# Lab 8 C

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## Problem 1: Make Elections Great Again

Elections are in full swing in the world and Yash has been made in charge of counting the votes for the elections and declare the winner. The votes are stored in file named "election.txt" and the votes are stored as space separated strings. There was also some false votes recorded. So any vote that is not "Trump" or "Kamala" is considered as a false vote. Yash needs your help to count the votes and declare the winner.

The input has been provided in a text file by the name "election.txt". So while reading the file, use this exact file name. There is no additional input to this task. Use the regular file input method to obtain the input and print your answer onto the terminal(stdout).

### File Format:

- File contains space seperated string input

### Output Format:

- In the first line print the name of the winner in the election. If there is a tie, print "Tie".
- For the next two lines print the votes for Trump and Kamala respectively.

### Constraints:

- Each string is at max 100 characters long

### Example File:

```
Trump Kamala
```

### Example Output 1:

```
Tie
Trump: 1
```

```
Kamala: 1
```

### Example File:

```
Trump Trump Kamala Biden
```

### Example Output 2:

```
Trump
Trump: 2
Kamala: 1
```

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## Problem: Vowel Voyage

Welcome aboard the *Vowel Voyage*! Your mission, should you choose to accept it, is to navigate through a sea of text and chart the "vowel count" on each line. We need an accurate log of these vowel numbers, so we can track just how vocal our document is!

### Task:

You're given a multi-line text file (`vowel.txt`), where each line contains a string of letters (upper and lowercase). Your task is to count the total number of vowels (both uppercase and lowercase: `a, e, i, o, u`) on each line. For each line, print this count.

### Input Format:

- The file `vowel.txt` contains multiple lines of text.
- Each line can be up to 8192 characters long.
- There are at most 1000 lines in the file.

### Output Format:

For each line in `vowel.txt`, print the number of vowels in that line, with each vowel count on a new line.

### Example:

**vowel.txt:**

```
Hello, world!
This is a voyage of vowels.
Counting vowels is a fun task.
```

**Output:**

```
3
9
9
```

### Explanation:

- The first line `"Hello, world!"` has 3 vowels (`e, o, o`).
- The second line `"This is a voyage of vowels."` has 9 vowels (`i, i, a, o, a, e, o, o, e`).
- The third line `"Counting vowels is a fun task."` has 9 vowels (`o, u, i, o, e, i, a, u, a`).

Let's see if you're up to the *vowel challenge*! Get ready to count carefully and avoid **"conson-tration" slips**!

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## Problem 3: Word Count Analysis

In this problem, your goal is to perform basic text analysis on a file. Given a file with a single line of text, you need to determine:

- The total number of words in the line.
- The length of the shortest word.
- The length of the longest word.

### Task:

Write a C program to read from a file named `number.txt` and output three space-separated integers representing:

- Total number of words

- Minimum word length
- Maximum word length

Consider words to be separated by spaces, and treat EOF as the end of the file.

## Submission Guidelines

Do not rename any files given in the handout. Only write the code in the specified C files in the respective directories.

### File Format:

- The file `number.txt` contains only one line of text with letters and spaces.

### Output Format:

Print one line with three space-separated integers: the total word count, minimum word length, and maximum word length.

### Constraints:

- Words contain only alphabetic characters, and there are no consecutive spaces.
- The input line has at least one word.

### Example File:

```
Hello world This is test
```

### Example Output:

```
5 2 5
```

### Explanation:

In this example:

- There are 5 words: "Hello", "world", "This", "is", and "test".
- The shortest word is "is" with a length of 2.
- The longest word is "Hello" or "world" with a length of 5.