

**Useful Resources:**

```
loadStrings()  
split()
```

**Instructions:**

All parts of lab questions that have **R** at the beginning are mandatory, and their submission by each student is required. The parts of each question that begin with **O** are open-ended enhancements for further investigation into course material. These should be completed only after the mandatory parts of the lab are completed, and are not explicitly required for submission. If you choose to complete further optional add-ons, you are welcome to explore your own options, and not just the suggestions provided. Submit a zip document to the dropbox folder L9 on LEARN. The document should contain separate folders for the following files:

- **L9\_BabyNamesYear**
  - **L9\_BabyNames**
- 

In both questions, create a sketch that reads in the provided file Babies.txt, which is a text file that contains the top 40 male names and top 40 female names of each year for the past 100 years (1914-2013). For simplicity, there are no names with spaces in them, and each word is separated by a space. You may assume that each year is on a new line, and each line is structured as shown, where MALE#x AND FEMALE#x are the x most popular baby names of the year:

```
YEAR 1 MALE#1 FEMALE#1 2 MALE#2 FEMALE#2 ... 40 MALE#40 FEMALE#40
```

```
2011 1 Jacob Sophia 2 Mason Isabella 3 William Emma 4 Jayden Olivia 5 Noah Ava 6 Michael Emily
```

In both cases, you should first load the strings of the text file to an array, and then loop through each year (each element in the array) to accomplish what the question asks.

**1. L9\_BabyNamesYear**

**R** Create a variable called input, whose value is an integer between 1914 and 2013. Create a sketch that outputs to the screen a list of all the top baby name of that year, in order. For example, if the value of input was “1979”, your sketch should produce the table below by looping through the year and drawing to the screen the top baby names, in order. Depending on how you implement your code, you may have to loop through the year twice, once for male names and once for female names.



## 2. L9\_BabyNames

**R** Starter code has been provided which allows users to input a name and a gender onto the screen using ControlP5. Update the sketch to produce a graph that shows whether or not the name has been in the top 40 baby names in the past 100 years, and its rank (see below for an example. You can accomplish this by

- Looping through each year checking if the name appears
- If the name appears, check what rank the name had in the top 40 baby names
- Draw a line connecting the previous rank to the new rank in a graph on the canvas

**HINT:** You will need a draw() function, so that ControlP5 works, but it should remain empty, as everything you need to do will be done in separate functions, not in draw.

