

How to save information in files

open, write, close



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Have you ever needed to jot something down to remember it later?

- A list of ingredients to buy for a recipe?
- A guest list?
- A phone number?

Sometimes even programs need to jot something down so they can remember it later

- Remember what page I was reading in my e-book
- Remember what treasures I had collected when I took a break from the game

Working with files

One of the ways a program can make a note of something is to write it to a file



How do you write to a file with code?

- Use the **open** function to create and open a file

```
myFile = open(fileName, accessMode)
```

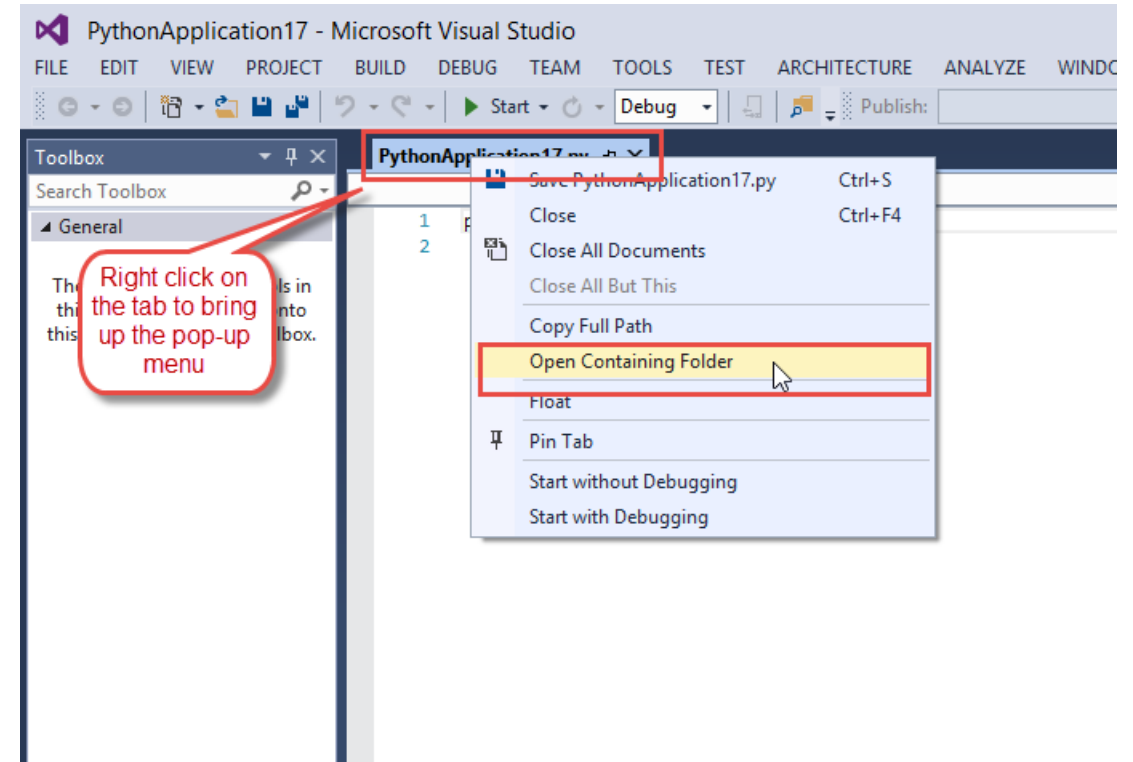
- You must specify
 - file name
 - access mode

What is the file name?

- The file name is the name of your file including the extension
 - data.txt, mytimes.csv
- The file will be created in the same folder as your program
- By default that directory is
 - C:/Users/<user name>/Documents/Visual Studio 2013/Projects/<project name>/

Geek Tip!

If you aren't sure what directory your project is using, you can right click on the tab for your code window and select Open Containing Folder to see the folder in Windows Explorer



What is the **access mode**?

