Lab10 – Algorithms and Sorting and Time Complexity

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# Exercise 1

## Part A

## Program (program name)

**File name:** (file’s relative path)

**Purpose:** To have a sample from which to create external documentation.

**Packages:** (list of imported packages)

**Limitations:** (input it can’t handle, list of possible error messages, round-off error)

**Bugs:** (list of unfixed bugs)

**Input:** …

**Output:** …

**Pseudocode:**

Algorithm (program name)

START

1. Step 1
2. .
3. .
4. .

END (program name)

**Test run(s):**

## Part B

The binary search algorithm on average needs less comparisons to find the solution than the linear algorithm.

## Part C

Linear:

Comparisons ≈ n / 2

Binary:

Average ≈ ln(n)

## Part D

If I were to choose a search algorithm between the two I would choose binary, because it’s more efficient.