Computational Thinking with Algorithms: Project 2021

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## Higher Diploma in data

# Introduction

Concept of sorting and sorting algorithms

Relevance of concepts:

complexity (time and space)

performance

in-place sorting

stable sorting

comparator functions

compression-based and non compression-based sorts

etc.

# Sorting Algorithms

## Bubble Sort

Introduce algorithm

Discuss space and time complexity

Explain how it works

(Diagram of explination) \* Save until tomorrow

Different input instances – graph made already – single out each

## Merge Sort

Introduce algorithm

Discuss space and time complexity

Explain how it works

(Diagram of explination) \* Save until tomorrow

Different input instances – graph made already – single out each

## Counting Sort

Introduce algorithm

Discuss space and time complexity

Explain how it works

(Diagram of explination) \* Save until tomorrow

Different input instances – graph made already – single out each

## Insertion Sort

Introduce algorithm

Discuss space and time complexity

Explain how it works

(Diagram of explination) \* Save until tomorrow

Different input instances – graph made already – single out each

## Quick Sort

Introduce algorithm

Discuss space and time complexity

Explain how it works

(Diagram of explination) \* Save until tomorrow

Different input instances – graph made already – single out each

# Implementation and Benchmarking