Lab 2: Searching and Sorting

Write functions to demonstrate the following algorithms:

1   Searching

- Sequential Search

- Binary Search

Advance:

- Sequential Search (with sentinel)

- Recursive Binary Search

- Interpolation Search

2   Sorting

- Selection Sort

- Insertion Sort

- Bubble Sort

- Interchange Sort

Advance:

- Insertion Sort (with sentinel)

- Binary Insertion sort

- Improved Bubble Sort

- Shaker Sort

3   Practical problem

Given the file "Players.txt" containing information about football players. Each player's information is described on one line, with the format:

`Position/Name/Year of birth/National team/Club`

Demonstrate the following actions:

- Find all players born in 1994.

- Find all players who play for Manchester United club.

- Find all FW play for Manchester City.

- Sort the players ascendingly by their year of birth and last name.