- The access mode specifies what you will do with the file after you open it.
- You can specify any of the following:

Access mode	Action
r	Read the file
w	Write to the file
a	Append to the existing file content
b	Open a binary file

So how does that look when we put it all together?

```
fileName = "GuestList.txt"  
accessMode = "w"  
myFile = open(fileName, accessMode)
```

DEMO

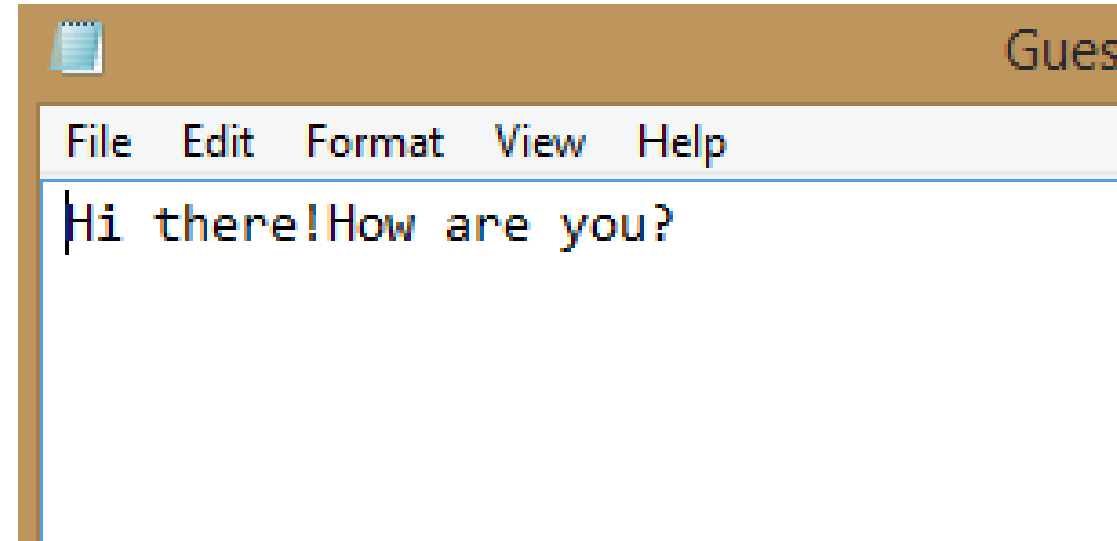
Creating a file and looking up the current folder in Visual Studio

Writing to files

Now that we have a file, how do we write to it?

Use the **write** function

```
fileName = "GuestList.txt"  
accessMode = "w"  
myFile = open(fileName, accessMode)  
myFile.write("Hi there!")  
myFile.write("How are you?")
```

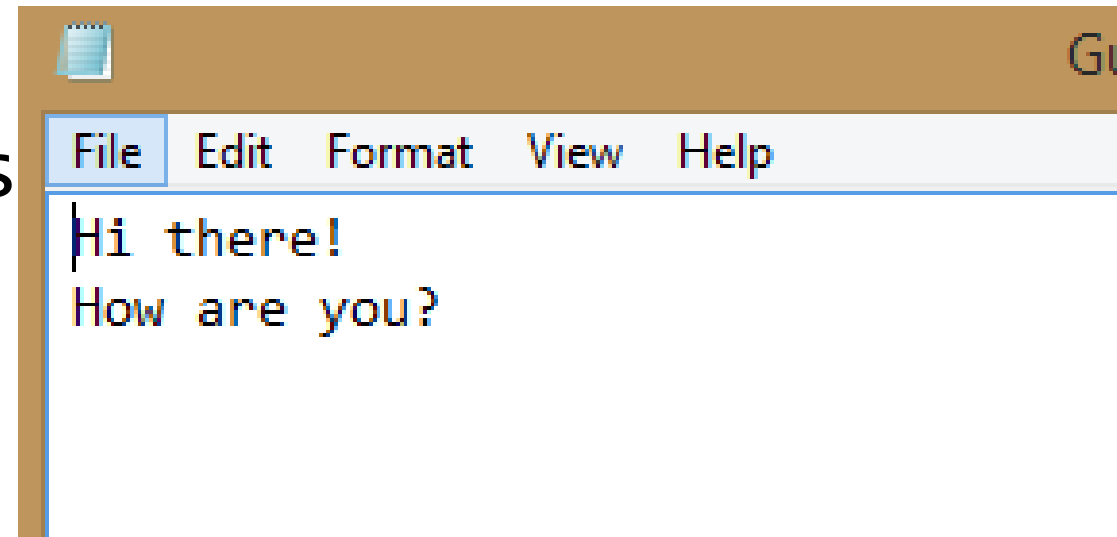


How can you start a new line?

