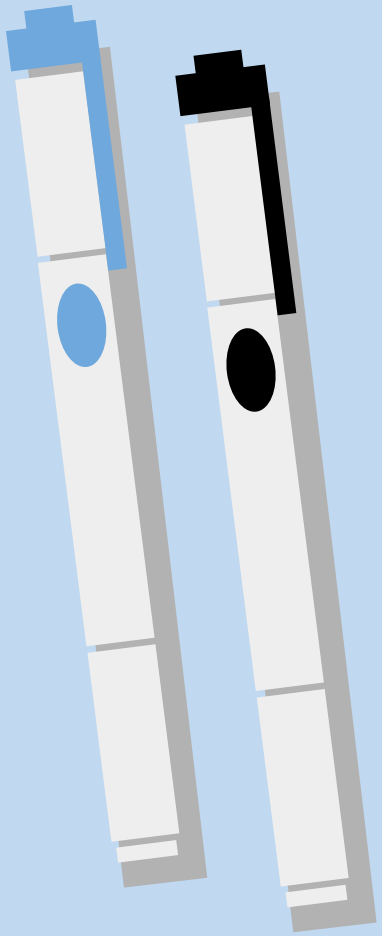

# Lecture 11
# Week 6

## More conditions

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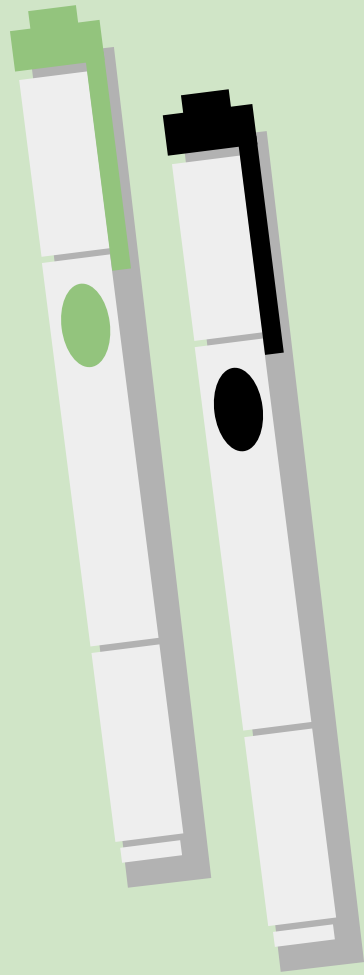
Quick review of

# conditions!

- Syntax of if statements
- Boolean conditions
- Boolean operators {and, or, not}
- len() function
- String methods



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# Lab assessment

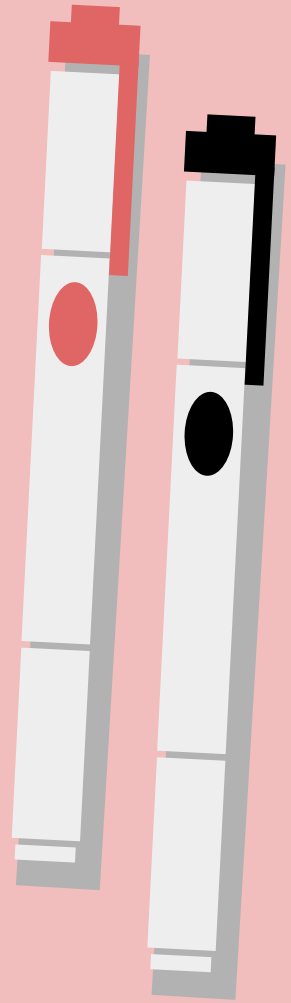
## Week 7

The next assessment will take place in week 7 during the 1 hour lab session

- Monday 6th Group D-Y
- Wednesday 8th Group B-X
- Wednesday 8th Group D-X
- Thursday 9th Group B-Y

You will have 40 minutes, and you must submit a .py file before the submission window closes.

Everything we have covered so far plus material from this week will be covered.



