

Coding Exercises - Java Script

Coding Exercise 1: Palindrome Checker (10 Marks)

Write a JavaScript function that takes a string as input and determines whether it is a palindrome (reads the same backward as forward), ignoring case and non-alphanumeric characters. For example, "Racecar!" and "A man, a plan, a canal: Panama" should be identified as palindromes.

Coding Exercise 2: Array Statistics (10 Marks)

Create a JavaScript function that accepts an array of numbers as input and returns an object containing the following statistics: the sum of the numbers, the average (mean), the minimum value, and the maximum value (use array methods like `reduce()` and `sort()` to efficiently calculate these statistics).

Coding Exercise 3: Longest Word Finder (10 Marks)

Create a JavaScript function that takes a sentence (string) as input and returns the longest word in the sentence. If there are multiple words with the same maximum length, return the first one. For example, `findLongestWord("The quick brown fox jumps over the lazy dog")` should return "quick".

Coding Exercise 4: Asynchronous Data Fetching (20 Marks)

Using the `fetch` API or a similar method, write a JavaScript function that fetches data from a public API (e.g., JSONPlaceholder) and displays it on a web page. The function should handle potential errors during the fetch process and provide user feedback (e.g., a loading indicator or an error message).

Submission:

For this set of coding exercises, zip all files into a single zip archive before uploading to Moodle. Remember to name your files appropriately.