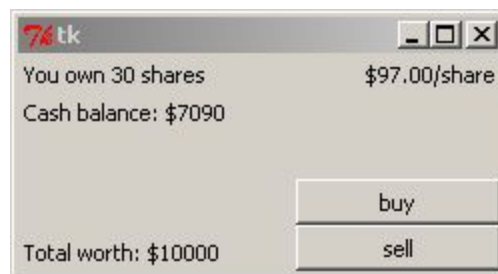


Unit 8

Apply what you know

0. Study the programs in the *Learn something new* section until you can write them yourself from scratch without relying on this document or any other source of information. Here are the programs:
 - 0.1. Write a GUI program that picks one card at random from a shuffled deck each time the user clicks a button.
 - 0.2. Write a GUI program to implement a trading game. The player starts with \$10,000 in cash and watches as the price of a certain stock goes up and down. At any time, the player may click on a 'Buy' button to purchase 10 shares of the stock at the current price or on a 'Sell' button to sell 10 shares purchased earlier. The stock price starts at \$97 and changes every two seconds by a random amount up to a maximum of \$2. Here is how the game should look to the user.



1. Modify the scrambled-word-puzzle solver developed for Program 4 of Unit 5 so that it uses a graphical user interface. You will need to use an entry widget that accepts text input from the user. Create one like this:

```
inputBox = Entry(root)
```

and access what the user has typed like this:

```
userInput = inputBox.get()
```

2. Modify the vocabulary learner developed for Program 2 of Unit 3 so that it uses a graphical user interface.
3. Write a game program that displays five buttons. Every one-and-a-half seconds, the text on the buttons changes randomly, so that each reads either 'click', 'clack' or 'cluck'. If the player clicks a button labeled 'click', he or she scores 10 points. If the player clicks a button labeled 'clack' or 'cluck', he or she loses 10 points. When a button has been clicked, it should change color—to light green if the click scored points and to light yellow if it lost points. Clicking the same button again should

have no effect until the next time the button labels are changed, at which time the colors should also revert to gray.

4. Program 5 of Unit 5 looks through *Pride and Prejudice* for the five most common words ending in 'ing'. Modify the program so that it uses a graphical user interface and so that any number of different endings may be specified, one at a time. For each ending, the program should display the five most common matching words and the number of occurrences of each.