

# Project 5 - Upper/Lower

Write a program that lets a user enter a character and checks to see if it is lowercase or not:

- get the user to enter a character
- determines if the character is a lowercase character or not
- outputs “LOWER” if the character is lowercase
- outputs “NOT LOWER” if the character is not lowercase

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There are multiple solutions here, but they aren't all perfect.

Long solution:

```
if theChar == "a" or theChar == "b" or  
theChar=="c" ... or theChar == "z":  
    print("LOWER")  
else:  
    print("NOT LOWER")
```

This is very longwinded and easy to make a mistake with.  
But it works.

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Clever solution:

```
if theChar >= "a" and theChar <= "z":  
    print("LOWER")  
else:  
    print("NOT LOWER")
```

This checks if it's in the range a to z. It works because "A" is different from "a" and because of the way that ASCII code assigns values to characters.

This is the best solution. Make sure you get `>=` and `<=` right.

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Clever - **but it doesn't work...**:

```
if theChar == theChar.lower():  
    print("LOWER")  
else:  
    print("NOT LOWER")
```

This uses the in built function `lower()` which turns A into a. **BUT this fails** when you enter a not letter character: "@", ">", "3", "\$" etc... Try it and see...

You'd get some marks for this of course. But not all 7.

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You can:

- use a loop to keep running the program until the user enters "Q"
- check that the user has entered a single character only - and insist that they do - use `len(theChar)`
- deal with the possibility the user enters an empty string (i.e. just presses Enter)
- deal with the possibility the user enters a space
- insist the user enters a letter rather than any other type of character