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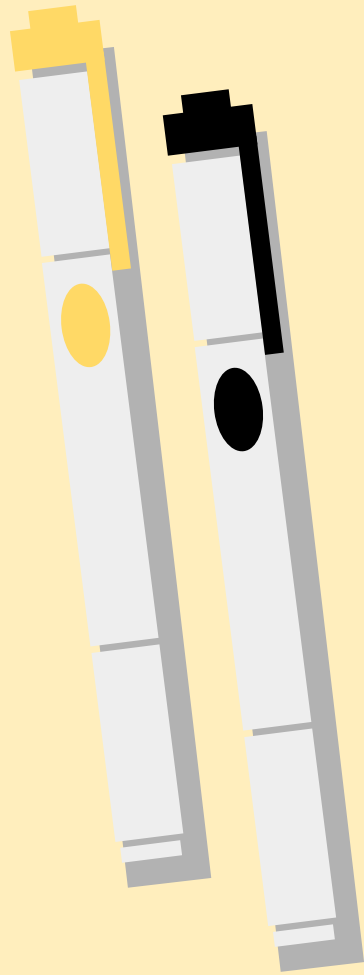
# Checking number ranges

Check if a number falls within a number range

Provide comments to students based on their exam grades

- 70 to 100 is "Outstanding“
- 40 to 69 is "Competent“
- 0 to 39 is "Fail"



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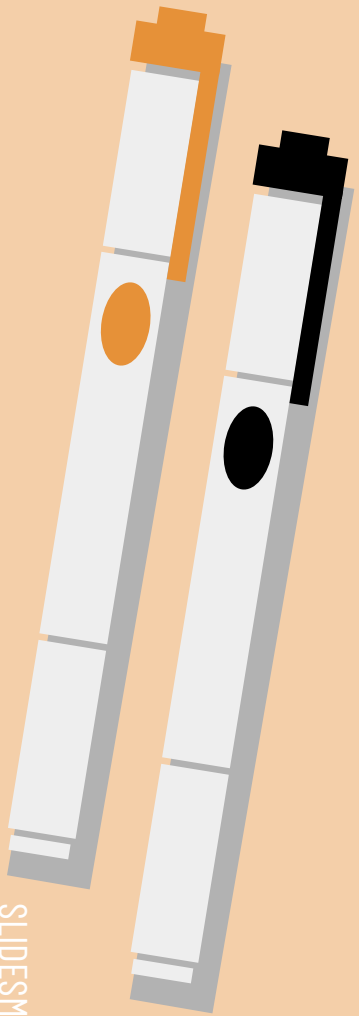

```
mark = int(input("What mark did you get? "))

if 0 <= mark <= 39:
    print("Fail")
elif 40 <= mark <= 69:
    print("Competent")
elif 70 <= mark <= 100:
    print("Outstanding")
else:
    print("Invalid mark entered")
```

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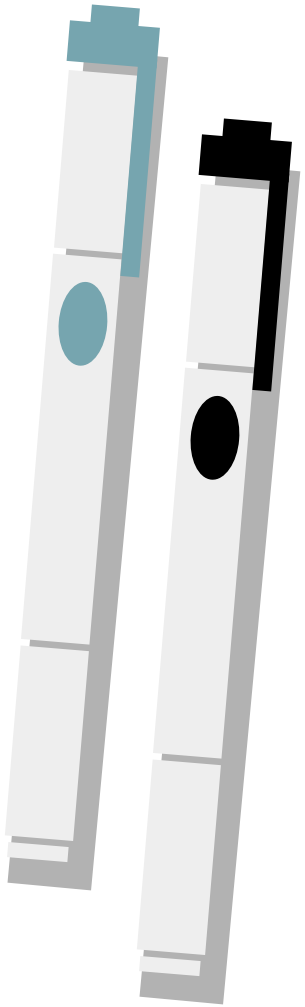

# The Fast Freight Shipping Company charges the following rates:

| Weight of Package | Rate per kg |
|---|---|
| 2 kgs or less | €1.50 |
| Over 2 kgs but not more than 6 kgs | €3.00 |
| Over 6 kgs | €4.00 |

Ask the user to enter the weight of a package then display the shipping charges.

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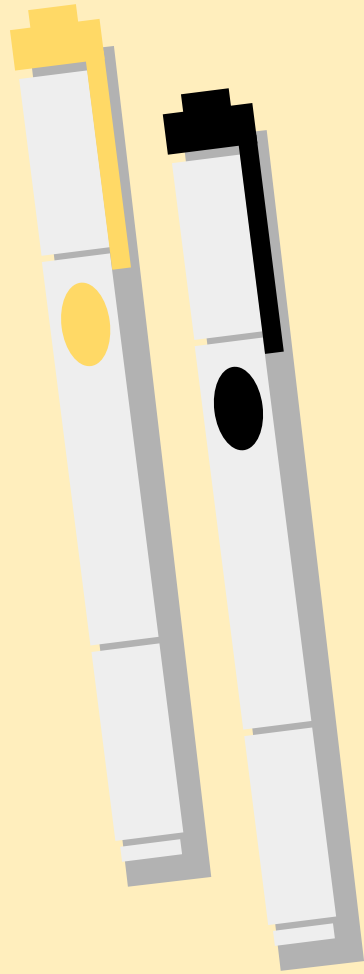
# Find the largest number

