1. **Define and list an example of a scalar data type:** Scalar data type refers to non-decomposable variables such as an int, char, or float. These variables lose their value when broken.

2. **List three things that are determined by the data type of a variable:** Legal value that it may assume, amount of storage it may require, and the legal operations that may be performed on it.

3. **Define and list 3 examples of a data structure:** A data structure is a collection of cells where each cell holds a value that is a scalar data type. 3 examples are: arrays, structs, and classes.

4. **Name the three types of efficiency:** How the program is written, how much space the program takes in memory, and execution time.

5. **Define and list three examples of Abstract Data Type:**

An ADT is a programmer created data type that does two things:

1. It specifies the values that can be stored (domain or range). Ie. int. float. double

2. It specifies the operations that can be done on the values. Ie. + - \* / ++ --

Examples: Vectors, matrices, stacks.

We use structures to group related items together even if they have different data types.

**Data structure:** A set of variables that can be grouped together under a unique declaration

6. **Explain what is meant by encapsulation:** Hiding the details so the components of the software do not reveal the internal details of their respective implementation.

7. **Explain what is meant by the implementation of an ADT:** Implementing an ADT is when a programmer defines a data type that they create to be used in a program. An ADT is implemented when it is used as a data type in a program

8. **List the criteria to consider when selecting a data structure to implement an ADT.** Is the data structure a good representation of the collection of data and its properties? How easy will it be to write the algorithms/functions to implement the operations in the ADT? Will it result in an efficient implementation in terms of storage requirements and execution time?

9**. List three advantages of creating ADT implementations:** The same ADT can be used in different applications programs, you can write and debug the application faster, and the source code is more readable.