A phrase is a _palindrome_ if, after ^①converting all uppercase letters into lowercase letters and ^②removing all non-alphanumeric characters, it ^③reads the same forward and backward.

Ex)

① Input s = "A man, a plan, a canal: Panama"

Output: True

Explanation: "amanaplanacanalpanama"

② Input: s = "race a car"

Output: False

Explanation: "raceacar" c≠a

① Solution

- Create reversed string (Memory usage O(n)) and compare original and reversed (time complexity : O(n))

1) Removing non-alphanumeric characters by using filter

s = filter (lambda x : x.isalnum(), s)
s = " ".join(s)

2) Convert uppercase into lowercase

s = s.lower()

3) Create reversed string

r = s[::-1]

4) check   ↙ Only need to check half of strings

for i in range (0, len(s)//2) :
    if s[i] != r[i] :
        return False

return True