Read 3 numbers and find the largest value

```
a = int(input("Number ==> "))
b = int(input("Number ==> "))
c = int(input("Number ==> "))

if a > b and a > c:
    print(f"{a} is the biggest number")
elif b > a and b > c:
    print(f"{b} is the biggest number")
elif c > a and c > b:
    print(f"{c} is the biggest number")
```



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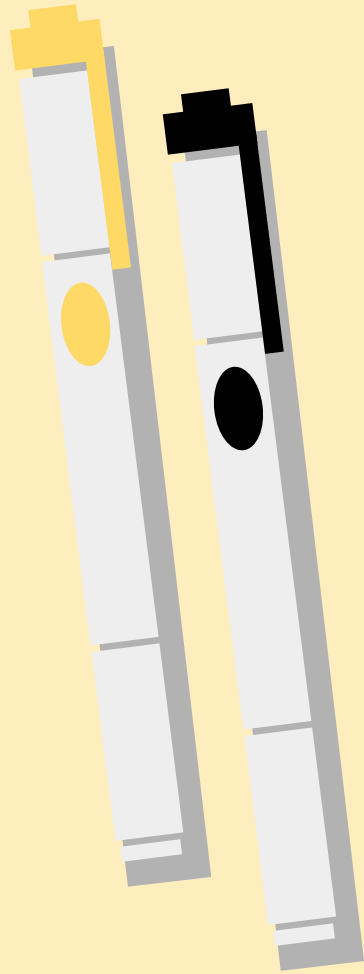
# Find the largest number

Read 3 numbers and find the largest value

```
a = int(input("Number ==> "))
b = int(input("Number ==> "))
c = int(input("Number ==> "))

if b < a > c:
    print(f"{a} is the biggest number")
elif a < b > c:
    print(f"{b} is the biggest number")
elif a < c > b:
    print(f"{c} is the biggest number")
```



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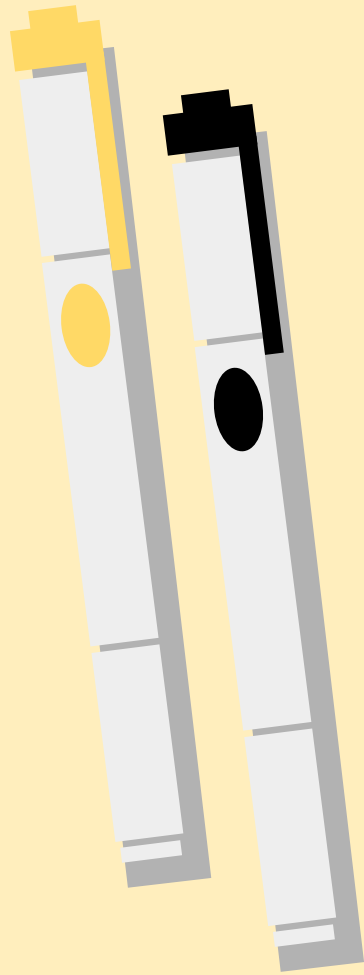
# Find the largest number

Read 3 numbers and find the largest value

```
if a == b and b == c:
    print("All 3 numbers are the same")
elif b <= a >= c:
    print(f"{a} is the biggest number")
elif a <= b >= c:
    print(f"{b} is the biggest number")
elif a <= c >= b:
    print(f"{c} is the biggest number")
```



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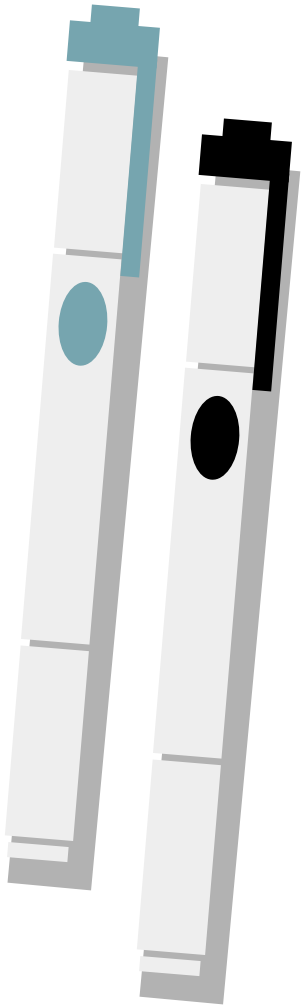

Ask the user to enter 3 words, tell the user what the length of the shortest word is.

