CPW 143 Fall 2017, Extra Credit Programming Assignment 8

Description:

This assignment will make use of **Map**s.
Using the provided test code, **WorldSeriesWinners.java**, the class **WorldSeriesGame.java**, and the input data file, **ListOfWorldSeriesChampions.txt**, modify **main** in **WorldSeriesWinners.java** so that the text read in from the file is put into a **Map** as explained below.

The provided input file, **ListOfWorldSeriesChampions.txt**, contains a chronological list of all the World Series' games from 1903 through 2014. (Note that the World Series was not played in 1904 or 1994. The file has entries indicating this.)

A line of this file looks like:
```
1903   Boston Americans (AL)    5-3    Pittsburgh Pirates (NL)
```

Each line has a year, the name of the winning team, the win/loss record for that series, and the name of the runner-up in the series. These items make the fields of a **WorldSeriesGame** object.

The provided code reads the file and creates an **ArrayList** of **WorldSeriesGame**s.

Your job is to make a **Map** in which a key is a team name and the associated value is the years in which that team won the World Series.

The required **Map** will have **String**s as keys and **ArrayList**s of integers as values.
For example:

Key	Value
`"Chicago White Sox (AL)"`	`[1906, 1917, 2005]`

Note: The last slide of the lecture for Chapter 11, **TA Problem: Solution**, shows a program that does something similar to your assignment. It has a **Map** with integers for keys and **ArrayList**s of **String**s as values.

Extra Extra Credit (5%):

1. Determine how many times a team has won the World Series. For each key (i.e., the team) in the map, the size of the value (i.e., the **ArrayList**'s size) will be the number of wins.
2. Determine how many times the National League (NL) has won the World Series and how many times the American League (AL) has won the World Series. Note: you just need to go through all the elements of the **ArrayList** named **allGames** and count the number of winners with (NL) in their name and how many winners have (AL) in their name. The **String** method **substring** is good for that.

Expected Output:
```
Team's winning years
Anaheim Angels (AL) wins: [2002]
Arizona Diamondbacks (NL) wins: [2001]
Atlanta Braves (NL) wins: [1995]
Baltimore Orioles (AL) wins: [1966, 1970, 1983]
Boston Americans (AL) wins: [1903]
```

Boston Braves (NL) wins: [1914]
Boston Red Sox (AL) wins: [1912, 1915, 1916, 1918, 2004, 2007, 2013]
Brooklyn Dodgers (NL) wins: [1955]
Chicago Cubs (NL) wins: [1907, 1908]
Chicago White Sox (AL) wins: [1906, 1917, 2005]
Cincinnati Reds (NL) wins: [1919, 1940, 1975, 1976, 1990]
Cleveland Indians (AL) wins: [1920, 1948]
Detroit Tigers (AL) wins: [1935, 1945, 1968, 1984]
Florida Marlins (NL) wins: [1997, 2003]
Kansas City Royals (AL) wins: [1985]
Los Angeles Dodgers (NL) wins: [1959, 1963, 1965, 1981, 1988]
Milwaukee Braves (NL) wins: [1957]
Minnesota Twins (AL) wins: [1987, 1991]
New York Giants (NL) wins: [1905, 1921, 1922, 1933, 1954]
New York Mets (NL) wins: [1969, 1986]
New York Yankees (AL) wins: [1923, 1927, 1928, 1932, 1936, 1937, 1938, 1939, 1941, 1943, 1947, 1949, 1950, 1951, 1952, 1953, 1956, 1958, 1961, 1962, 1977, 1978, 1996, 1998, 1999, 2000, 2009]
Oakland Athletics (AL) wins: [1972, 1973, 1974, 1989]
Philadelphia Athletics (AL) wins: [1910, 1911, 1913, 1929, 1930]
Philadelphia Phillies (NL) wins: [1980, 2008]
Pittsburgh Pirates (NL) wins: [1909, 1925, 1960, 1971, 1979]
San Francisco Giants (NL) wins: [2010, 2012, 2014]
St. Louis Cardinals (NL) wins: [1926, 1931, 1934, 1942, 1944, 1946, 1964, 1967, 1982, 2006, 2011]
Toronto Blue Jays (AL) wins: [1992, 1993]
Washington Senators (AL) wins: [1924]

Extra Credit:
Anaheim Angels (AL) has 1 wins.
Arizona Diamondbacks (NL) has 1 wins.
Atlanta Braves (NL) has 1 wins.
Baltimore Orioles (AL) has 3 wins.
Boston Americans (AL) has 1 wins.
Boston Braves (NL) has 1 wins.
Boston Red Sox (AL) has 7 wins.
Brooklyn Dodgers (NL) has 1 wins.
Chicago Cubs (NL) has 2 wins.
Chicago White Sox (AL) has 3 wins.
Cincinnati Reds (NL) has 5 wins.
Cleveland Indians (AL) has 2 wins.
Detroit Tigers (AL) has 4 wins.
Florida Marlins (NL) has 2 wins.
Kansas City Royals (AL) has 1 wins.
Los Angeles Dodgers (NL) has 5 wins.
Milwaukee Braves (NL) has 1 wins.
Minnesota Twins (AL) has 2 wins.
New York Giants (NL) has 5 wins.
New York Mets (NL) has 2 wins.
New York Yankees (AL) has 27 wins.
Oakland Athletics (AL) has 4 wins.
Philadelphia Athletics (AL) has 5 wins.

```
Philadelphia Phillies (NL) has 2 wins.
Pittsburgh Pirates (NL) has 5 wins.
San Francisco Giants (NL) has 3 wins.
St. Louis Cardinals (NL) has 11 wins.
Toronto Blue Jays (AL) has 2 wins.
Washington Senators (AL) has 1 wins.
NL wins: 47, AL wins: 63
```

Submission:

Submit your completed class, **WorldSeriesWinners.java,** on Canvas. Starter code is provided for you on Canvas.