For this and all future assignments, please use good programming style. Comment your code. Use meaningful variable names. Use variables whenever a value is not simply a fixed constant in an equation. Separate logical sections of your code using \%. I trust that you will not search online for web-published algorithms that solve some of these problems.

**Q1.** Write your own Matlab code to replicate the operation performed by the Matlab `find()` command. Remember that `find()` takes an array of values and returns an array with the indexes of the non-zero elements. Don’t write a function (we haven’t talked about those yet). Just write it as a script. You can assume that the array of values is one-dimensions (technically an $nx1$ or $1xn$ array in Matlab). You may need to check the documentation for the `find()` command and try it out to make sure you understand well what it does so you can replicate its basic operation.

**Q2.** Write Matlab code that will create a stem-and-leaf plot. I bet that some of you do not know what that is. So Google “stem and leaf plot” (Wikipedia has a fairly clear explanation).

Assume that you have a one-dimensional array called `data`. For testing purposes, assume it has the following values:

```
mydata = [68 47 63 76 44 64 81 66 106 68 72 72 46 75 49 84 88];
```

I want you to first create the appropriate data structure for holding the stem and leaf plot; some data structure are better than others for a problem like this.

Then print the stem and leaf plot using appropriately formatted `fprintf()` commands.

Your printed output should look like the stem and leaf plot shown on the Wikipedia page.

```
4 | 4 6 7 9
5 |
6 | 3 4 6 8 8
7 | 2 2 5 6
8 | 1 4 8
9 |
10 | 6
```

I may try running your code using a different set of data, so make sure to test it using other data values; definitely make sure it runs with other sets of positive whole numbers. For full credit, it should also run with data sets such as:

```
mydata2 = [-23.678758, -12.45, -3.4, 4.43, 5.5, 5.678, 16.87, 24.7, 56.8];
```

*Unexcused late assignments will be penalized 10% for every 24 hours late, starting from the time class ends, for a maximum of two days, after which they will earn a 0.*