

# Linear Search Application

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Welcome to the Linear Search Application! This simple visual basic windows application allows you to read a list of elements from a file containing elements of any data-type and perform a linear search to find a specific element. The application is developed in visual studio ultimate 2010 and has been published as an windows application.

## Getting Started

### Installation

- Make sure your operating system is **Windows**.
- Download the zip file **210101117\_Assignment1C.zip** and Unzip it. Navigate to **Application** folder after unzipping.
- Click on **setup.exe** and install the application.
- Run the application that is named **LinearSearch**.

### Usage

- In the GUI that comes up, click the **Open File** button and upload the **.txt** file containing the input list elements.
- Make sure that each element is in a separate line in the text file. Like the example below:

```
1  
Cats  
3.6  
2
```

- Enter the target element to be searched in the textbox and get the output in a pop-up message.
- Watch the visualisation highlighting as the search proceeds to understand the working of algorithm.
- You can control the speed of animation by clicking the corresponding option in the Dropdown list.
- You can enter the numbers in exponent form also by **xEy** where **x** is a Real Number and **y** is an integer.
- The strings can be entered without any quotes.

### Results

- The program will perform a linear search and inform you whether the element is found and, if so, at which index using a popup message.

### Note

- The implementation gives the first index of occurrence of the target if found.
- The program by default doesn't consider the case while matching string elements. Eg: Hello and hello are treated same.
- You can change this behaviour by checking the radio button for **Check case sensitivity**.
- Newline is considered as the separator and not space.

- Feel free to see the inline comments and technical documentation for more detailed explanation.
- If you want to see the code for the application, navigate to `Code` folder and click on `LinearSearch.sln` file which will be opened in `Visual Studio 2010 Ultimate`.