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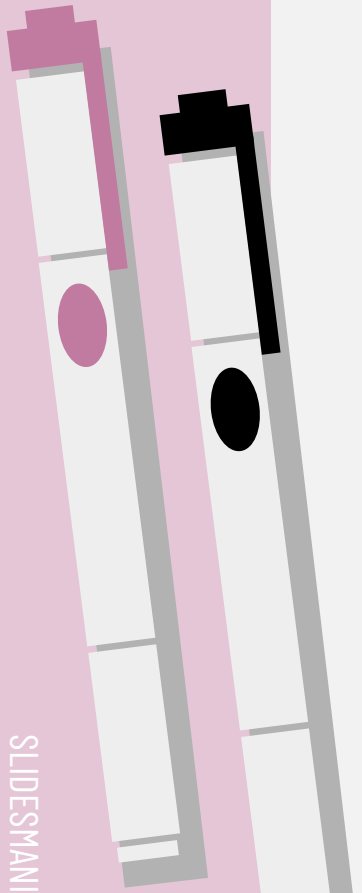

# in

in is a special keyword in python

in operator returns true if the item is in the object

Syntax: item in object

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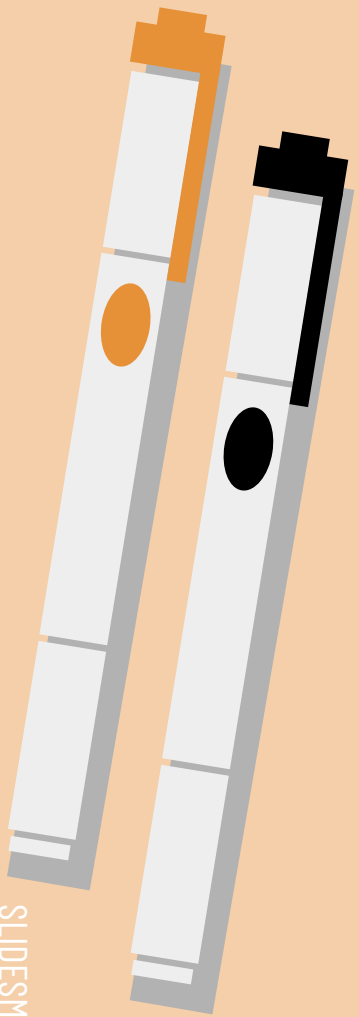

```
name = "Harry Potter"

if "Pot" in name:
    print("Pot in '" + name + "'")

if "pot" in name:
    print("pot in '" + name + "'")

if "xxx" not in name:
    print("xxx not in '" +  name + "'")
```

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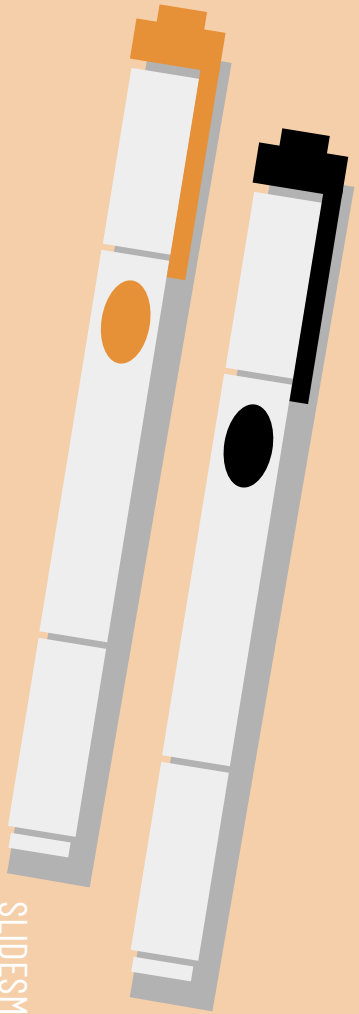

# Check if a character is a vowel

```
character = input("Type a letter: ")
VOWELS  = "aeoiuAEIOU"
if character in VOWELS:
      print(f"{character} is a vowel")
```

