Trinity Belen

Project 2 Documentation

Pseudo Code

def search(phrase, text):  
 mismatch <- {}  
 removed <- []  
 num <- 0

together <- .join(phrase)  
 found <- False  
 pop <- False  
  
 while found <- False:  
 for i <- range(0, len(phrase)):  
 shift <- max(1, len(phrase) - i - 1)  
 mismatch[phrase[i]] <- shift  
  
 for i <- range(0, len(text) - len(phrase)):  
 skip <- 0  
 for j <- range(len(phrase) - 1, -1, -1):  
 if (phrase[j]) !<- text[i + j]:  
 if text[i + j] not in mismatch:  
 skip <- len(phrase)  
 elif mismatch[text[i + j]] is not None:  
 skip <- mismatch[text[i + j]]  
 else:  
 skip <- len(phrase)  
 if skip 🡨 0:  
 found <- True  
 if len(phrase) 🡨 1:  
 print("Found at", i)  
 else:  
 print("Found at", i, "to", i + len(phrase) - 1)  
 num +<- 1  
 i +<- skip  
 if found:  
 print("Times found:", num)  
  
 if found 🡨 False:  
 for i in range(0, len(phrase)):  
 letter\_found <- False  
 for j in range(0, len(text)):  
 if phrase[i] 🡨 text[j]:  
 letter\_found 🡨True  
  
 if letter\_found 🡨 False:  
 print("Not found", phrase[i])  
 removed.append(phrase.pop(i))  
 print("removed", removed)  
 pop <- True  
 break  
  
 if found 🡨 False:  
 if pop 🡨 False:  
 phrase.pop(0)  
 print("\_\_\_\_\_\_\_Deletions\_\_\_\_\_\_\_")

Proof

Time efficiency = O(n log n)