- Think back to the print statement.
- How did we specify to display text over multiple lines?

\n

```
fileName = "GuestList.txt"  
accessMode = "w"  
myFile = open(fileName, accessMode)  
myFile.write("Hi there!\n")  
myFile.write("How are you?")
```



When you are finished you should always close the file

Use the `close` method

```
fileName = "GuestList.txt"  
accessMode = "w"  
myFile = open(fileName, accessMode)  
myFile.write("Hi there!\n")  
myFile.write("How are you?")  
myFile.close()
```

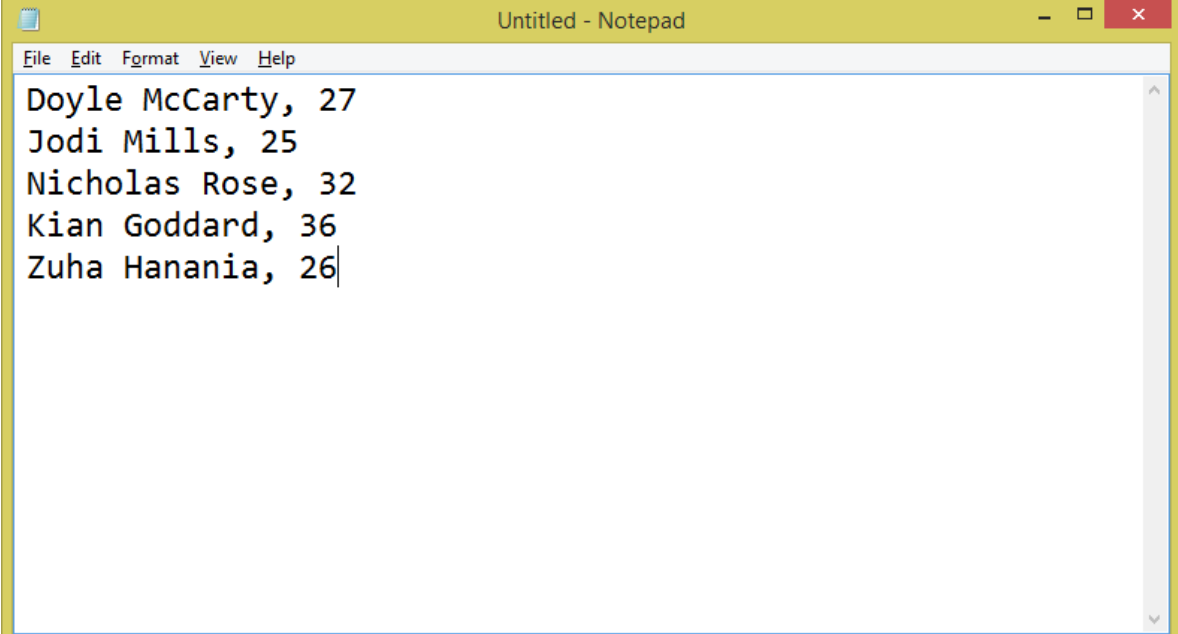
DEMO

Write information to a file

