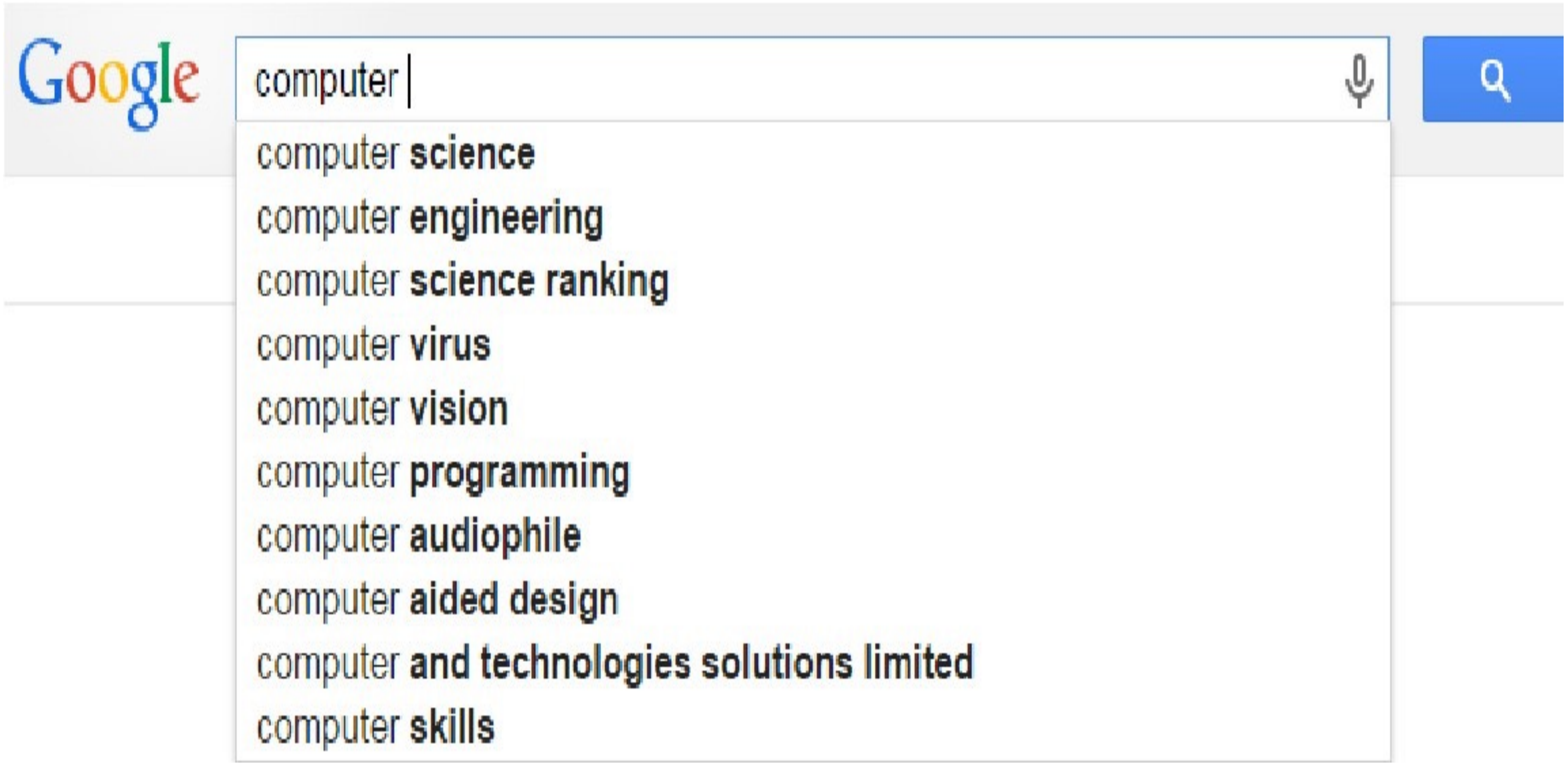
# COMP4021 Internet Computing

## Programming Assignment: *jQuery Autocomplete*

## Autocomplete

- Query autocomplete feature is commonly used in search engines

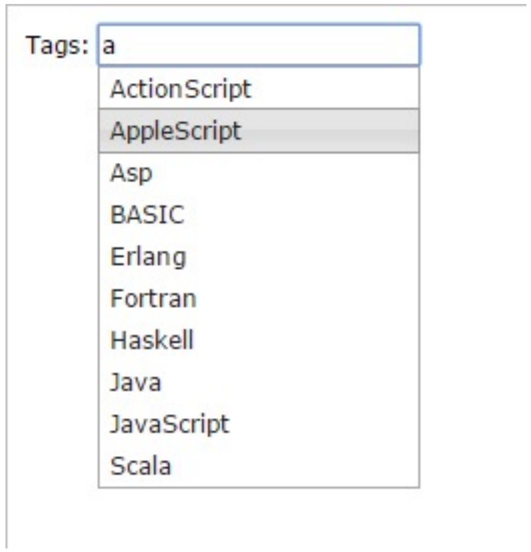


computer

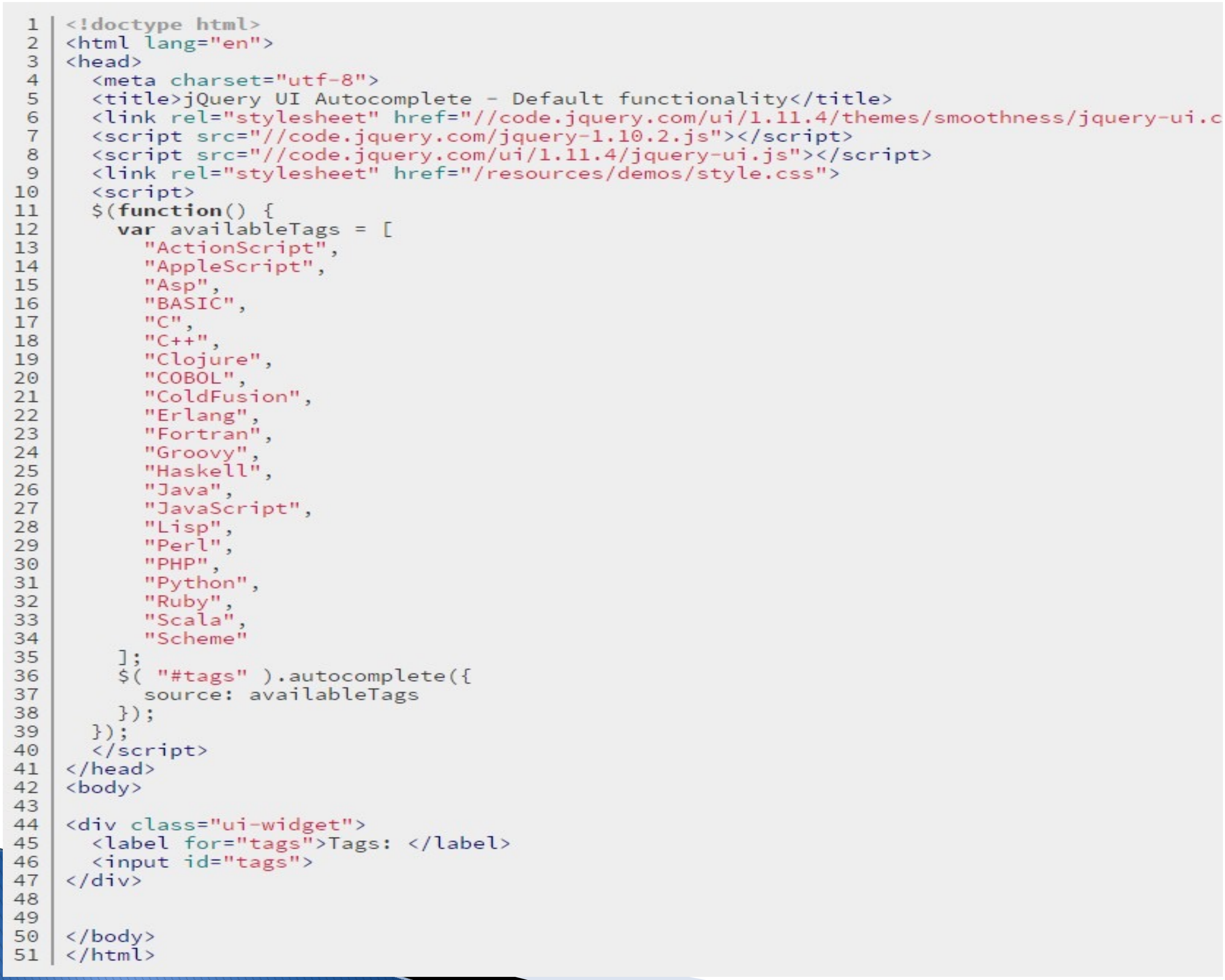
computer science
computer engineering
computer science ranking
computer virus
computer vision
computer programming
computer audiophile
computer aided design
computer and technologies solutions limited
computer skills

## 1. Basic Functions

- When user types in abc, list all strings in the datafile that contain abc anywhere in the strings(e.g., abcd…, dabc…, dabce…).