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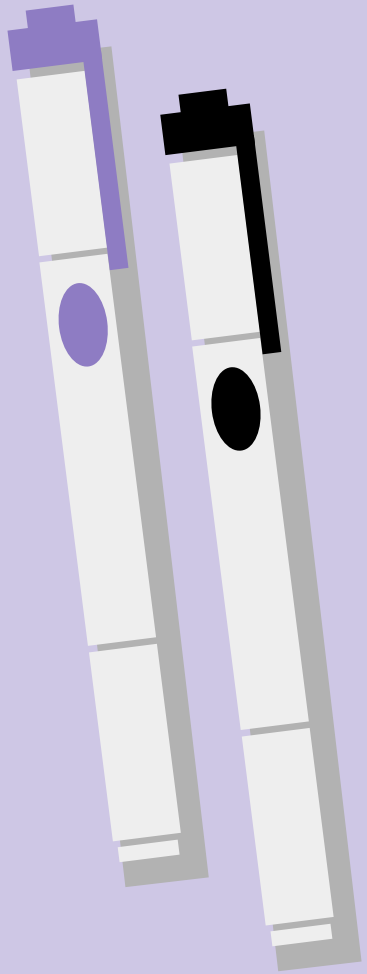
We can use in to check if an item is in a set of items, replacing ==



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# Are you in Munster?


```
county = input("Where are you now? ")

if county == "Cork" or county == "Tipperary" or county == "Kerry" \
        or county == "Waterford" or county == "Clare" or county == "Limerick":
    print("You are in Munster!")
else:
    print("You are not in Munster")
```

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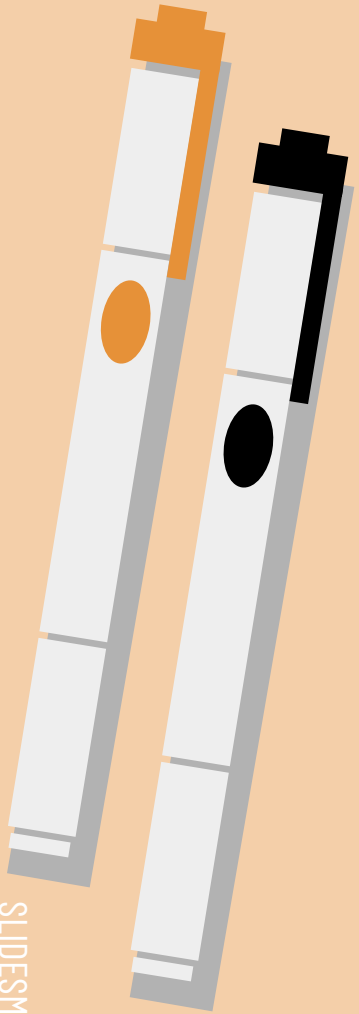

# Are you in Munster?

```
MUNSTER = ("Cork", "Tipperary", "Kerry", "Waterford", "Clare", "Limerick")

county = input("Where are you now? ")

if county in MUNSTER:
    print("You are in Munster!")
else:
    print("You are not in Munster")
```

MUNSTER is a tuple
A tuple is a list of items
A tuple cannot be edited once created
Brackets are optional

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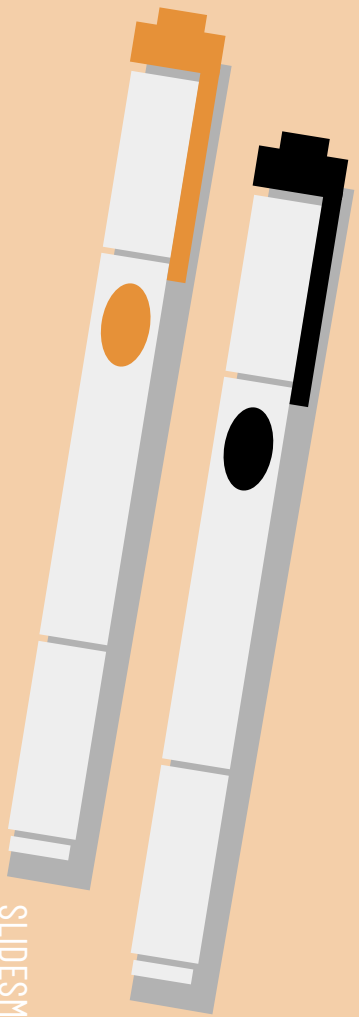

