**Purpose**

The purpose of this unit was to introduce us to if statements, but more importantly to teach us how we can write our programs to make more complicated decisions based on input and changing states.

**Concepts**

**Selection** – A basic concept in computer programming that allows decisions to be made in the execution order. It is common to use if else statement to act on the result of a question being asked. For example, two numbers being compared to see which is larger.

**Simple Selection –** Simple selection involves a comparison between two variables or states without extra operations or other comparisons being made.

**Combined Selection** – By combining comparisons of a single number, for example:

*If ( -10 > x < 10 )*

One can determine much faster the results that they desire. In the case above we can make sure that x is in the range of -10 to 10 in a single line. We can also combine our selectors together to allow for more complex decisions to be made, like only allowing the above statement to be true if some external condition is also met

If( -10 < x < 10 && some\_bool\_is\_true) {

**Nested Selection** – Oftentimes it becomes necessary to not only decide, but make more decisions based on the outcome of the previous decision. Therefore, nested selections are useful in programming. It becomes possible to say determine if x is in the range of -10 to 10 and then check to make sure x is an even number.

If( -10 < x < 10 && some\_bool\_is\_true) {

If ( x % 2 == 0) {

// do something

}

}

**Boolean** – An on off datatype that is commonly designated as 0 or 1, and sometimes true or false. Booleans act like light switches that allow programmers to turn on and off portions of their code, and make more complex decisions based on the state of a given Boolean.

**Implications**

Selections, Booleans, operators, they all make programming possible. Without them we would be stuck in an endless void. Nothing would ever get done, and programmers would have nothing to google.

Imagine waking up in the morning and not being able to get out of bed just because you can’t decide which eye to open first. That’s the hell that would exist without complex logic operations like selections and Booleans. Of course, we might end up that way anyway thanks to the burgeoning industry of VR technology. Luckily in that scenario, I would get to realize my fantasy of being a good programmer.

You see if I was a good programmer, then I would make lots of money. Otherwise, unless I learned a new valuable skill, I would be flipping burgers.

See what I did there? I know, clever.