22C:16 Homework 2 Solution

1. (a) `n`, type = `int`; `isPrime`, type = `bool`; `factor`, type = `int`; `factorBound`, type = `float`
   (b) 2, 3, 4, 5
2. See `homework2.2.py`
3. The *break* statement terminates the `while`-loop immediately after a factor of input n is found. The program still works correctly if we remove the `break` statement. However, the `break` statement prevents unnecessary iterations, thus reduces the running time (note that finding one factor is enough to conclude that the input number is a composite).
4. (a) False
   (b) True
   (c) False
   (d) True
   (e) False
   (f) True
5. (a) 37 is the current value of the variable n 38 is the current value of the variable n 39 is the current value of the variable n 40 is the current value of the variable n 41 is the current value of the variable n
   (b) See `homework2.5b.py`
6. See `homework2.6.py`
7. See `homework2.7.py`