1. Hardware Components of my Computer:
   1. Processor Type & Speed: Intel Core i7 @ 2.60 GHz
   2. Storage Capacity Primary: 476GB
   3. Storage Capacity Secondary: 931 GB
   4. Types of I/O devices: Keyboard, Mouse, Touchpad
   5. Explanation of Discovery: I went through the properties section of my computer. The specifications were written right there.
2. We use the binary number system to store information onto a computer because “the devices that store and move information are less expensive and more reliable if they have to represent only one of two possible values.”(Page 7, Java Software Solutions)
3. How many unique items can be represented with each of the following?
   1. 1 bit = 2 items
   2. 3 bits = 8 items
   3. 8 bits = 256 items
   4. 10 bits = 1024 items
   5. 16 bits = 65,536 items
4. 7 bits because 7 bits allows the computer to store 128 items of information, hence the 128 different possible colors.
5. 8 bits because 8 bits allows the document to store 256 items, so the document can store the 240 different letters and symbols.
6. How many bits are in each? How many bytes are in each?
   1. 12 KB = 98,304 bits, 12,288 bytes
   2. 5 MB = 41,943,040 bits, 5,242,880 bytes
   3. 3 GB = 25,769,803,776 bits, 3,221,225,472 bytes
   4. 2 TB = 18,014,398,509,481,984 bits, 2,251,799,813,685,248 bytes
7. RAM is the memory where active programs and data are stored. ROM is a chip that stores software called BIOS and provide the instructions to the computer for a successful boot-up.
8. A disk is a random access device because it is a tangible object that can be taken in and out of the computer versus the RAM is inside the computer.



1. My computer, along with others in the lab, connected to the network via the school wifi, GVHSSecure. What makes up a network is when two or more devices are connected to each other so that they can exchange information. These computers are connected to the internet.
2. LAN “is designed to span short distances and connect a relatively small number of computers.” (Page 22, Java Software solutions) WAN “connects two or more LANs, often across long distances.” (Page 22, Java software solutions). WAN is just glorified and extended LAN.
3. 28 connections for 8 computers. 36 connections for 9 computers. 45 connections for 10 connections. Formula: 0.5x^2-0.5x
4. The internet is a things that “allows computers around the world to communicate with each other.“ The World Wide Web makes that communication more “straightforward and enjoyable.”
   1. School URL: <https://www.garnetvalleyschools.com> The HTTP is the protocol which determines the way the browser transmits and processes information. The machine reference is the world wide web (www). The domain is garnetvalleyschools.com.
   2. The Technology Department URL: <https://www.garnetvalleyschools.com/district_offices/technology_department> The HTTP, Machine referenced, and domain stay the same. The /district\_offices/technology\_department part represents a file to be transferred to the browser for viewing.
   3. Instructor web page URL: <https://sites.google.com/a/garnetvalley.org/mr-slata-s-home-page/ap-computer-programming> The HTTP and machine referenced stay the same. The domain is now sites.google.com/a/garnetvalley.org and the file meant to be transferred for viewing on the browser screen is /mr-slata-s-home-page/ap-computer-programming.
5. // and /\* \*/ are two different types of Java comments used in programming. // is a one-line comment whereas /\* \*/ is a multi line comment that includes line breaks.
6. The identifiers 2ndlevel and hook&ladder are not valid identifiers a 2ndlevel starts with a digit, which is not allowed. Hook&ladder contains a character that is not allowed in the identifier format, &.
7. q is not a good identifier because it is one singular letter and doesn’t specifically tell what exactly the program is about. totVal is not a good identifier because if there are multiple total values in a program, it can be confusing as to which total value you are talking about.
8. Java is case-sensitive. This means that Total is a completely different phrase than ToTal, or tOtAl. “... This means that two identifiers that differentiate in the case of their letters are considered to be different identifiers.” (page 32, Java Software Solutions)
9. A Java Virtual Machine (JVM) is a Java interpreter that runs the Java Bytecode (a representation of the program in a low-level form similar to machine language code.) JVMs allow the user to run the Java Bytecode.
10. What we mean when we say that the english language is ambiguous is that certain phrases can have more than one meaning. One example is “I have butterflies in my stomach”. Another example is “Stuck between a rock and a hard place.” The first example doesn’t mean that someone literally has butterflies in their stomach, it just means that they are nervous or anxious. The second example means that someone isn’t literally stuck between a rock and a hard place, it means that someone is stuck between two difficult choices.
11. Categorize
    1. Logical Error
    2. Run-Time error
    3. Compile-time error
    4. Logical error
    5. Logical Error
    6. Compile-Time Error