. This work is graded on completion, but the work done is used to determine further instruction.

AP CS Knowledge Target:
CON-2.A.5 A multi-way selection is written when there are a series of conditions with different statements for each condition. Multi-way selection is performed using if-else-if statements such that exactly one section of code is executed based on the first condition that evaluates to true.

CCSS Standards:
CCSS.ELA-LITERACY.RST.11-12.3
Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

CCSS.ELA-LITERACY.RST.11-12.4
Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 11-12 texts and topics*.

Prerequisite Skills / Links to Past Learning:
Students will need a basic knowledge of boolean variables, as well as conditional logic and syntax.

Materials, Resources, and Technology:
- Macbook Computers
- Canvas Resources
- Runestone.Academy Chapter

Vocabulary
- conditional
- else if

Instructional Procedures:
- 5 mins - Hook: Introduce why you might need more than one selector
  - If you are a sophomore, go to the right side of the room. If you are a senior , go to the left side of the room…..What about the juniors??
- 10 mins - Extended else examples
  - We will go over several examples extended else with the syntax and information
- 5 mins: Repl.it - Show the students the grade repl.it. What will this print? Fix it together.
- 10 mins: Worksheet
  - Students will work together to complete the class worksheet and exit ticket
- 10 min - Classwork / Homework time. Students will work individually and in small groups to complete the assignment. The homework was to read the runestone chapter and to do examples in the book.

Accommodations:

While the students in my class are very different, they seem to have a similar desire to learn and understand this material. This makes the workshop method work very effectively, as the students are able to work alone or in groups (though each person is doing the work individually) and can ask questions and struggle at their own pace. Students have access to my slides, and digital course texts that can help them understand topics - they are encouraged to ask each other questions and ask me when they need help. I find that this method allows students to get the help they need on an individual basis.

Homework:

- Runestone Academy 3.4 exercises .
- Define vocabulary listed above.

Next Lesson:

After this lesson, students will complete a progress check on AP classroom to determine their competency and misconceptions. We will move from this to complex conditionals and demorgans law, which will need their knowledge of the structure of if statements.