## Assignment 2 Questions

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1. To manage a cluster of sets within the theme we need a data structure that allows efficient organisation of sets based on their release year while being able to retrieve them based on different criteria, for example, the highest sale price. An ordered list is the most suitable data type for this functionality as it allows easy insertion of sets in chronological order. The dynamic nature of the data type also allows effective search and retrieval for sets released in a specific year or any another metric.
2. Using a linked list as the data structure aligns well with the characteristics of the LEGO data set for several reasons. Linked lists facilitate dynamic memory allocation allowing for optimal memory usage without needing to predefine a fixed size for clusters. Additionally, they allow efficient insertion and deletion operations, essential for maintaining the chronological order of the data.
3. The collection of themes of clusters of sets requires a hierarchical structure to maintain organisation. Therefore, the most relevant ADT is a general tree. A general tree allows for a flexible hierarchy in which each node represents a theme and child nodes represent cluster of sets within that theme.
4. A linked list as the foundational data structure is most appropriate as it allows flexible addition and removal of themes dynamically. It can also accommodate varying number of these and clusters without needing a predefined size. Managing the collection of themes effectively requires effect insertion and deletion operations which a linked list allows.