1. Given a string **str**, find the length of the longest substring without repeating characters.

   For "ABDEFGABEF", the longest substring are "BDEFGA" and "DEFGAB", with length 6.
   For "BBBB" the longest substring is "B", with length 1.

2. Given a string `s`, return *the longest palindromic substring* in `s`.
A string is called a palindrome string if the reverse of that string is the same as the original string.

Example 1:

Input: s = "babad" **Output:** "bab" **Explanation:** "aba" is also a valid answer.

Example 2:

Input: s = "cbbd" **Output:** "bb"

Constraints:
- `1 <= s.length <= 1000`
- `s` consist of only digits and English letters.

Problem Statement

Given a string containing uppercase characters (A-Z), compress the string using Run Length encoding. Repetition of character has to be replaced by storing the length of that run.

Write a python function which performs the run length encoding for a given String and returns the run length encoded String.

Provide different String values and test your program

Sample Input	Expected Output
AAAABBBBCCCCCCCC	4A4B8C
AABCCA	2A1B2C1A

Problem Statement

Write a python function, **encrypt_sentence()** which accepts a message and encrypts it based on rules given below and returns the encrypted message.□
Words at odd position -> Reverse It
Words at even position -> Rearrange the characters so that all consonants appear before the vowels and their order should not change

Note:

1. Assume that the sentence would begin with a word and there will be only a single space between the words.

2. Perform case sensitive string operations wherever necessary.

Sample Input	Expected Output
the sun rises in the east	eht snu sesir ni eht stea

Problem Statement

Write python function, **sms_encoding()** which accepts a sentence and converts it into an abbreviated sentence to be sent as SMS and returns the abbreviated sentence.

Rules are as follows:
a. Spaces are to be retained as is
b. Each word should be encoded separately

- If a word has only vowels then retain the word as is

- If a word has a consonant (at least 1) then retain only those consonants

Note: Assume that the sentence would begin with a word and there will be only a single space between the words.

Sample Input	Expected Output
I love Python	I lv Pythn
MSD says I love cricket and tennis too	MSD sys I lv crckt nd tnns t
I will not repeat mistakes	I wll nt rpt mstks