EL2208 Problem Solving with C Lab. Lab #12

Determining if a string represents a palindrome.

Use praktikum.ee.itb.ac.id as usual.

This weeks lab will exercise what you have learned about strings. The goal of the lab is to read a word or phrase off of a user input into a string and determine if that string represents a palindrome. Recall that a palindrome is a word or phrase that is spelled the same forwards and backwards. An easy way to check if a word (or phrase) is a palindrome is to reverse the string and compare the reversed string to the original one using the **strcmp** command.

The program will be broken into a main program and two functions. The variable descriptions and the input and output will be done from the main program. The input will consist of a prompt line asking the user to enter a word or phrase. Since there may be more than one word entered, use the **fgets** function to read the user's response. Remember that a string read using **fgets** will include a newline character at the end of the string. For declaration purposes, you can assume that your strings will not exceed 30 characters.

The first function will strip off all whitespace and punctuation from the input string and convert all characters in that string to either upper- or lowercase. It does not matter which case you use but the characters must be the same for comparison purposes. The original and "stripped" string will be passed through the argument list. The function will not have a return value.

The next function will take the stripped string and reverse it. Both the stripped string and the reversed string will be passed through the argument list. The function will not have a return value.

Next make a comparison between the "stripped" string and it's reverse. Use the **strcmp** function. If the two strings are the same, the **strcmp** function will return a zero. This operation may be done in the main program.

Format the output as follows if the user were to respond to the prompt with "**`A Santa at NASA`**"

```
A Santa at NASA is a palindrome
```

Likewise, if the user responds with the word **"hectic"**, the output will look like

```
hectic is not a palindrome
```

Try some of the following words and phrases to test your code:

```
Civic
Aha!
Race Fast, safe car.
he did eh
kayaK
U.F.O. tofu.
Radar
```

```
I, man, am regal; a German am I.
```

Show your lab instructor your work when you are done.

Submit the code using perl submitter.