Problem F

Splitology

Yosef is a peculiar fellow. He introduced the idea to study a string by splitting it into two, and he called it Splitology. Why split a string? We do not know. Didn't we say that Yosef is a weird one?

Yosef is interested in one particular type of string, a palindrome. A palindrome is a string that is the same for both forwards and backwards. Example of palindrome strings are "`ada`", "`taat`", and "`radar`". On the other hand, string such as "`taman`" is not a palindrome; notice that "`taman`" becomes "`namat`" if read backwards and it's not the same as "`taman`".

As the idea of Splitology is still new, Yosef is investigating whether a string can be split into two non-empty strings such that each string is a palindrome.

For example, the string "`malamini`" can be split into "`malam`" and "`ini`" while both of them are palindrome. Another example is "`ababab`". It can be split into "`aba`" and "`bab`", and both of them are palindrome. Note that "`ababab`" can also be split into another pair of palindrome strings, e.g., "`ababa`" and "`b`", or "`a`" and "`babab`".

Gunawan, a friend of Yosef, is also a peculiar one. When he learned about Splitology, he asks Yosef whether the string "`irvinganteng`" can be split into two palindrome strings. The answer is of course no. It can be proven that such a string cannot be split into two palindrome strings.

Given a string S, determine whether it can be split into two non-empty palindrome strings. If the answer is yes, then output two palindrome strings A and B where the concatenation of A and B is S, i.e. $S = A + B$. If the answer is no, then simply output "`NO`" without quotes.

Input

Input contains a string S in a line representing the given string. String S contains only lowercase alphabetical characters (`a-z`) and its length is between 2 and 500, inclusive.

Output

If S cannot be split into two palindrome strings, then output "`NO`" in a line. Otherwise, output two palindrome strings A and B in a line separated by a single space such that $S = A + B$. If there is more than one way to split S into two palindrome strings, you only need to output (any) one pair of A and B.

Sample Input #1

```
malamini
```

Sample Output #1

```
malam ini
```

Sample Input #2

```
ababab
```

Sample Output #2

```
aba bab
```

Explanation for the sample input/output #2

Other outputs such as "a babab" (without quotes) or "ababa b" (without quotes) are also accepted.

Sample Input #3

```
irvinganteng
```

Sample Output #3

```
NO
```

Sample Input #4

```
adakodok
```

Sample Output #4

```
ada kodok
```

Sample Input #5

```
mnonm
```

Sample Output #5

```
NO
```

Sample Input #6

```
se
```

Sample Output #6

```
s e
```