

CL07 – Practice Writing Recursive Functions

Reminders

No class on Monday – Memorial Day!

No Office Hours or Tutoring offered on Sunday or Monday

Next exercise (EX) assignment will be released over the weekend

Let's play a guessing game! 💢 🛶



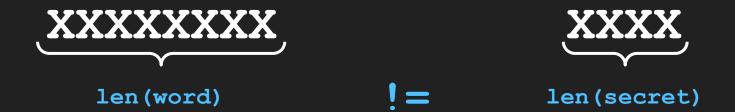
Let's write this function together, step by step!



Step 1: strings of different lengths?



word: secret:



If the strings are different lengths, we automatically know they aren't the same string!

Step 2: determine if word's and secret's characters at a given index are different



word: secret:

bark

!=



If these characters are NOT equal, we automatically know word's and secret's values are different! No need to test the rest of the characters; just return False

Step 2: determine if word's and secret's characters at a given index are different



word: secret:

punt word[idx]



If these characters ARE the same (equal), we want to check of the characters at the next index (if there is another index to check) are equal!

Step 2: determine if word's and secret's characters at a given index are different



word: secret:



If these characters ARE the same (equal), we want to check of the characters at the next index (if there is another index to check) are equal!

Let's brainstorm how to write that in code...

ry



Step 3: if we compared the characters at every index of word and secret, and they were always the same, we can return **True** word:

punk
word[idx] == punk[idx]

We guessed the secret word correctly!

```
SECRET: str = "punk"
def guess secret(word: str, secret: str, idx: int = 0) -> bool:
   # TODO 1
   if len(word) != len(secret): # Different lengths? Not the same word!
      print("Words are different lengths.")
       return False
   # TODO 2
   if idx < len(word): # As long as there are more characters to check...
       if word[idx] != secret[idx]: # Characters at index aren't equal
           print(f"{word[idx]} isn't the secret word's next letter.")
           return False
       else: # If the characters at that index WERE equal...
          print(
               f"{word[idx]} is at index {idx} for both words! Checking next letters..."
           return guess secret(word=word, secret=secret, idx=idx + 1)
   # TODO 3
   print("They are the same word!")
   return True
```

print(quess secret(word=input("What is your word? "), secret=SECRET))