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/*****\
 * TwitterClient.java
 * @author Hawk Weisman
 * PLEDGE:
 *
 * A basic command-line Twitter client.
 * Contains code modified from Professor Gregory Kapfhammer's.
 *
 * +-----+
 * | Command-line arguments: |
 * | |
 * | timeline: prints the twitter home timeline |
 * | mentions: prints your mentions timeline |
 * | tweet: prompts the user for a tweet, and posts it |
 * | tweet-txt: posts all tweets contained in tweets.txt |
 * | random: posts a randomly generated tweet |
 * | randomTest: debugs the randomizer |
 * +-----+
 *****/

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import java.util.Random;
import java.util.Scanner;
import java.util.ArrayList;
import java.io.File;
import java.io.FileNotFoundException;
import java.util.List;
import twitter4j.*;

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```

public class TwitterClient {

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    /**

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```

        * randomTest
        * @author Hawk Weisman
        */

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    public static void randomTest () {

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        Tweet randomTweet = new Tweet();
        Random random = new Random();
        String randomTweetText = new String();

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        int firstPart, secondPart, thirdPart;

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        // assign each tweetPart to a random integer between 1 and 4
        firstPart = random.nextInt(4)+1;
        secondPart = random.nextInt(4)+1;
        thirdPart = random.nextInt(4)+1;

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        System.out.println (" + Debugging the randomizer." + "\n" +
            " + firstPart = " + firstPart + "\n" +
            " + secondPart = " + secondPart + "\n" +
            " + thirdPart = " + thirdPart + "\n");

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    }

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    /**

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        * randomTweet
        * @author Hawk Weisman

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```
* @return a randomly-generated tweet.
*/
public static Tweet randomTweet () {

    Tweet randomTweet = new Tweet();
    Random random = new Random();
    String randomTweetText = new String();

    int firstPart, secondPart, thirdPart;

    // assign each tweetPart to a random integer between 1 and 4
    firstPart = random.nextInt(4)+1;
    secondPart = random.nextInt(4)+1;
    thirdPart = random.nextInt(4)+1;

    switch (firstPart) {
        case 1:
            randomTweetText = "This tweet was ";
            break;
        case 2:
            randomTweetText = "The following message was ";
            break;
        case 3:
            randomTweetText = "You are reading a tweet that was ";
            break;
        case 4:
            randomTweetText = "This message was ";
            break;
        default:
            break;
    }

    switch (secondPart) {
        case 1:
            randomTweetText = randomTweetText + "randomly generated by ";
            break;
        case 2:
            randomTweetText = randomTweetText + "created randomly using ";
            break;
        case 3:
            randomTweetText = randomTweetText + "made randomly thanks to ";
            break;
        case 4:
            randomTweetText = randomTweetText + "pulled from the ether by
                means of ";
            break;
        default:
            break;
    }

    switch (thirdPart) {
        case 1:
            randomTweetText = randomTweetText + "a highly advanced computer
                program.";
            break;
        case 2:
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        randomTweetText = randomTweetText + "an in-house software tool.";
        break;
    case 3:
        randomTweetText = randomTweetText + "cutting-edge algorithmic
            techniques.";
        break;
    case 4:
        randomTweetText = randomTweetText + "black magic.";
        break;
    default:
        break;
}

randomTweet.setMessage(randomTweetText);
return randomTweet;
}

/**
 * parseLang
 * @author Hawk Weisman
 * @param lang A lang string from Twitter4J's getLang() method
 * @return A person-readable language
 */
public static String parseLang (String lang) {

    switch (lang) {
        case "en":
            return "English";

        case "es":
            return "Spanish";

        case "it":
            return "Italian";

        case "pt":
            return "Portugese";

        case "tr":
            return "Turkish";

        case "fr":
            return "French";

        case "ko":
            return "Korean";

        case "jp":
            return "Japanese";

        case "ru":
            return "Russian";

        case "de":
            return "German";
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        default:
            return "null";
    }
}

