Application

- Define the terms: decomposition, abstraction, and algorithmic thinking
- Recognize scenarios where each computational thinking technique is applied
- Apply decomposition, abstraction, and algorithmic thinking to solve a problem
- Analyse and create flow charts using flow chart symbols
- Describe the difference between algorithms and computer programs
- Identify algorithms that are written as flow charts, pseudocode, and code
- Use a trace table to detect and correct errors in a program
- Use a trace table to walk through code that contains loops, selection, and lists
- Use a trace table to detect and correct errors in a program
- Define the searching problem: finding the position of an item in a list of items
- Describe how linear search is used for finding the position of an item in a list of items
- Perform a linear search to find the position of an item in a list containing sample data
- Analyse the code for linear search
- Identify factors that could influence the efficiency of a linear search implementation
- Describe how binary search is used for finding the position of an item in a list of items
- Perform a binary search to find the position of an item in a list containing sample data
- Describe the features of linear and binary search
- Analyse code for linear search and binary search
- Identify factors that could influence the efficiency of a linear search implementation
- Compare the features of linear and binary search
- Determine which is most suitable in a given context
- Interpret and analyse the code for linear search and binary search
- Trace code for linear search and binary search with input data

Principles

- Describe the difference between algorithms and computer programs
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