

Notes on Changing Case in JavaScript

Overview

This document explains how to handle case sensitivity in JavaScript when comparing user input against a predefined list, using the example of checking a user-entered city against a list of the cleanest cities.

Key Points

1. Case Sensitivity Issue:

- JavaScript is case-sensitive, so “Cheyenne” and “cheyenne” are treated as different strings.
- Users may enter city names in various cases (e.g., “cheyenne”, “Cheyenne”, “sAnta Fe”), causing mismatches with the predefined list.

2. Inefficient Solution:

- One approach is to include all possible case variations in the array (e.g., [“Cheyenne”, “cheyenne”, “Santa Fe”, “santa fe”]).
- This is impractical due to the large number of possible combinations and increased code complexity.

3. Efficient Solution:

- Convert the users input to a consistent case (lowercase or uppercase) and compare it against a list in the same case.
- Preferred method: Convert both the user input and the array elements to lowercase for consistency.

4. Implementation:

- Use the `toLowerCase()` method to convert the users input to lowercase.
- Example code:

```
var cityToCheck = prompt("Enter your city");
cityToCheck = cityToCheck.toLowerCase();
var cleanestCities = ["cheyenne", "santa fe", "tucson", "
    great falls", "honolulu"];
for (var i = 0; i < cleanestCities.length; i++) {
    if (cityToCheck === cleanestCities[i]) {
```

```
        alert("It's one of the cleanest cities");
    }
}
```

- The `toLowerCase()` method converts all characters in the string to lowercase (e.g., “ChEyEnNe” becomes “cheyenne”).
- Note: The original code contains a typo (“LolowerCase” should be “toLowerCase”).

5. Alternative Approach:

- Convert input to uppercase using `toUpperCase()` and compare against an uppercase array (e.g., [“CHEYENNE”, “SANTA FE”]).
- Example: `cityToCheck = cityToCheck.toUpperCase();`
- Lowercase is more commonly used by developers.

6. Key Notes:

- The `toLowerCase()` and `toUpperCase()` methods are written in camelCase.
- These methods convert the entire string, not just the first letter.
- The converted string must be assigned to a variable (can be the same variable, e.g., `cityToCheck`).

Observations

- The original code has a typo in “toUpPerCaseU” (should be “toUpperCase”).
- The loop condition `i < 4` is incorrect since the array has 5 elements; it should be `i < cleanestCities.length` to avoid missing the last element.