/**
 * main
 * @author Hawk Weisman
 */
public static void main (String[] argv) {

    ArrayList<Tweet> validTweets = new ArrayList<Tweet>(0);    // stores all
        valid tweets
    ArrayList<String> invalidTweets = new ArrayList<String>(0); // stores
        all invalid tweets

    File tweets;    // represents the tweets.txt file to be read from
    Scanner scan;    // scanner to read tweets from tweets.txt

    Twitter twitter;    // Twitter object from twitter4j to be
        initialized later
    User user;    // User object from twitter4j to be
        initialized later
    List<Status> timeline;    // A List of already posted statuses
        pulled from twitter
    List<Status> mentions;    // A List of all the statuses mentioning
        the user

    final int MAX_LENGTH = 140;    // maximum length for a valid tweet
    final int MIN_LENGTH = 1;    // minimum length for a valid tweet

    String currentLine = new String(); // holds the string being sorted

    System.out.print("\n");

    // if there are no command-line arguments, print a help file detailing
        accepted CLIs
    if (argv.length == 0) {
        System.out.println ("TwitterClient: Please enter a command-line
            argument. \n"
                + "Accepted command-line arguments: \n"
                + " + timeline: prints your twitter home timeline
                    \n"
                + " + mentions: prints your mentions timeline \n"
                + " + @<username>: prints information on user
                    <username>, followed by their latest tweet \n"
                + " + tweet: prompts the user for a tweet, and
                    posts it \n"
                + " + tweet-txt: posts all tweets contained in
                    Tweet.txt \n"
                + " + random: posts a randomly generated tweet
                    (warning: probably stupid)");
    }

    // if there are one or more command-line arguments, decide what to do
        next

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else if (argv.length > 0) {
    // loop through argv
    for (String arg : argv) {

        // if one of the entered argument is a user...
        if (arg.substring(0,1).equals("@")) {
            try {

                // gets Twitter instance with default credentials
                twitter = new TwitterFactory().getInstance();
                user = twitter.verifyCredentials();

                // grab the user to be viewed
                if (twitter.searchUsers(arg,1).size() > 0) {
                    // make a User object to store the user
                    User viewUser = twitter.searchUsers(arg,1).get(0);
                    // tale their last status and put it in a Status
                    object
                    Status theirStatus = viewUser.getStatus();

                    // print the user's information
                    System.out.println ("User " + arg + " has " +
                        viewUser.getFollowersCount() + " followers, "
                        + viewUser.getFriendsCount() + "
                        friends, and has posted " +
                        viewUser.getStatusesCount() +
                        " statuses.");
                    System.out.println ("They live in " + viewUser.
                        getLocation() + " and speak " + parseLang
                        (viewUser.getLang()) + ".");

                    // print the user's description
                    System.out.println ("Description:" + "\n" + viewUser.
                        getDescription());

                    // print the user's most recent status
                    System.out.println ("Last status:" + "\n" +
                        theirStatus.getText());

                } else {
                    System.out.println ("No user named " + arg + " could
                        be found.");
                }

                System.out.print("\n");

            }

            // catch any thrown TwitterExceptions
            catch (TwitterException te) {
                te.printStackTrace();
                System.out.println("Failed to get user " + arg + ": " + te
                    .getMessage());
            }

        } else {
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// decide what to do based on the current arg
switch (arg) {

    case "timeline":
        // print the home timeline to the console
        try {

            // gets Twitter instance with default credentials
            twitter = new TwitterFactory().getInstance();
            user = twitter.verifyCredentials();

            // grab statuses from twitter and put them in
            // timeline
            timeline = twitter.getHomeTimeline();

            // print all the statuses in timeline
            System.out.println("Showing @" + user.
                getScreenName() + "'s home timeline.");
            for (Status status : timeline) {
                System.out.println("@ " + status.getUser().
                    getScreenName() + " - " + status.getText
                    ());
            }

            // if there are no statuses in the timeline, say
            // that.
            if (timeline.size() == 0)
                System.out.println ("You have no statuses in
                    your timeline.");