CSV files

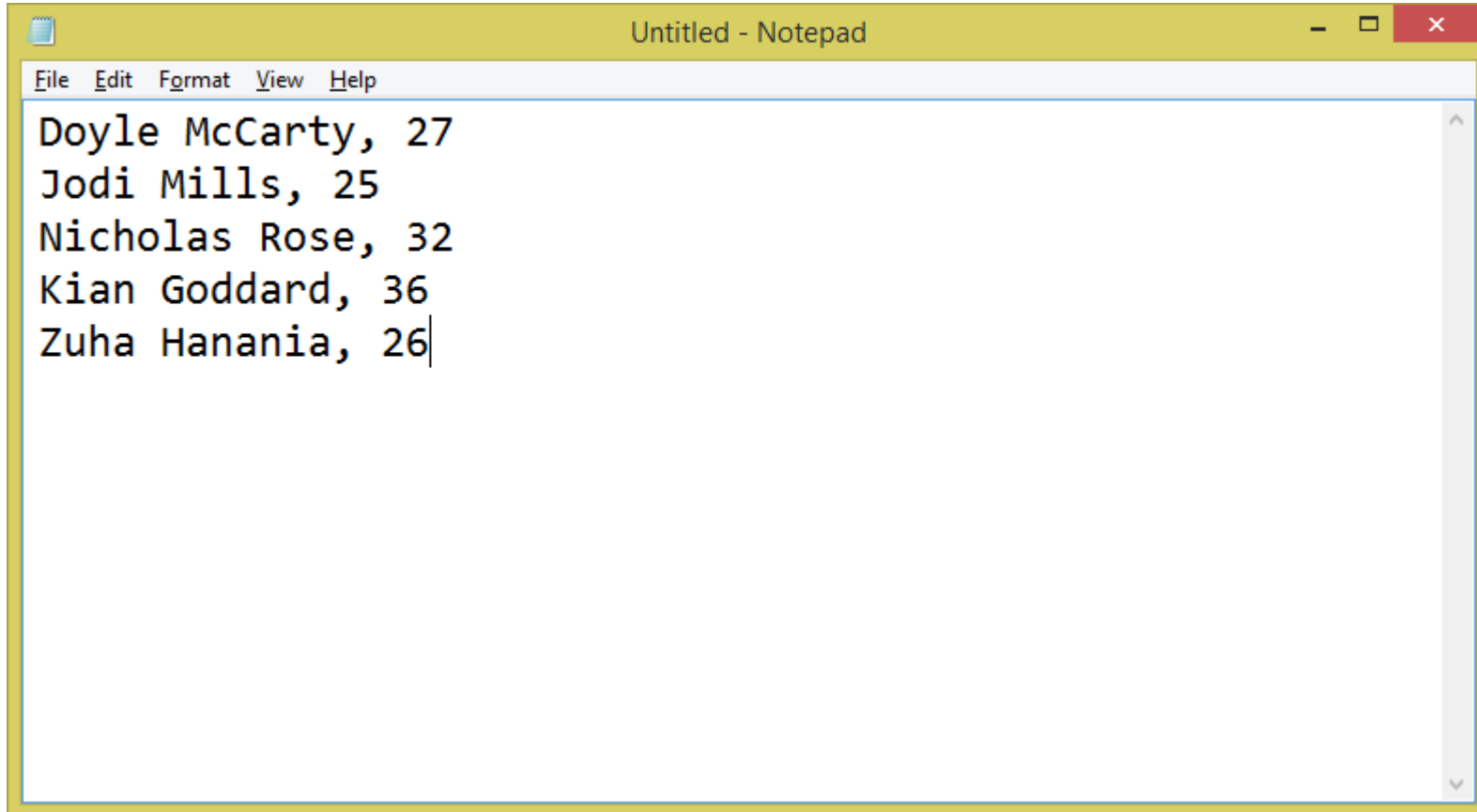
A common format for storing information in a file is Comma Separated (CSV)

- A CSV file contains data separated by a character (usually a comma).
- Each row represents one record of data
- It is sometimes called a Character Separated Values file because the separating character could be a different character such as a semi colon
,.
/



```
File Edit Format View Help
Doyle McCarty, 27
Jodi Mills, 25
Nicholas Rose, 32
Kian Goddard, 36
Zuha Hanania, 26
```

Your challenge, create the CSV file below!

