

Reading from Files II

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

Reading one
string per line

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

Reading one int
per line

- Create a text file containing between five and seven positive integers, one per line.
- Write a program to calculate the consecutive differences between numbers in the file.
 - Use the sliding window technique!
- 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]
- look at each number once:
 - 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")
```

The diagram illustrates the syntax of the split function. At the top, the code `var1, var2, ... = var.split("sep")` is shown. Below it are three blue boxes with white text, each with an arrow pointing to a part of the code. The first box points to `var1, var2, ...`, the second to `var`, and the third to `"sep"`.

new string variables separated by commas

existing string variable to split

the separator that appears between string pieces

Reading multiple strings per line

```
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 presidential file from the handout (type the names and years into a file):

- Write a program to print the year the oldest candidate was born, and the year the youngest candidate was born.
- Edit your program to print the *names* of the oldest and youngest candidates.
- Make a new program to print the names of the candidates who come first alphabetically, and last alphabetically.