Tags: a

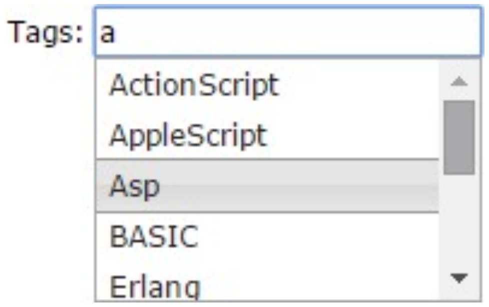
ActionScript
AppleScript
Asp
BASIC
Erlang
Fortran
Haskell
Java
JavaScript
Scala

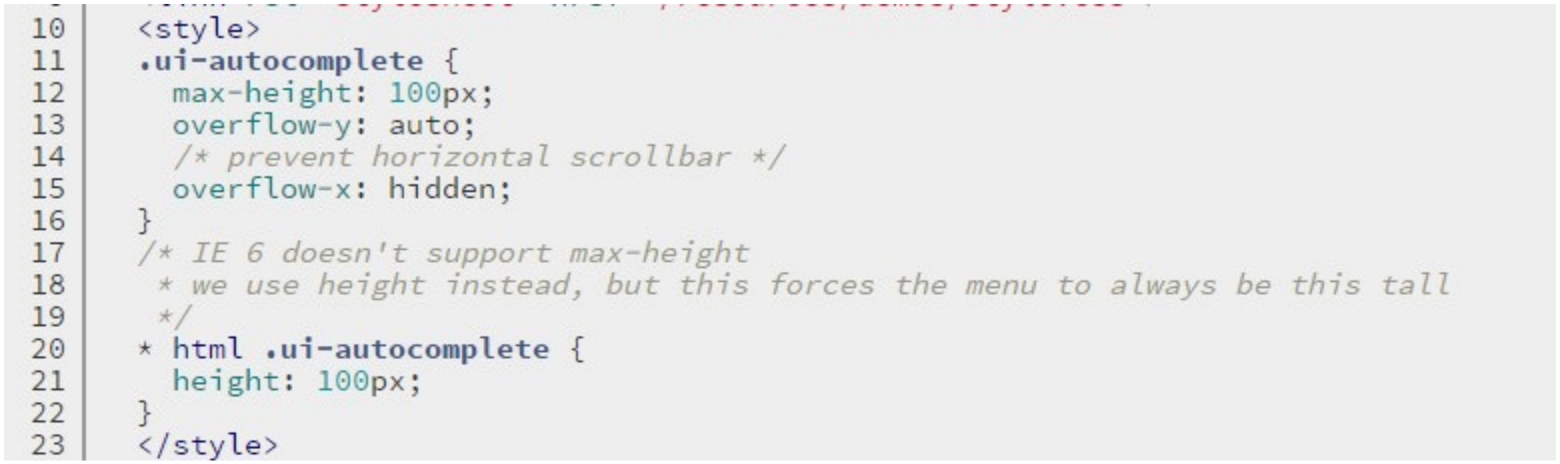


```html
<!doctype html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>jQuery UI Autocomplete - Default functionality</title>
  <link rel="stylesheet" href="//code.jquery.com/ui/1.11.4/themes/smoothness/jquery-ui.c
  <script src="//code.jquery.com/jquery-1.10.2.js"></script>
  <script src="//code.jquery.com/ui/1.11.4/jquery-ui.js"></script>
  <link rel="stylesheet" href="/resources/demos/style.css">
  <script>
  $(function() {
    var availableTags = [
      "ActionScript",
      "AppleScript",
      "Asp",
      "BASIC",
      "C",
      "C++",
      "Clojure",
      "COBOL",
      "ColdFusion",
      "Erlang",
      "Fortran",
      "Groovy",
      "Haskell",
      "Java",
      "JavaScript",
      "Lisp",
      "Perl",
      "PHP",
      "Python",
      "Ruby",
      "Scala",
      "Scheme"
    ];
    $( "#tags" ).autocomplete({
      source: availableTags
    });
  });
  </script>
</head>
<body>

<div class="ui-widget">
  <label for="tags">Tags: </label>
  <input id="tags">
</div>


</body>
</html>
```

## 2. Extended Function: Scrollable Results

- When displaying a long list of options, set the max-height for the autocomplete menu, scroll through the results.

