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Web Development

**Module 1: What Is Code**

1. Whenever I type, a computer is receiving an input from my keystrokes which is translated by bits of 1’s and 0’s, or in other words on and off. The reason the computer is able to receive my inputs from my keyboard is because the computer is constantly waiting and scanning to find out when it will be provided instructions, and in that case a letter on the keyboard are those instructions. **(150)**
2. A computer uses input and output to create experiences by allowing the user to store date via inputs while the computer can retrieve that data and render it in multiple ways via outputs. The stored data can make experience from displaying websites, videos, organized data in timeline etc. The computer can output any kind of experience if the user provides an input. **(250)**
3. Software products are essentially “infinitely reproducible nothings” because anything that is technology involving software, produces data. The more computers that are produced the more data that is pushed out into the world. Even though a programmer’s job is to manage the data that software produces, having so many technology devices out in the world makes it seem impossible making data seem infinite. This data that can be the same, similar, and or copied making it reproducible. (**150)**
4. Code becomes software by first perceiving the specific coding language that the developer codes in. Once a computer reads the coding language line by line, including every character and space then the computer can turn those codes into tokens. With tokes, the computer then organizes everything and then complies it. It is through the process of compilation that transforms code to its upmost primitive language and finally it becomes machine language. With machine language the computer is able to execute the instructions that the developer intended with the higher end code. Ultimately, this process allows the computer to turn code into software.**(150)**
5. Algorithms is a set of rules that allows a computer to solve a problem. Because it is coded, an algorithm is also software. An algorithm is like a map full of calculations or processes that solves a problem. Programming languages gives algorithms useable value by the process of encoding, naming, and organizing it. Ultimately it can be used for mathematical computations or for practical use with applications. **(150)**
6. The DRY principle is essentially a belief that a programmer should not be writing repeated code. Instead, a coder should be naming variables once, doing many steps once and creating instructions and or functions once. When creating code, you can end up writing the same things over and over, but the dry method helps a programmer become more efficient cutting down time, so it does not become a waste. **(100)**
7. Object-oriented programming is a programming pattern that makes the programmer view problems in terms of objects and their interactions. Objects are the representation of real-world objects that are characterized as data and behaviors. **(100)**
8. Data relates to code because data is a collection of coded information of numbers, strings, and images. Data is packaged code of information. As a programmer codes using information and instructions it becomes data. **(100)**
9. A framework is a platform that is used to develop software applications. Normally it has predefined classes and functions that can be used or adjusted with in its code. **(150)**
10. Debugging is a process of fixing the issues in the code that is causing errors or wrong outputs that the developer did not intend. It’s all about detection so the developer can remove current or potential errors in the code. **(150)**
11. I want to learn how to code, because it is becoming an essential skill of this current world like reading or basic math. From a practical sense, without knowing code I am at a disadvantage when it comes to value of my career skills and intuition and judgement when interacting with software or just technology as a whole.  
    From a personal standpoint, I want to learn how to code because code is a tool yes, but it can be used as a form of expression to build stunning websites, interactive games, and using automation for the convenience of speeding up my workflows or daily activities. With code there is almost no limit to bring things into creation.