**What is encapsulation and why is it important?**

* **Explain the meaning of Encapsulation**

Through my experience Encapsulation is a method to isolate certain information inside of class, making it not reachable to the other parts of the program but that same class, other classes can access the data but not directly, and the class may be defined with ways that other classes might get its information. The idea is to make the class more completely as one code.

* **Highlight a benefit of Encapsulation**

A good reason to use encapsulation is that if we could code the program and the classes together accessing their information directly, it could give more work if in a certain class we discover that we need to change the member variables name when this member variable was accessed directly by other classes, we would need to change the other classes as well making the other class maybe not work if a not changed when the idea is to make every simple class run on its own.

* **Provide an application of Encapsulation**

In the program I wrote I used 4 classes each class with their task and their behavior:

1 – Scripture;

2 – References;

3 – Word;

4 – WordDisplayer.

* **Use a code example of Encapsulation from the program you wrote**

We already know the great value of abstraction by separating tasks through the classes making it easy to debug but maybe not totally without encapsulation.

Knowing the tasks of the classes, the **Word** only takes care of the text of the scriptures, the **Reference** only takes care of the references of the scriptures, the **Scripture** class only takes care of the way that the whole thing is going to be displayed, reference word, and the **WordDisplayer** takes care that the text of the scriptures are displayed in a list to help the user to visualize it as a list.

* **Thoroughly explain these concepts (this likely cannot be done in less than 100 words)**

The encapsulation in this case comes to hide information from us programmers, after coding every single class and make sure it’s running on its own then when we are combining the classes to make only one program encapsulation prevents us to access directly any variable member by instead of using public to declare them, we use private allowing only the member of that class to use it.

Example The Scripture class can not the text directly from the Word class or the Reference class we would need to use getters to do that, and the advantage of using a getter is that I could change anything inside of the Word and Reference classes like the list or the variable names that hold the text or reference, and still I wouldn’t need to change the code in the Scripture class if I used encapsulation.

To end, besides of using getters and setters to access or change the encapsulated class it is a good practice to use constructors to define the data that goes in the classes making it easier to assign values to the classes.