Part A- OOP Class Design Guidelines

Question: Please choose 3 guidelines and discuss them in-depth.

OOP- object-oriented programming is a paradigm which is a way of programming that organize data and modifiers to design products or applications.

Encapsulation – Encapsulation is to use for hiding complexity not details. (you want to hide complexity from any user). Grouping functionality into a class that you will reuse and complicated processing can be encapsulated into a class and simple methods exposed to your other class For example, by implementing getters and setters, attributes are accessible from any other class.

Inheritance- By using “extends” keyword in child class, child class can access everything from parent class. In other words, inheritance is saving programmers’ time by using “DRY” don’t repeat yourself method.

Interface- Interface cannot contain constructor and interface methods do not have a body.

(Interface is used for grouping related methods with empty bodies.)

A screenshot of a computer

Description automatically generated with medium confidence

According to the above screenshot, Tree class can access methods and overriding those from the LivingBeing class with “implements” keyword in Tree class.

Polymorphism – method overloading and constructor overloading. Can be used by other class, not only for one class.

Graphical user interface, text

Description automatically generated

Iphone class and Android class are allowed to use the same method and implement code as they desire in their class without creating a new method.