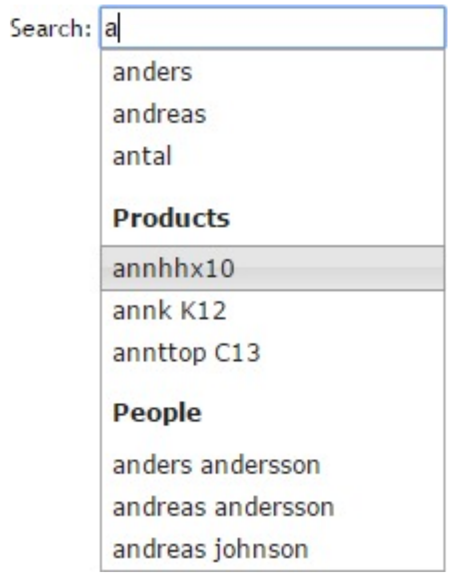


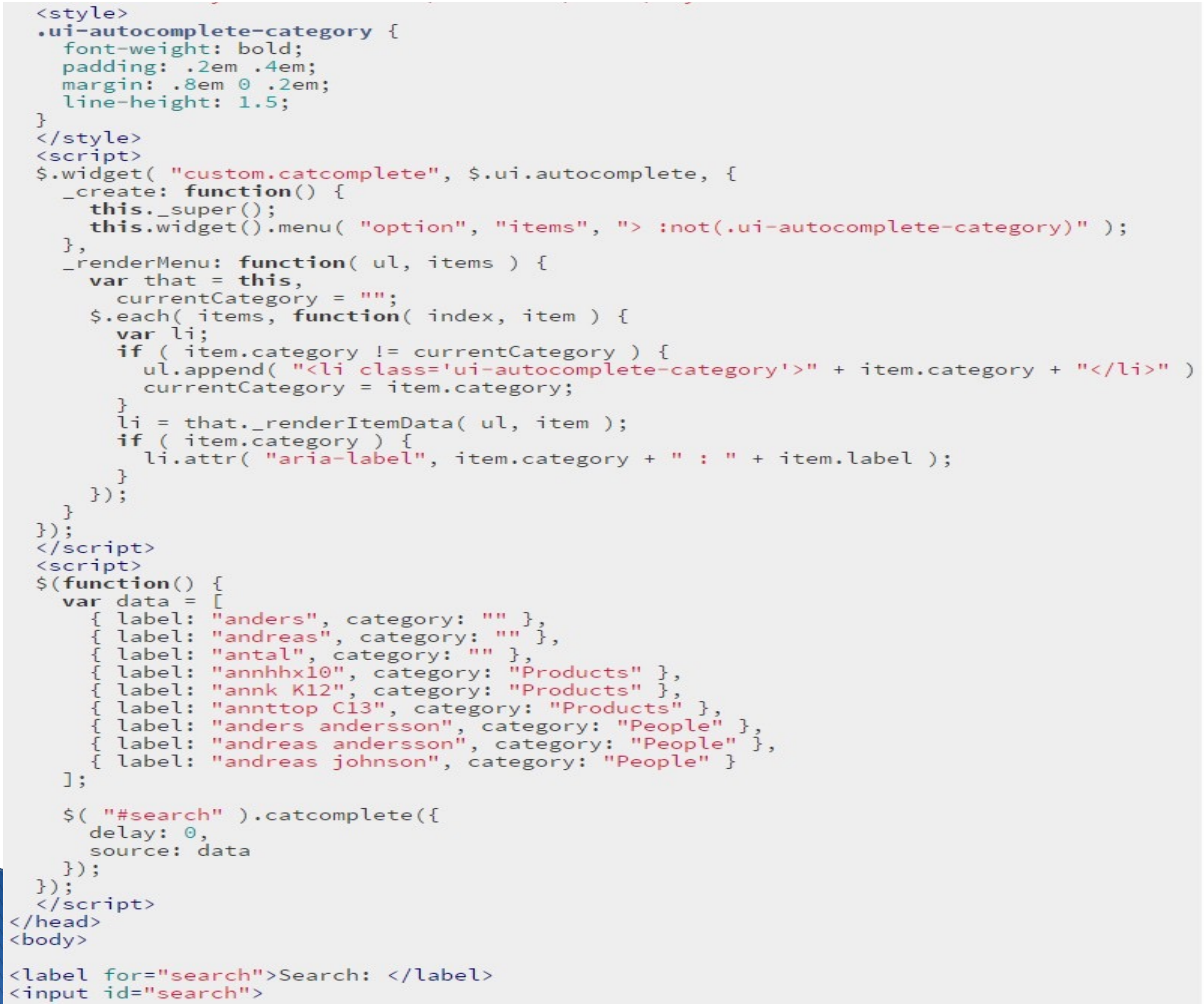


```
<style>
.ui-autocomplete {
  max-height: 100px;
  overflow-y: auto;
  /* prevent horizontal scrollbar */
  overflow-x: hidden;
}
/* IE 6 doesn't support max-height
 * we use height instead, but this forces the menu to always be this tall
 */
* html .ui-autocomplete {
  height: 100px;
}
</style>
```

