Today

• For loop practice
• Collections
• Search
Short Questions?
Quiz
Loop Example I

Write a method that will indicate whether all of the characters in a string are lower case

• What is the method prototype?
Loop Example I

Write a method that will indicate whether all of the characters in a string are lower case

• What is the method prototype?
• What is the method implementation?
Loop Example II

Write a method that takes two positive integer inputs and returns their greatest common divisor.

• You may assume that the first integer is greater than or equal to the second integer
Collection “Class” (Interface)

• We often have to represent a group of objects of the same type (class)
• A Collection is our high level perspective on representing groups
  • There are many different subtypes of collections
• Common operations for a Collection<E>:
  
  ```java
  boolean add(E item) // Add a single item
  
  boolean addAll(Collection<E> items) // Add a group of items
  
  void clear() // Delete all items
  
  boolean contains(E item) // Check if an item is within Collection
  
  int size() // Give the number of objects in Collection
  ```
Subtypes of Collection

Two common subtypes are:

• **Set**
  • No duplicates allowed
  • No indexing (no specific order)

• **List**
  • Duplicates allowed
  • Indexed (starting from 0)
  • ArrayList is one implementation of a List
Iterators

An iterator is a class that allows one to systematically move through all of the objects that are contained in a Collection

```java
ArrayList<Integer> list = new ArrayList<Integer>;
list.add(5);
list.add(17);
list.add(3);

for(Integer i: list)
    System.out.println(i);
```
Checking the Spelling of Words

Write a program that:

• Reads in a dictionary of valid words
• Repeatedly takes user input of words & states whether the word is in the dictionary or not
Wrap Up

Due:
• HW 6: Due Thursday
• Project 3: Due Tuesday
• Project 4: Released

Next time:
• More search
• Week from Wednesday: Exam 2