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Introduction to Computer Science, Winter Semester 2017  
Practice Assignment 8

Discussion: 17.12.2016 - 23.12.2016

**Exercise 8-1**

**Convert String**

Write an algorithm to print the characters in a String one by one.

**Solution:**

```
word = input()
n = len(word) # len() gets the length of the String
i = 0 # the first char is at position 0
while(i<n):
    _ print(word[i])
    _ i +=1
```

**Exercise 8-2**

**Reverse String**

Write an algorithm to reverse a given String.

**Example:**

Input: ablkwe  
Output: ewklba

**Solution:**

```
word = input()
n = len(word)
i = n - 1
result = ""
while(i >= 0):
    _ result += word[i]
    _ i -=1
print(result)
```

**Exercise 8-3**

**Search**

write an algorithm that searches a string for a given letter. When found, the search should stop immediately and its index should be printed

**Solution:**

```
N = input("Enter a string")
Key = input("Enter a character:")
m=len(N)
i = 0
FOUND = False
```

```

x = input()
i = 0
j = len(x) - 1
palindrome = True
while(i < j and palindrome == True):
    └ if(x[i] != x[j]):
        └ └ palindrome = False
        └ i += 1
        └ j -= 1
if(palindrome):
    └ print("The string is a palindrome")
else:
    └ print("The string is not a palindrome")

```

### Another Solution:

```

result = ""
i = len(word)-1
while(i >= 0):
    └ result += word[i]
    └ i -= 1
if(word == result):
    └ print("The string is a palindrome")
else:
    └ print("The string is not a palindrome")

```

### Exercise 8-5

#### Sum

Given two lists A and B of the form  $A_0, \dots, A_{(n-1)}$  and  $B_0, \dots, B_{(n-1)}$  respectively. Write an algorithm that stores the sum of the corresponding elements of the lists A and B in a new list C.

#### Solution:

```

list_1 = eval(input())
list_2 = eval(input())
list_Sum = []
i = 0
n = len(list_1)
while i < n:
    └ s = list_1[i] + list_2[i]
    └ list_Sum = list_Sum + s
    └ i = i + 1
print(list_Sum)

```