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

* **Explain the meaning of Polymorphism**

The class this week was so fun and amazing to I learned that Polymorphism is when derived classes inherit lines of code from the base class then override it’s behavior, turning it to a line of code that have different behaviors.

* **Highlight a benefit of Polymorphism**

For me I really like how a line of code or a function can behave in many different ways possible making my program simpler and as well it solidates the principles of abstraction in simplifying objects or tasks.

* **Provide an application of Polymorphism**

After figuring out the behavior of each class, it often happens that there are certain behaviors in each class that are similar to the other class, this similar behavior can be set inside of a base class then have the derived classes inherit it and override it to customize it in the was it will serve best that derived class.

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

In the code I wrote, I had a base class Goal and 3 derived classes SimpleGoal, EternalGoal and ChecklistGoal, and also a GoalManager class that basically was to support the Program class with other complexities.

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

The similar behaviors we had in the program were the RecordEvent, IsComplete, GetDetailsString and GetStringRepresentation.

RecordEvent – Each derived class had their own way to record and event and so what I did was to set it in the base class then used the abstract method on this member function and as well on the base class, which made it obligated for all the derived classes to override it.

The same thing was with the IsComplete and the GetStringRepresentation member functions but with the GetDetailsString was a bit different, I used the virtual method which allows me to override as way but because this function has the same behavior in the SimpleGoal class and the EternalGoal class I only override it in the ChecklistGoal class. The virtual mode allows me to override but it doesn’t obligate me to override in all the derived classes, simply the SimpleGoal class and the EternalGoal inherited the default behavior of the base class.