            System.out.print("\n");
        }

        // catch TwitterExceptions thrown while connecting to
        // Twitter
        catch (TwitterException te) {
            te.printStackTrace();
            System.out.println("Failed to get timeline: " +
                te.getMessage());
        }
        break;

    case "mentions":
        // print the home timeline to the console
        try {

            // gets Twitter instance with default credentials
            twitter = new TwitterFactory().getInstance();
            user = twitter.verifyCredentials();

            // grab statuses from the mentions timeline and put
            // them in mentions
            mentions = twitter.getMentionsTimeline();

            // print all the statuses in timeline
            System.out.println("Showing @" + user.getScreenName()
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        + "'s mentions timeline.");
    for (Status status : mentions) {
        System.out.println("@ " + status.getUser().
            getScreenName() + " - " + status.getText());
    }

    // if there are no mentions, say that.
    if (mentions.size() == 0)
        System.out.println ("You have no statuses in your
            mentions timeline.");

    System.out.print("\n");
}

// catch TwitterExceptions thrown while connecting to
// Twitter
catch (TwitterException te) {
    te.printStackTrace();
    System.out.println("Failed to get timeline: " + te.
        getMessage());
}
break;

case "tweet":
    // set up the scanner to scan from the command line
    scan = new Scanner(System.in);

    // prompt the user for a tweet
    System.out.println ("Please enter a tweet and press
        return.");
    currentLine = scan.nextLine();
    System.out.print("\n");

    // if the tweet is valid, put it in the validTweets
    // ArrayList
    if (Tweet.isValidMessage(currentLine) == true){
        Tweet tweet = new Tweet();
        tweet.setMessage(currentLine);
        validTweets.add(tweet);

        // otherwise, put it in invalidTweets
    } else {
        invalidTweets.add(currentLine);
    }
break;

case "tweets-txt":
    try {
        // set up the scanner to read from tweets.txt
        tweets = new File ("tweets.txt");
        scan = new Scanner(tweets);

        // loop through all the lines in tweets.txt and
        // sort them into ArrayLists.
        while (scan.hasNextLine()) {
            currentLine = scan.nextLine();
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        // if the tweet is valid, put it in the
        // validTweets ArrayList
        if (Tweet.isValidMessage(currentLine) == true)
        {
            Tweet tweet = new Tweet();
            tweet.setMessage(currentLine);
            validTweets.add(tweet);

            // otherwise, put it in invalidTweets
        } else {
            invalidTweets.add(currentLine);
        }
    }

    // catch any exceptions thrown while reading in
    // Tweets.txt
    catch (FileNotFoundException e){
        e.printStackTrace(System.err);
    }
    break;

    case "random":
        // add a random tweet to the random tweets ArrayList.
        validTweets.add(randomTweet());
        break;

    case "randomTest":
        randomTest();
        break;

    default:    // the default case should never trigger.
        break;
    }
}

// print out the valid tweets
if (validTweets.size() > 0) {
    System.out.println("Valid tweets:");
    for (Tweet tweet : validTweets)
        System.out.println(tweet.toString());
    System.out.print("\n");
}

// print out the invalid tweets
if (invalidTweets.size() > 0) {
    System.out.println("Invalid tweets:");
    for (String invalidTweet : invalidTweets)
        System.out.println(invalidTweet);
    System.out.print("\n");
}

// try to post all valid tweets to the timeline
if (validTweets.size() > 0) {
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```
try {
    // connect to Twitter
    twitter = new TwitterFactory().getInstance();
    user = twitter.verifyCredentials();
    timeline = twitter.getHomeTimeline();

    // loop through validTweets and post each tweet to Twitter
    for (Tweet tweet : validTweets)
        twitter.updateStatus(tweet.getMessage());
    }

    // catch any TwitterExceptions thrown while posting valid tweets
    catch (TwitterException te) {
        te.printStackTrace();
        System.out.println("Failed to post tweet " + te.getMessage());
    }
}
}
}
}
```