# 3. Extended Function: Categories

- A categorized search result.

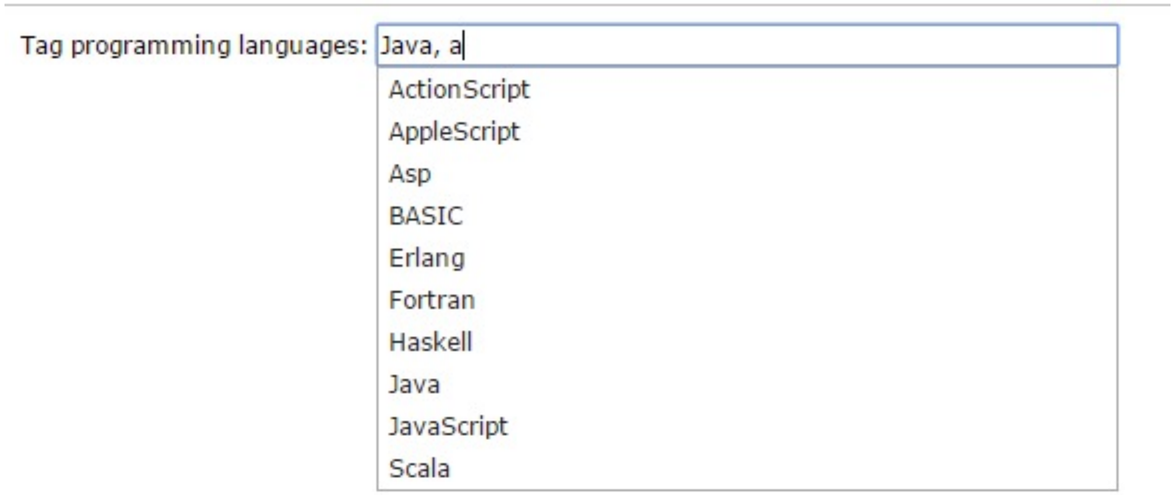




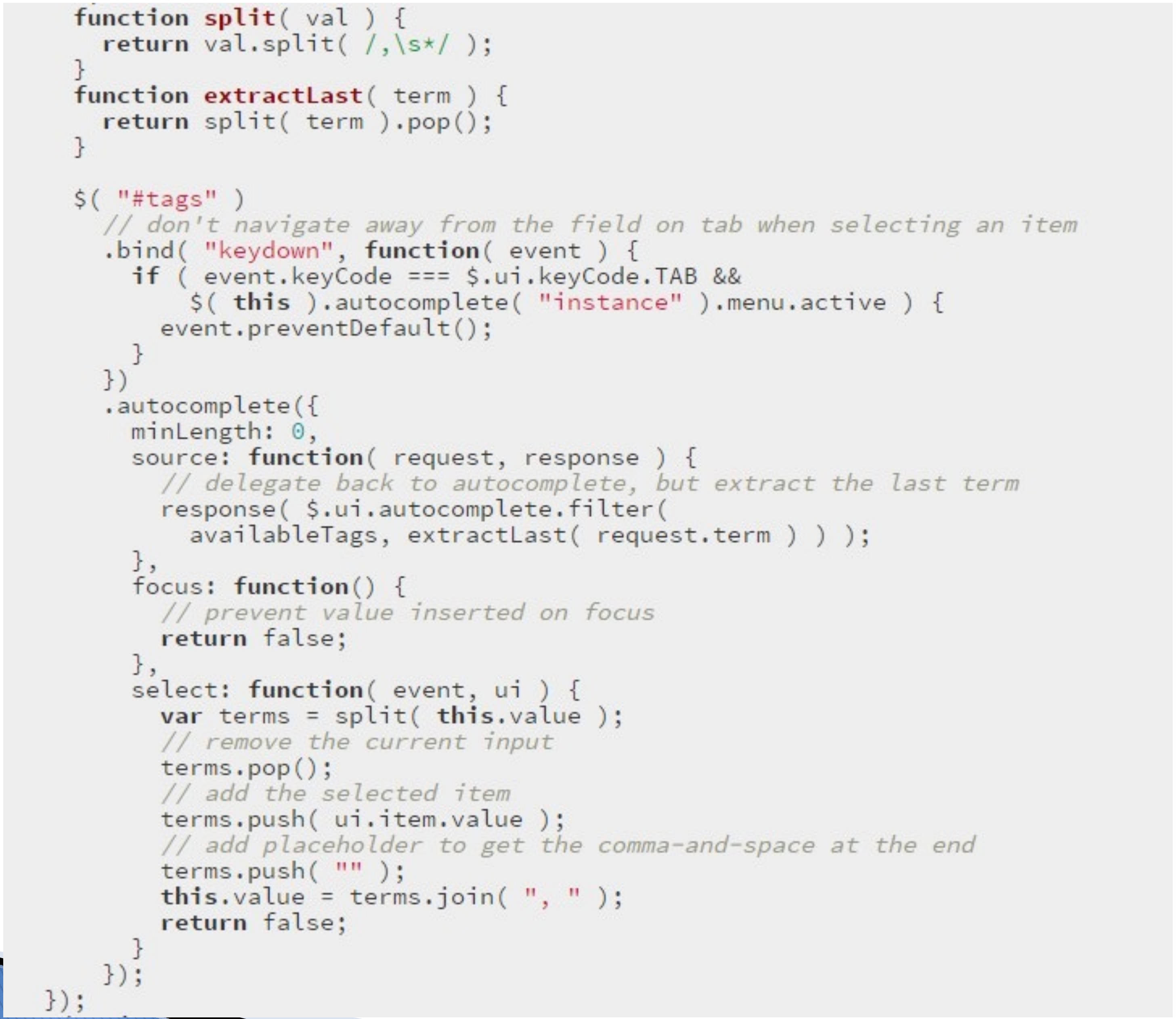
```
  <style>
  .ui-autocomplete-category {
    font-weight: bold;
    padding: .2em .4em;
    margin: .8em 0 .2em;
    line-height: 1.5;
  }
  </style>
  <script>
  $.widget( "custom.catcomplete", $.ui.autocomplete, {
    _create: function() {
      this._super();
      this.widget().menu( "option", "items", "> :not(.ui-autocomplete-category)" );
    },
    _renderMenu: function( ul, items ) {
      var that = this,
        currentCategory = "";
      $.each( items, function( index, item ) {
        var li;
        if ( item.category != currentCategory ) {
          ul.append( "<li class='ui-autocomplete-category'>" + item.category + "</li>" )
          currentCategory = item.category;
        }
        li = that._renderItemData( ul, item );
        if ( item.category ) {
          li.attr( "aria-label", item.category + " : " + item.label );
        }
      });
    }
  });
  </script>
  <script>
  $(function() {
    var data = [
      { label: "anders", category: "" },
      { label: "andreas", category: "" },
      { label: "antal", category: "" },
      { label: "annhhx10", category: "Products" },
      { label: "annk K12", category: "Products" },
      { label: "annttop C13", category: "Products" },
      { label: "anders andersson", category: "People" },
      { label: "andreas andersson", category: "People" },
      { label: "andreas johnson", category: "People" }
    ];

    $( "#search" ).catcomplete({
      delay: 0,
      source: data
    });
  });
  </script>
</head>
<body>

<label for="search">Search: </label>
<input id="search">
```

## 4. Extended Function: Multiple Values

- Type something, eg. "j" to see suggestions for tagging with programming languages. Select a value, then continue typing to add more.


