

COMP539 A1 – jQuery and AJAX

Introduction

For this assessment, you are expected to use jQuery and AJAX to develop a single web page where users can play a game by matching countries with their flags.

You can retrieve data on the countries of the world through a given API as specified below.

- The URL for a list of regions provided by the API:
<https://www.cs.kent.ac.uk/people/staff/yh/api/country-data/countries/regions>
- The URL for detailed data about the countries in a specific region:
<https://www.cs.kent.ac.uk/people/staff/yh/api/country-data/countries/region/regionName>
where `regionName` refers to the name of a region.

For example, the URL below returns the details of all countries in Europe in JSON format:

<https://www.cs.kent.ac.uk/people/staff/yh/api/country-data/countries/region/Europe>

Requirements and constraints

- You should write your code in a *single* HTML document named `xyz.html` (*xyz refers to your login*).
Note: Both CSS and JavaScript code must be embedded in the head section of your HTML document. For CSS you may use Bootstrap if you like.
- For this assessment, apart from the jQuery and jQueryUI libraries, you should not use any other external JavaScript libraries.
- You are expected to check that your web document works as expected in both Chrome and Edge web browsers. *You should fix any bugs in your JS code before submission.*
- You should upload your HTML document using the submission link on the module Moodle page *before the deadline. Late or non-submission will be awarded a mark of zero.*

Marking scheme

Criteria	Mark
General correctness	4
Design & Coding quality	5
Task 1	5
Task 2	3
Task 3	12
Task 4	12
Task 5	6
Task 6	3
Total	50

General correctness

You are expected to follow the instructions as specified in the assessment. You should ensure that your HTML document is valid and no bugs in your code. Please pay attention to issues with loading order and robustness as well.

Design & Coding quality

You should define appropriate CSS stylesheet to make your webpage appealing to users. It should have appropriate layout, font size, and colour scheme, and it should be responsive and accessible to a wide range of audience.

You should ensure good coding quality with appropriate comments and indentation. Your JS code should be well organised with minimum code duplication, and it should be easy for others to read, understand and maintain your application.

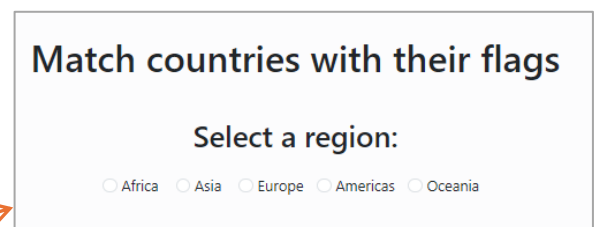
Tasks

1. On loading the web document in a browser:
 - It should display a main heading and a brief instruction for users to play the game.
 - It should provide 5 radio buttons for users to select a region: Africa, Asia, Europe, Americas, Oceania.

An example is shown on the right.

2. On selecting a region, e.g. Europe:
 - It should provide options for users to choose the size of the board: 4x2 or 4x4.

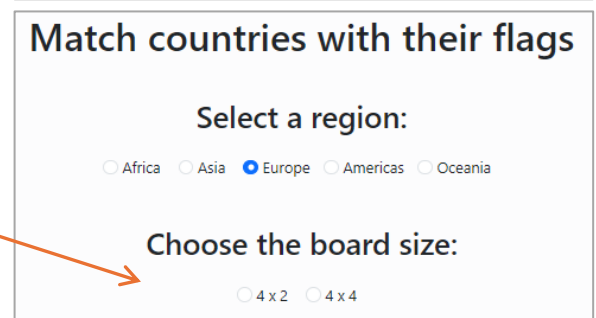
3. On selecting a board size, e.g. 4x2:
 - It should populate the game board with the cards of randomly selected countries and their flags in the region.
The card for each country should contain the name and capital of the country.
 - It should show the number of matches found (default 0).
 - It should provide a button for users to check the correct answers.



Match countries with their flags

Select a region:

☐ Africa ☐ Asia ☐ Europe ☐ Americas ☐ Oceania



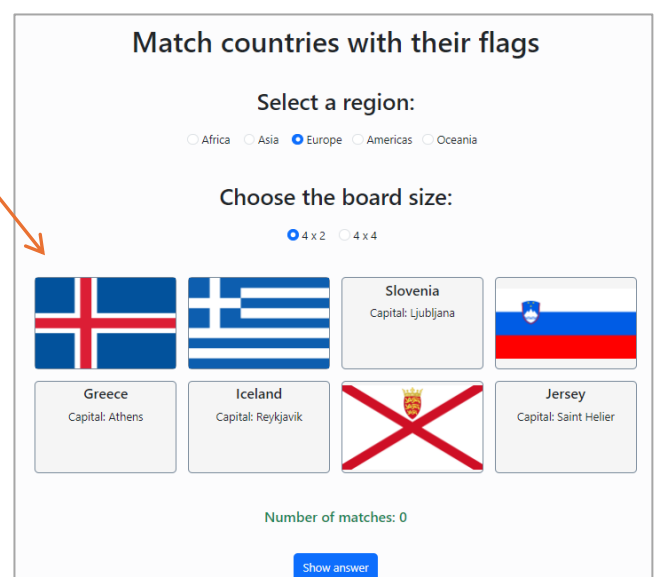
Match countries with their flags

Select a region:

☐ Africa ☐ Asia ☒ Europe ☐ Americas ☐ Oceania

Choose the board size:

☐ 4 x 2 ☐ 4 x 4






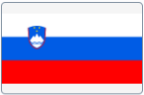
Match countries with their flags

Select a region:

☐ Africa ☐ Asia ☒ Europe ☐ Americas ☐ Oceania

Choose the board size:

☒ 4 x 2 ☐ 4 x 4

 Greece Capital: Athens	 Iceland Capital: Reykjavik	 Slovenia Capital: Ljubljana	 Jersey Capital: Saint Helier
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Number of matches: 0

Show answer

4. Clicking on a card, the border of the card should be highlighted, e.g. in orange colour.

Clicking on another card:

- If a match is found, i.e. a country card and its flag card, both cards should be highlighted, e.g. in green colour, and both cards should no longer be clickable. The number of matches should be updated accordingly.
- Otherwise, both cards should be displayed in their default style, i.e. not highlighted.

5. Clicking on the “Show answer” button, it should reveal the correct answers. Each card should contain a country’s name, its capital and flag as shown in the example on the right.

6. The game is over when the player has matched all countries with their flags. It should display a message to congratulate the player.

Users can start a new game by:

- Either choosing a board size as described in Step 3,
- Or selecting another region as described in Step 2.

