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APM11A1 Individual Assignment

Question 1

1. A unified modelling language (UML), is a standardized visual modeling language used in software development to provide an intuitive way to visualize the design of a system.
2. OOP is a programming paradigm that uses objects and classes to structure software and some of its principles includes these 3:
 - a. Abstraction: which involves hiding complex implementation details and showing only the essential features of an object.
 - b. Encapsulation: which is the process of wrapping data and methods that operate on the data into a single unit, typically a class.
 - c. Inheritance: allows a new class to inherit properties and methods from an existing class.
3. An algorithm is a well-defined sequence of steps or instructions designed to solve a specific problem or perform a specific task. Algorithms have a couple of goals which they intend to solve and they include solving problems by transforming input into the desired output and this can be in the form of sorting and the algorithm also aims to optimize resources usage by finding more efficient ways to execute a set of instructions.