Tag programming languages: Java, a

ActionScript
AppleScript
Asp
BASIC
Erlang
Fortran
Haskell
Java
JavaScript
Scala



```
  function split( val ) {
    return val.split( /,\s*/ );
  }
  function extractLast( term ) {
    return split( term ).pop();
  }

  $( "#tags" )
    // don't navigate away from the field on tab when selecting an item
    .bind( "keydown", function( event ) {
      if ( event.keyCode === $.ui.keyCode.TAB &&
          $( this ).autocomplete( "instance" ).menu.active ) {
        event.preventDefault();
      }
    })
    .autocomplete({
      minLength: 0,
      source: function( request, response ) {
        // delegate back to autocomplete, but extract the last term
        response( $.ui.autocomplete.filter(
          availableTags, extractLast( request.term ) ) );
      },
      focus: function() {
        // prevent value inserted on focus
        return false;
      },
      select: function( event, ui ) {
        var terms = split( this.value );
        // remove the current input
        terms.pop();
        // add the selected item
        terms.push( ui.item.value );
        // add placeholder to get the comma-and-space at the end
        terms.push( "" );
        this.value = terms.join( ", " );
        return false;
      }
    });
});
```

## Project Requirements

| | |
|---|---|
| Basic functions | 20% |
| Scrollable results | 20% |
| Categories | 20% |
| Multiple Values | 30% |
| Input values from JSON file | 10% |

## References

- Starting code
  - Starting_code.html
  - jquery-1.11.3.js , jquery-ui.js
  - jquery-ui.css, style.css
- Useful resource:
  - https://jqueryui.com/autocomplete/

# 1. Basic Functions

- Provide suggestions while you type into the field.
  - +5 marks – when type in *a*, you should list all strings in the data file that contain *a anywhere* in the string.
  - +10 marks – use blue font to display the first matched substring and bold font for the remaining part of the suggestion. User types in 'tab', like '**da**tab**ase systems**' will be shown.
  - +5 marks – use blue font display all the matched substring in each item.
    - Eg input 'a', suggestions should be '**d**a**t**a**base**'

## 2. Extended Function: Scrollable Results

- +20 marks  can scroll through the results

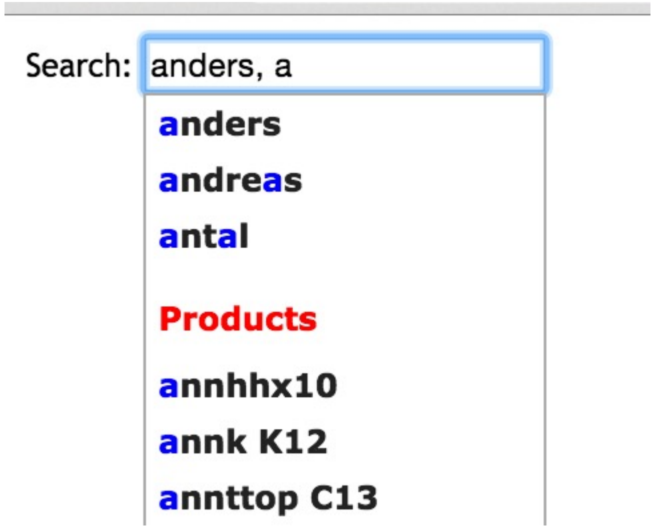
## 3. Extended Function: Categories

- ➢+10 marks display items under its category, +10 marks display the category name in red color

- ➢+10 marks display items separately that don’t belong to any category

# 4. Extended Function: Multiple Values

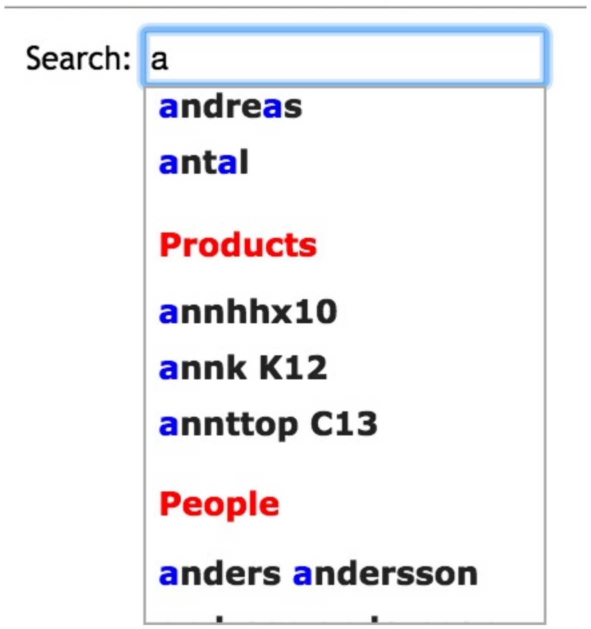
- +20 marks can achieve this function
  - +10 marks User can input multiple terms. For each term, the autocomplete function works
  - +10 marks All the input terms should be displayed in the input box
- +10 marks for every input term, can fulfill all the requirements as mentioned before.
  - Category display
  - Matched substring
  - Remaining string
  - etc