# Check if a character is a vowel

```
character = input("Type a letter: ")

VOWELS = 'a','e','i','o','u','A','E','I','O','U'

if character in VOWELS:
      print(f"{} starts with a vowel."
```

startswith() and endswith() can work with tuples

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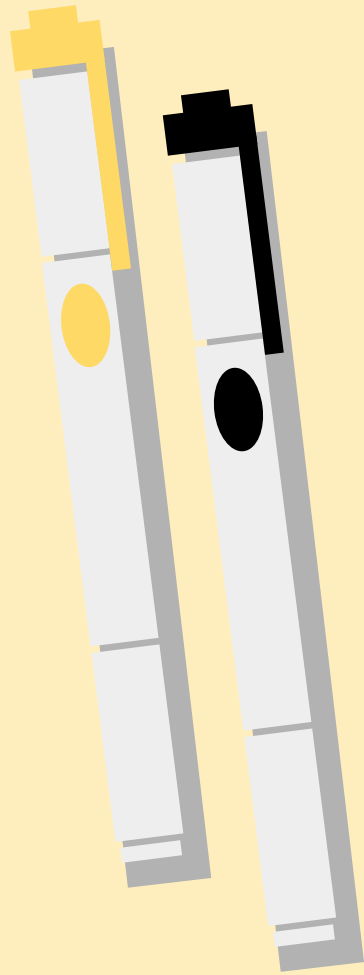
# Tuples can also contain numbers

```
MAGIC_NUMBERS = (1,1,2,3,5,8,13,21,34,55)
print(type(MAGIC_NUMBERS), MAGIC_NUMBERS)

number = int(input("Number? "))

if number in MAGIC_NUMBERS:
    print(f"{number} is a magic number. ")
else:
    print(f"{number} is not a magic number. ")
```



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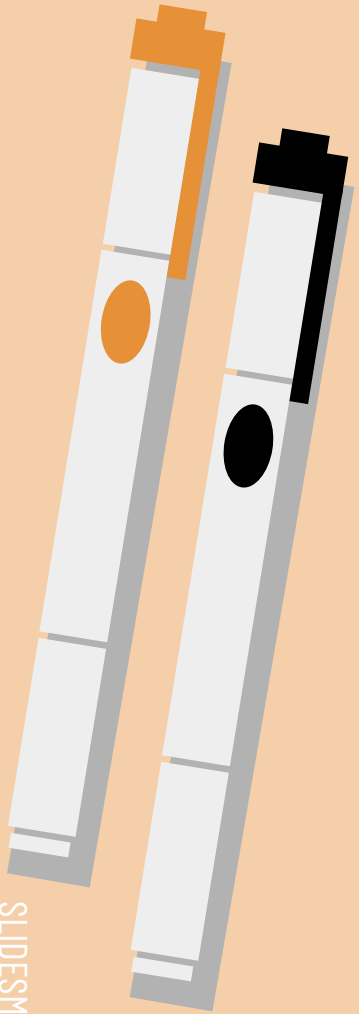

# Are you not in Munster?

```
MUNSTER = "Cork", "Tipperary", "Kerry", "Waterford", "Clare", "Limerick"

county = input("Where are you from? ")
if county not in MUNSTER:
    print("You are not from Munster")
else:
    print("You are from Munster")
```

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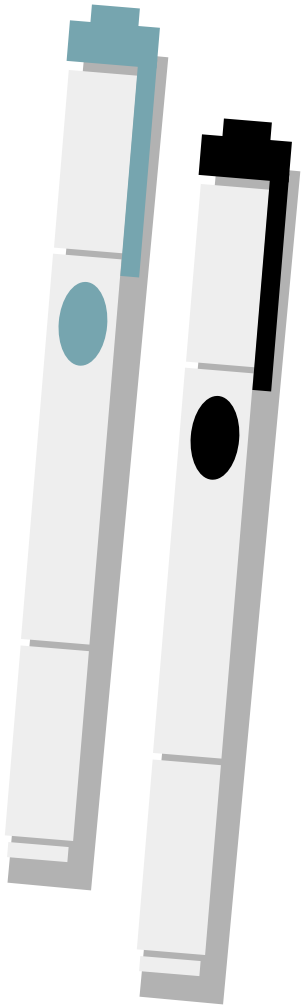

Write code to ask the user for their name. Add an if statement to determine if that name contains the letter 'e' (or 'E').

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