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**Topic 24 - Changing Case**  
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**Handling Case Sensitivity in User Input**

When you ask a user to enter a city name, they may type it in any combination of uppercase and lowercase letters. To make sure that their entry matches a list of cities without case sensitivity errors, you can convert both the user’s input and the list items to lowercase (or uppercase). This way, you’ll have consistent comparisons and can identify matches regardless of how the user enters the text.

**Example: Checking If a City Is Environmentally Clean**

Let’s create code that will:

1. Ask the user to enter their city.
2. Convert their input to lowercase.
3. Check if their city is on the list of the cleanest cities.

Here's how it works:

python

Copy code

city\_to\_check = input("Enter your city: ")

city\_to\_check = city\_to\_check.lower()

cleanest\_cities = ["cheyenne", "santa fe", "tucson", "great falls", "honolulu"]

for a\_clean\_city in cleanest\_cities:

if city\_to\_check == a\_clean\_city:

print("It's one of the cleanest cities")

**Explanation of the Code**

1. **Convert User Input to Lowercase**  
   By using lower(), we ensure that the city name entered by the user is all lowercase, which makes comparisons easier:

python

Copy code

city\_to\_check = city\_to\_check.lower()

1. **List of Cleanest Cities**  
   We store the list of clean cities in all-lowercase format as well:

python

Copy code

cleanest\_cities = ["cheyenne", "santa fe", "tucson", "great falls", "honolulu"]

1. **Comparing User Input with Each Clean City**  
   Using a for loop, we compare the lowercase user input to each city in cleanest\_cities. If there’s a match, it displays the message:

python

Copy code

if city\_to\_check == a\_clean\_city:

print("It's one of the cleanest cities")

**Alternative: Storing Original Input in a Different Variable**

If you want to keep the original input from the user intact, use a separate variable to store the lowercase version. For example:

python

Copy code

lowercase\_city\_to\_check = city\_to\_check.lower()

**Using Uppercase**

You could also convert everything to uppercase instead of lowercase. For example:

python

Copy code

city\_to\_check = city\_to\_check.upper()

cleanest\_cities = ["CHEYENNE", "SANTA FE", "TUCSON", "GREAT FALLS", "HONOLULU"]

Most coders, however, prefer using lowercase as it’s generally more readable.

**Converting for Display Purposes**

After converting city\_to\_check to lowercase for matching, you may want to display it with correct capitalization. To format it nicely in a message, use the title() method, which capitalizes each word:

python

Copy code

city\_to\_check = city\_to\_check.title()

print("Great news! " + city\_to\_check + " is one of the cleanest cities.")

**Output Example:**

If the user types **"cheyenne"**, the output will be formatted properly:

plaintext

Copy code

Great news! Cheyenne is one of the cleanest cities.

**Summary of Case Conversion Methods**

* **Convert to All Lowercase**:

python

Copy code

variable\_name.lower()

* **Convert to All Uppercase**:

python

Copy code

variable\_name.upper()

* **Convert to Title Case (Capitalizes Each Word)**:

python

Copy code

variable\_name.title()

Using these methods, you can handle user input case variations more effectively and ensure that displayed text has the correct formatting.