

# WEEK#2 - ASSIGNMENT 3

MS Connect



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## Objectives

- Get comfortable with User Interface Design and Client Side Scripting.
- Start thinking more carefully.
- Solve problems using HTML5, Java Script and JQuery.

## Reasonable

1. Communicating with colleagues about problem problems in English (or some other spoken language).
2. Discussing the assignment material with others in order to understand it better.
3. Helping a colleagues identify a bug in his or her code, as by viewing, compiling, or running his or her code, even on your own computer.
4. Incorporating snippets of code that you find online or elsewhere into your own code, provided that those snippets are not themselves solutions to assigned problems and that you cite the snippets' origins.
5. Sending or showing code that you've written to someone, possibly a colleagues, so that he or she might help you identify and fix a bug.

## Deliverables

- Document your solutions in word file.
- Write proper comments for each line in your source code.
- Document the output of your program.
- Your program should address the problem, there should NOT be any deviations in output.

## SECTION – A

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- ① Write a program using JQuery
1. To calculate the area and perimeter of a circle.
  2. To get difference between two dates in days.
  3. To test whether a date is a weekend.
  4. To get the quarter (1 to 4) of the year.
  5. To count the number of days passed since beginning of the year.
  6. To find whether or not the date is in daylight savings time.
  7. To show and hide Content (<div>/<table>/<p>).
  8. To Search a string in HTML Table, Sort HTML table when user clicks on Table Headings.
  9. To hide all the input elements within a form (Create a form with 5 input elements –text, checkbox, radio etc.)
  10. To find the specific option tag text value of a selected option.
  11. To Check/uncheck a checkbox input or radio button.
  12. To append a div element (and all of its contents) dynamically to the body element.
  13. To add a <b> tag at the beginning of the list item, containing the index of the list item.
  14. To change the hyperlink and the text of an existing link.
  15. To find the widths and heights of various elements.
  16. To find an element that contains a specified class.
  17. To toggle a specified class when an element is clicked.
  18. To print a web page.
  19. To disable right click menu in html page.
  20. To scroll to the top of the page.
  21. To display the window width while (or after) it is resized.
  22. To set background color of an element (input) when the element (or any elements inside it) gets focus or loses focus.
  23. To set the focus to the first input box in a form ( design a sample form with 5 input fields)
  24. To count the number of milliseconds between the two click events on a paragraph.
  25. To find the position of the mouse pointer relative to the left and top edges of the document
  26. To change the background color of the <div> element of the following code on clicking the button.
  27. To append a <p> element with a text message when an <input> field is changed.

28. To animate all shown paragraphs to hide slowly (complete the animation within specified time).
29. To demonstrate fade and slide Animations.
30. To animate a paragraph to fade to a specified opacity (complete the animation within 500 milliseconds).

② Write a program to using JQuery (Validations)

1. To check whether a given value is IP value or not.
2. To check whether a given value is an valid URL or not
3. To check whether a given value is US zip code or not.
4. To check whether a given value is hexadecimal value or not.
5. To check a given value contains alpha, dash and underscore.
6. To print an integer with commas as thousands separators.
7. To validate whether a given value type is null or not.
8. To validate whether a given value type is null or not.

③ Write a program in JavaScript that uses a brute-force technique for determining the longest common substring of two strings.

④ Create an array of over 10,000 randomly generated integers and sort the array using both Quicksort and the JavaScript built-in sorting function, timing each function. Is there a time difference between the two functions?

⑤ Write a program to implement Binary Search Tree - To insert a node, InOrder, preOrder, PostOrder traversal, Search for Min, Max, Specific Values.

⑥ Build a graph that models the map of the area where you live. Determine the shortest path from a starting vertex to the last vertex. Perform a depth-first search and a breadth-first search of the graph created.

## SECTION – B

① Design the following static screen using HTML5 elements.

The screenshot shows the 'Create New Survey' form in the Microsoft Connect interface. The form is divided into several sections:

- Internal Properties:** Includes fields for 'Internal Title', 'Type' (dropdown), 'Mandatory Date', and 'Behavior' (checkboxes for 'Make survey responses anonymous', 'Allow multiple survey submission', and 'Allow users to edit their responses to this survey').
- External Properties:** Includes fields for 'Language' (dropdown), 'Survey Title', 'Description' (400 characters max), 'Header' (400 characters max), 'Activation Date', 'Expiration Date', and 'Thank You Message'.
- Access Permissions:** Includes a 'Filter Security Groups' dropdown.
- Special Groups:** Includes checkboxes for 'Non-registered Users' and 'Registered Users'.
- Programs:** A list of programs with checkboxes, including 'ProgramID 8044 Storage Management Partner Engagement', 'ProgramID 8205 StorSimple', 'ProgramID 8321 Microsoft Cloud Platform System', 'ProgramID 8402 SCOM 2012 R2 Updates', 'ProgramID 8508 ECG vNext', 'ProgramID 8509 System Center Public', 'ProgramID 8599 SCOM 2012 R2 Updates | Nominations', 'ProgramID 8622 OSG | Windows Client vNext', 'ProgramID 8635 App-V vNext', 'ProgramID 8760 App-V Public', 'ProgramID 8782 MODAC', 'ProgramID 8795 MSH | Microsoft Surface Hub EAP', 'ProgramID 8797 RDX | Windows 10 Retail Demo Experience', and 'ProgramID 8853 MBAM vNext'.
- General Groups:** A list of groups with checkboxes, including 'App-V | App-V S1 CTP', 'App-V | Customers/MVPs', 'App-V | Internal Only - no builds', 'Azure Site Recovery | Internal', 'Azure Site Recovery | VMware to Azure | Customers', 'DPM | Customers', 'ECG | Admin Testing', 'ECG | SCOM Special TAP', 'ECG | vNext | All Customers', 'ECG | vNext | Internal - PG', 'ECG | vNext | Nano Server', 'ECG | vNext | RDP', 'ECG | vNext | Support', 'MSH | External', 'MSH | Internal', 'OSG | Admin Group', and 'OSG | vNext | External'.

The form also includes a rich text editor at the bottom for the 'Thank You Message' field.

Your design should be better than this. Add images folder and add one or images to this. Display an image as logo in the header. Your styles must be in CSS. Do not use styles within HTML tags. You need to handle validations (required field, date etc.) in the form.

② Design animated Background for page using HTML5, JQuery and CSS.  
(Something similar to this: <http://hakim.se/experiments/html5/wave/03/> )