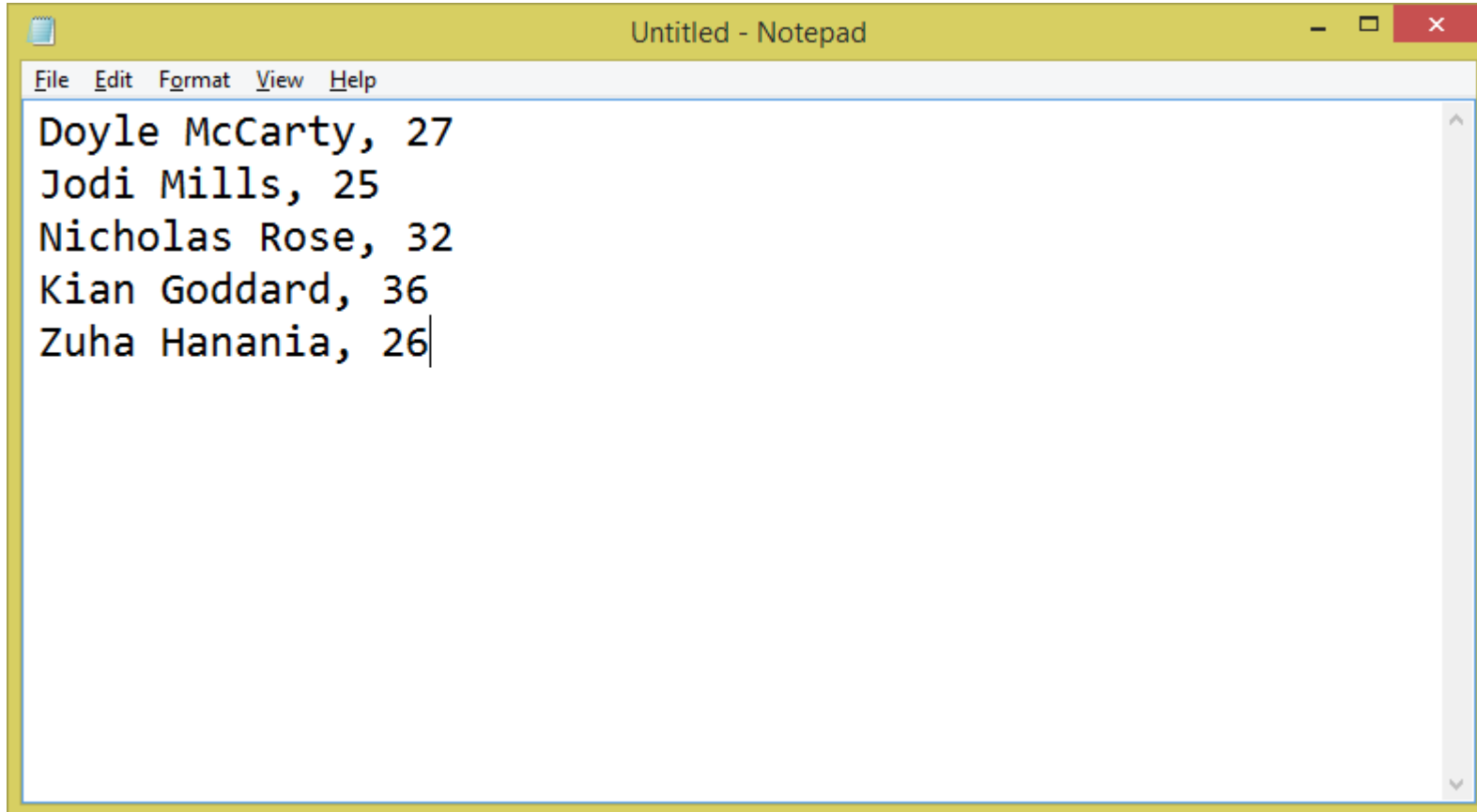


```
File Edit Format View Help
Doyle McCarty, 27
Jodi Mills, 25
Nicholas Rose, 32
Kian Goddard, 36
Zuha Hanania, 26|
```

The image shows a Notepad window with a yellow title bar and a menu bar containing File, Edit, Format, View, and Help. The text area contains five lines of CSV data, each consisting of a name followed by a comma and an age. The cursor is positioned at the end of the fifth line, after the age 26.

Name	Age
Doyle McCarty	27
Jodi Mills	25
Nicholas Rose	32
Kian Goddard	36
Zuha Hanania	26

Extra credit! Ask your user to enter names and ages for 5 different guests, then save each name and age to your CSV file

A screenshot of a Notepad window titled "Untitled - Notepad". The window has a yellow title bar and a menu bar with "File", "Edit", "Format", "View", and "Help". The text area contains five lines of text, each representing a guest's name and age, separated by a comma. The text is as follows:

```
Doyle McCarty, 27  
Jodi Mills, 25  
Nicholas Rose, 32  
Kian Goddard, 36  
Zuha Hanania, 26|
```

The cursor is positioned at the end of the fifth line, after the age 26.

Congratulations!

You can now write a program that will write information to a file so we can look it up later!





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