

**Q5. Determining Palindromes (40 marks)**

Palindromes are words, numbers, or sentences that read the same backwards and forwards, regardless of spaces, special characters, punctuations, and letter casing. Examples include the word ‘madam’, the number ‘404404’ and the sentence ‘Mr. Owl ate my metal worm’.

Write a programme to determine whether the input string is a palindrome word, a palindrome number, or a palindrome sentence.

**Hint:** “aba” is considered as a palindrome word and “a b a” is considered as a palindrome sentence.

**Write a programme to****Input:**

A string.

Please note this string contains at least one letter or one number, but letters and numbers will not appear at the same time.

**Output:**

- (1) Display “1” if the input is a palindrome; display “0” if it is not a palindrome.
- (2) If the first output is “1”, display “word” if it is a palindrome word, “number” if it is a palindrome number, or “sentence” if it is a palindrome sentence.

**试题 5：判断回文（40 分）**

回文（Palindromes）是前后读取相同的单词、数字或句子，其中空格、特殊字符、标点符号和字母大小写皆可忽略。回文的例子包括了单词“madam”、数字“404404”和句子“Mr. Owl ate my metal worm”。

试写一程式来判断输入字符串是否是回文单词（palindrome word）、回文数字（palindrome number）还是回文句子（palindrome sentence）。

**提示：**“aba”是一个回文单词，而“a b a”是一个回文句子。

**试写一程式以****输入：**

一个字符串（string）。

请注意，此字符串至少包含一个字母或一个数字，但字母和数字不会同时出现。

**输出：**

- (1) 如果输入是回文，则显示“1”；反之，若不是回文，则显示“0”。
- (2) 如果以上输出是“1”，若这是回文单词就显示“word”，若这是回文数字就显示“number”，若这是回文句子就显示“sentence”。

**Examples (例子)**

<b>Input (输入)</b>	<b>Output (输出)</b>
Civic	1 word
Be happy for this moment.	0
A man, a plan, a canal – Panama.	1 sentence
\$123,321	1 number
22022022	1 number

**Extra Test Cases**

Input (输入)	Output (输出)
Civic	1 word
Be happy for this moment.	0
A man, a plan, a canal – Panama.	1 sentence
\$123,321	1 number
22022022	1 number
20220202	0
Do geese see God?	1 sentence
RaDar	1 word
kayak - deified - rotator - repaper	0