P1 Create a design specification for data structures explaining the valid operations that can be carried out on the structures.

1.1definition

In computer science, an abstract data type is a theoretical data type that is largely defined by the operations and work on it and the limitations that apply. Professionals describe an abstract data type as a “mathematical model” for groups of data types, or as a “value with associated operations” that is independent of a particular implementation. In other words, we can say that abstract data types are the entities that are definitions of data and operations but do not have implementation details. In this case, we know the data that we are storing and the operations that can be performed on the data, but we don't know about the implementation details. The reason for not having implementation details is that every programming language has a different implementation strategy for example; a C data structure is implemented using structures while a C++ data structure is implemented using objects and classes.

1.2 ways to represent ADT