

day40A isogram checker

Due: Friday 12/1/23

Today we have two programs to write. The first one is this.

Write a program that checks a word or phrase and reports if it is an **isogram**. An isogram is a word or phrase where no letters repeat. For example:

birdcage is an isogram, as each letter only occurs once

bird in a cage is not an isogram because the letters i and a repeat

subdermatoglyphic is supposedly the longest single word English isogram. (It refers to the underlying dermal matrix that determines the pattern formed by the whorls, arches, and ridges of our fingerprints. Or so the Internet tells me!)

uncopyrightable is another long one.

Put back my
English word! is a short sentence that is also an isogram

For our purposes we will ignore spaces when checking if something is an isogram.

Here's a rough overview of how to do this project:

1. Print an introduction, tell the user what is going to happen.
2. Do a while True: loop
3. Ask the user for a phrase to check, store it in a variable named phrase.
4. Store the phrase in another variable called tester.
5. Make tester lowercase.
6. Get rid of spaces in tester using this line: `tester = tester.replace(" ", "")`
(This code tells Python to replace each space with nothing, which gets rid of spaces.)
7. Make a variable to store letters you have found and make it empty: `used = ""`
8. Make a variable count and set it to 0. We'll use this to count how many duplicates we find.
9. Do a for loop like this:

```
for x in tester:
```

This takes the letters from tester, one at a time, and puts them into x.

10. Inside the for loop (that means indented one level) check if the current letter (x) is in the variable used. If it is, you have found a duplicate. Print the letter, and add

- one to the count variable. If it isn't in used, add it to used like this: `used = used + x`. That way we keep track of all the letters we have checked so far.
11. After the for loop is over, check if count is equal to 0. If it is, the phrase is an isogram. If it is not zero, there were one or more duplicates. Print a message saying how many duplicates there were.
 12. Add a check just after the original `phrase = input()` line where you check if phrase is empty, and if it is, you print a goodbye message and then break out of the loop.

Here is a sample run from my version of the program:

```
Welcome to the isogram tester.
An isogram is a piece of text that has no repeated letters.
Enter nothing to quit.

Please enter text to check: birdcage

'birdcage' is an isogram

Welcome to the isogram tester.
An isogram is a piece of text that has no repeated letters.
Enter nothing to quit.

Please enter text to check: Someday I hope to own a hamster farm
Repeated letters: o e o o a h a m s t e a r m
'Someday I hope to own a hamster farm' is not an isogram
It contains 14 repetitions

Welcome to the isogram tester.
An isogram is a piece of text that has no repeated letters.
Enter nothing to quit.

Please enter text to check: Put back my English word!

'Put back my English word!' is an isogram

Welcome to the isogram tester.
An isogram is a piece of text that has no repeated letters.
Enter nothing to quit.

Please enter text to check:
Goodbye
```