Assignment 1 – Line Editor

Write a simple line editor named '**edit**'. The program is started by entering "**edit** <filename>" at the command prompt, where "**edit**" (or "edit.exe") is the name of the compiled executable and "**<filename>**" is the name of either a new file to create or an existing file to edit.

Keep the entire text in a linked list, each line in a separate node.

Starting

When editing a new file, a prompt simply appears along with a line number, allowing the user to start entering text or commands.

```
PS> .\edit new_file.txt

1>
```

If the file being edited exists and contains text, the contents will be read in and displayed with an additional prompt to allow the user to enter more text or commands.

```
PS> .\edit existing_file.txt

1>Once upon a time,

2>in a land far, far away.

3>
```

Commands

Inserting

Inserting text can be as simple as typing at the displayed line prompts. Any text that isn't a command will be entered as text.

If text is to be inserted at a line other than the current line prompt, you can enter an insert command `I`. If the letter `I` is entered with a number *n* following it, then the current line number will move to that line and allow text to be inserted there.

```
1>Once upon a time,

2>in a land far, far away.

3>I 1

1> A Fairy Tale
```

If `I` is not followed by a number, then insert the text before the current line. Any text previously on that line will be moved down one line.

```
1>Once upon a time,

2>in a land far, far away.

3>I

2>a princess lived,
```

Listing

Once text has been added, you will want to view lines of the document to see the result. The listing command is `L`.

If `L` is not followed by any numbers (or other text), the entire contents of the linked list is displayed.

```
4>L
1>Once upon a time,
2>a princess lived,
3>in a land far, far, away
4>
```

If `L` is followed by one number, that line alone will be displayed, and the current line will be changed to the line following that line.

```
4>L 2
2>a princess lived,
3>
```

If `L` is followed by two numbers, then a range of lines will be displayed, and the current line will be changed to the next line.

```
4>L 1 2
1>Once upon a time,
2>a princess lived,
3>
```

Deleting

Once text has been added, you may want to delete lines of the document. The deleting command is `D`.

If `D` is followed by one number, then that line will be deleted. If the current line is the last line, the current line number will be updated, otherwise it will remain the same.

```
2>a princess lived,
3>in a land far, far, away
4>D 2
3>
```

If `D` is followed by two numbers, then a range of lines will be deleted.

```
1>Once upon a time,
2>a princess lived,
3>D 1 2
1>
```

If `D` isn't followed by any number, then the previous line will be deleted.

```
1>Once upon a time,
2>a princess lived,
3>D
2>
```

Exiting / Saving

Entering the `E` command will exit and saving the text in a file. Entering the `Q` command will exit without saving the text to a file.

Here is an example:

PS > .\edit.exe test.txt **1>**Once upon a time, **2>**in a land far, far away, **3>**there lived a happy ogre named Shrek. **4>I 1** **1>**A Fairy Tale **2>** **3>L** **1>**A Fairy Tale **2>** **3>**Once upon a time, **4>**in a land far, far away, **5>**there lived a happy ogre named Shrek. **6>D** **5>**there lived a talking donkey. **6>L** **1>**A Fairy Tale **2>** **3>**Once upon a time, **4>**in a land far, far away, **5>**there lived a talking donkey. **6>** **7>**The End. **8>E**	**PS > cat .\test.txt** **A Fairy Tale** **Once upon a time,** **in a land far, far away,** **there lived a talking donkey.** **The End.** **PS >**

[A more in-depth demonstration.](#)