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Object-oriented programming was created to replace procedural programming. Instead of entirely functions and variables in a program, it would be designed around objects. Object-oriented programming allows a program to be more condensed by reducing inter-dependency between programs/functions. Object-oriented programming combines similar variables into one called an object. The four main parts to object-oriented programming are encapsulation, abstraction, inheritance, and polymorphism. Encapsulation is where objects of a class can remain private. Abstraction is the idea of hiding the complex details of one object while providing other objects only what is needed to operate. Inheritance is when an object is derived from another very similar object so it can perform its own functions. Polymorphism allows for the use of a method similar to the class it has been derived from in another class. The benefit of using object-oriented programming is its ability to condense code (in contrast to procedural programming), its flexibility, and its versatility to be used repeatedly.

## Report Summary

- 1. Yes my program runs without errors.
- 2. Yes the program produced the correct result.
- 3. Yes the program was tested thoroughly.
- 4. I spent about 1 hour working on this assignment.
- 5. Yes I wrote the program on my own.
- 6. I referenced the lecture videos to ensure I used the correct syntax for the GUI portion of the assignment.
- 7. I learned how to create a GUI in Java.
- 8. None.