Reading from Files II

```
file = open("filename.txt", "r")
for line in file:
    line = line.rstrip()
    # do something with line
file.close()
```

Reading one string per line

```
file = open("filename.txt", "r")
for line in file:
    line = line.rstrip()
    num = int(line)
    # do something with num
file.close()
```

Reading one int per line

- Create a text file containing ten positive integers (or floats). *[Make these up randomly.]* Assume these integers represent the price of a stock over ten days.
- Write a program to print the ***3-day moving average*** of the stock prices. This is the average of the 3 most recent stock prices, calculated for every day starting with day 3.
  - So for the 3rd price in the file, calculate and print the average of the prices on days 1, 2, and 3. For the 4th price, calculate the average of days 2, 3, and 4, and so on.
  - Use the sliding window technique, but use *two* sliding variables to hold the previous day's price, as well as the price from two days ago.
- **Challenge**: Edit your program to also print out the largest and smallest numbers in the file.

- Problem that re-occurs often in CS:
- Finding the largest item in a set of things where you can only look at each thing once.
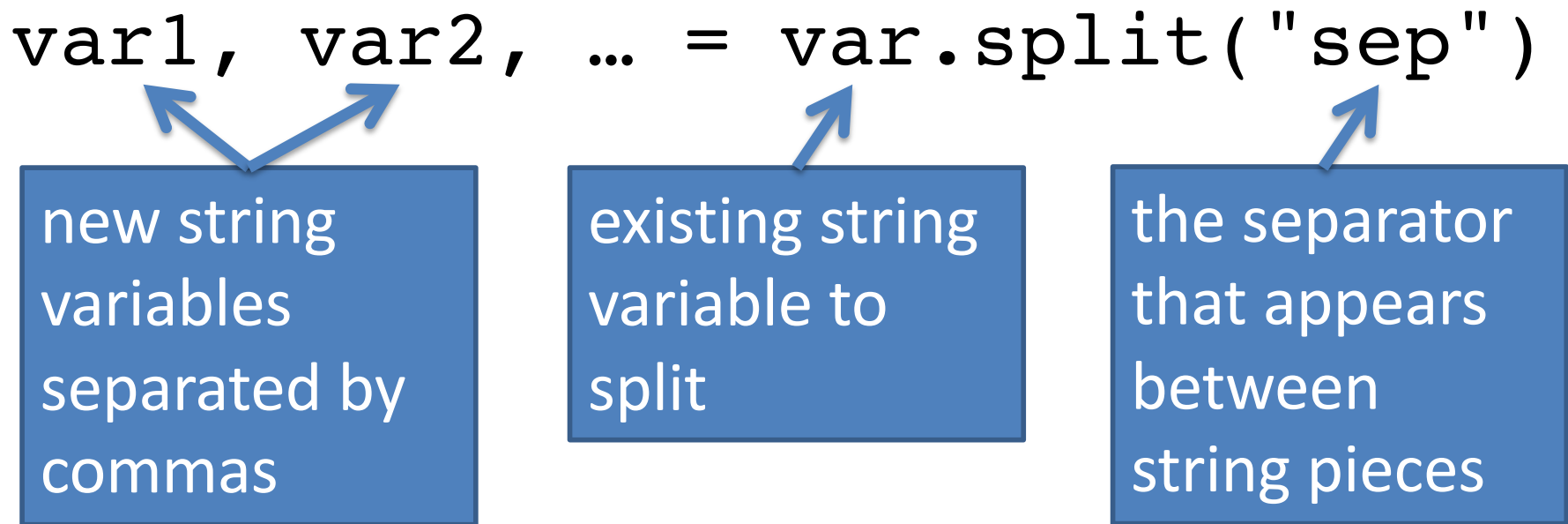
- Pseudocode for finding the largest number in a collection of numbers:

- `largest` = [smallest possible number that you could ever see]
- loop over each number:
    if the current number > `largest`, then
        `largest` = current number

- after this loop, `largest` will have the largest number in it!

Split function

Splits a string into multiple string variables based on a separator:

```
var1, var2, … = var.split("sep")
```

new string variables separated by commas

existing string variable to split

the separator that appears between string pieces

Reading multiple strings per line

```python
file = open("filename.txt", "r")
for line in file:
    line = line.rstrip()
    var1, var2, … = var.split("sep")
    # do something with var1, var2, etc.
```

Using the `people.txt` file from the website:

- Write a program to print the year the oldest person was born, and the year the youngest person was born.

- Edit your program to print the **names** of the oldest and youngest person.

- Make a new program to print the first and last names of the person who comes first alphabetically (by last name), and last alphabetically.