Lab 8 (10 points)

Q1: (4 points) Use a text editor to type up a file with contents as follows and save as a .txt file.

We can't touch
But we still reach out
We hunker down
But we still rise up

(1) Open the file and use readlines() to read in the text, and then display the 1st and 3rd lines, close the file.
(2) Repeat the above and now use a for loop to read in the text, and then display the 2nd and 4th lines, close the file. Note: you have to read in the whole file first, then display the 2 lines.

Q2: (3 points) Given the following code:

```
#write strings one by one, i.e. write(str)
fp=open('data1.txt', 'w')
fp.write("hello\t")
fp.write("how are you")
fp.write("\n")
fp.write("thank you ")
fp.write("bye\n")
fp.close()

#writelines(): write a sequence, i.e. a list or a tuple into a file
fp=open('data2.txt', 'w')
fp.writelines(["hello\t", "how are you", "\n", "thank you ", "bye\n"])
fp.close()
```

Run the above code, display and compare the contents of data1.txt and data2.txt. Note: you may add more strings and modify the code to make the line format the way you want.

Q3: (3 points) Create a text file with one number per line and contain at least the following numbers (your file should have at least 20 numbers) and save it as .txt file.

102
20.5
20.5.6
#25
30.2

Write code to ask user to enter a filename and open the file. If filename wrong, raise exception and ask the user to re-enter. Then read in numbers one by one, convert each to float number, if not a float number, set it to 0.0. Combine all numbers to a list, and output the list, i.e. the above may output [102.0, 20.5, 0.0, 0.0, 32.2, …]