Search: anders, a

anders
andreas
antal

Products

annhhx10
annk K12
annttop C13


Search: a

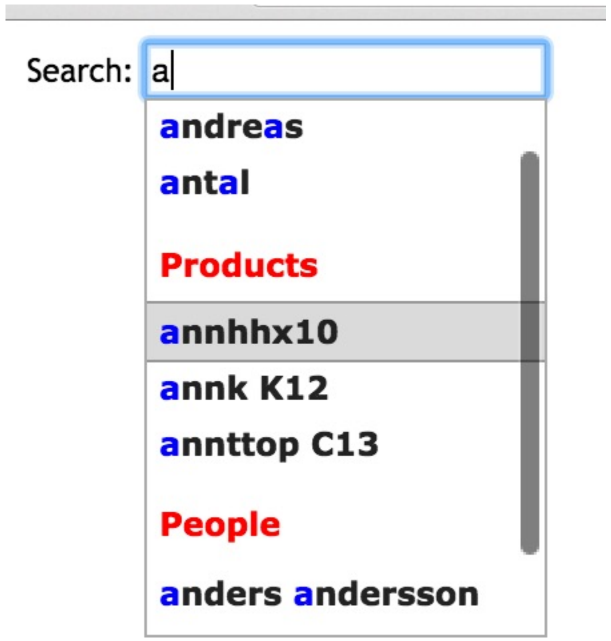
andreas
antal

Products

annhhx10
annk K12
annttop C13

People

anders andersson


Search: a

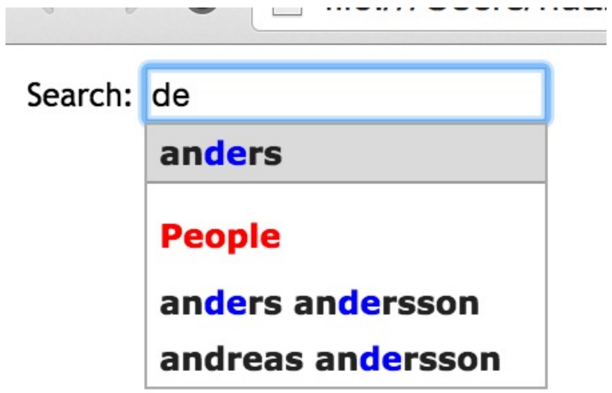
andreas
antal

Products

annhhx10
annk K12
annttop C13

People

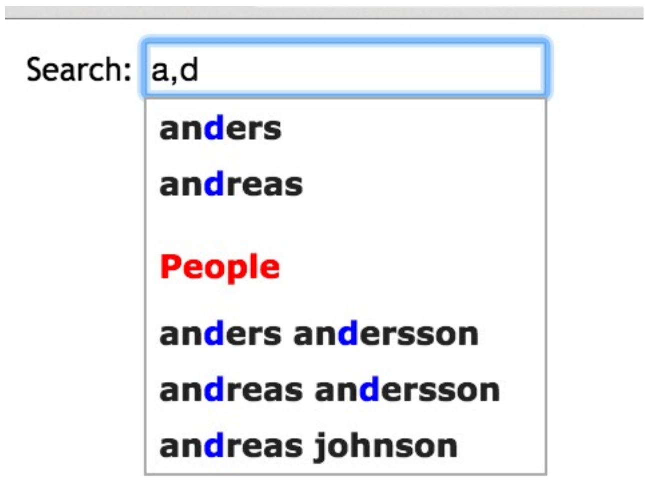
anders andersson


Search: de

anders

People

anders andersson
andreas andersson


Search: a,d

anders
andreas

People

anders andersson
andreas andersson
andreas johnson

## 5. Input Suggestions from JSON

- +5 marks input suggestion values from using the JSON file on a remote server: https://webproject.cse.ust.hk:8046/get-json-cors.php. An example of accessing the JSON file is shown in “hw2-json.html”.
- +5 marks that the JSON file should be loaded/reloaded into your jquery program when your project homepage is loaded/reloaded
- Your project must work for the provided json file. More data may be used to test the correctness of your program, so make sure your program is logically correct for any suggestion values

- Refer to course homepage for the due date
  - If you submit after the due date, your score will be penalized by 20% for each day after the due date.
  - Submissions are rejected 2 days after the due date.
- Format of submissions
  - Put all the files into a single zip file and upload it on Canvas

## Grading

- Grading Environment
  - The project will be checked in Chrome browser
  - Make sure all functions work in Chrome