Chapter 4 Review Questions

Explain the difference between == and 'equal'.
If you are using == you are comparing two values to see if they are equal to each other. If you are using equal, then you are assigning a value to a variable. The book says that a single equal sign is the basis of the assignment statement. == is a binary operator for checking whether its two operands are identical.

Name 3 types of loops in Java.
A loop according to the book is a statement that repeatedly performs a computation depending on the value of some Boolean expression. One of the three types of loops in Java is the for loop which we have already used many times in this class. The for loop is used more often than the while loop because it often allows to write more compact and readable programs. Another example of a loop we have used in class is a while loop. A third example of a loop used in Java is a do-while loop.

What's if-else vs switch statements?
They are both conditional statements meaning a statement that performs a different computation depending on the value of one or more Boolean expressions. A switch statement provides a more direct solution if we are looking for a computation that suggests more than two mutually exclusive options.

What is 'public', 'default', and 'private' in Java?
Public, default, and private are the three different access modifiers in Java. Public makes the class, method, or variable accessible from any other class. Default makes the class, method, or variable only accessible within the same package. Private makes the class, method, or variable only accessible within the same class.

What's an array? Give 3 arrays of different data types.
The textbook's glossary says an array is a data structure that holds a sequence of values of the same type, with support for creation, indexed access, indexed assignment, and iteration. Three different data type arrays are integer arrays, string arrays, and double arrays.

What is algorithm?
According to the textbook's glossary an algorithm is a step-by-step procedure for solving a problem, such as Euclid's algorithm, mergesort, and any Turing machine.

What is data structure? Give 3 examples.
The textbook's glossary says a data structure a way to organize data in a computer (usually to save time or space), such as an array, a resizing array, a linked list, or a binary search tree. Three examples of data structure are an array, a linked list, and stack.