**4- Encapsulation**

* The instance variable always has a default value. Even if it is not defined explicitly the instance variable still has a value.
* Difference between instance and local variables:

1. Instance variables are declared inside a class but not within a method.Whe
2. Local variables are defined within a method.
3. Local variables must be initialized before use.

* To compare two primitives, use the == operator.
* To see if two references are the same use the == operator.
* We need to call a method in order to use its variables.

**6- Extra-Strength Methods**

* When the program is launched the main() begins to run.
* Developing a class

1. Figure out what the class is supposed to do.
2. List the instance variables and methods
3. Write prepcode for the method.
4. Write test code for the methods.
5. Implement the class.
6. Test the methods.
7. Debug and reimplement as needed.

* The 3 things we’ll write for each class:

1. Prep code: A form of pseudocode to help focus on logic without stressing about syntax
2. Test code: A class or methods that will test the real code and validate that its doing the right thing.
3. Real code: The actual implementation of the class. This is where we write real java code.

* Java program should start with high level design.
* Choose for loops over while loops when you know how many times u want to repeat the loop.
* Use the pre/post increment operator to add 1 to a variable (x++)
* Use the pre/post decrement operator to subtract 1 from the variable (x--)
* Use integer.parseInt() to get the int value of a string.
* The integer.parseInt() works only if the String represents a digit(“0”, “1”, “2”, etc)
* Use break to leave a loop early.
* for(part1,part2,part3)

part1🡪 initialization

part2🡪boolean test

part3🡪iteration expression

eg: for(i-0;i<=100;i++){}

* Difference between for loop and while loop:

A while loop has only the Boolean test; it doesn’t have a built in initialization or iteration expression. A while loop is good when you don’t know how many times to loop and just want to keep going while some coordination is true.