

Minor Research Report 1

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I. Overview

- Objectives:
 - Get familiar with Typescript programming language
 - Solve exercises on Functional Programming course using Typescript
- Progress: Done

II. Solved exercises

- Greatest common divisor ([Solution](#))
 - Description: Calculate the greatest common divisor of 2 numbers
 - Algorithm: Recursion
- Insertion sort ([Code](#))
 - Description: Implement a sorting algorithm using insertion operator
- Merge sort ([Code](#))
 - Description: Implement a sorting algorithm using split and merge operators
- Quick sort ([Code](#))
 - Description: Implement a sorting algorithm using divide-and-conquer approach
- Binary Search Tree ([Code](#))
 - Description: Implement a searching algorithm using binary tree
- AVL Tree ([Code](#))
 - Description: Implement a efficient searching algorithm using auto-balance binary tree
- N-Queens ([Solution](#))
 - Description: Calculate all possible ways of placing N queens in a NxN chessboard such that no pair of queens can attack each other
 - Algorithm: Backtracking with bit masking