(AP)
Advanced Programming
Teams Code: <e51duva>

Week 1

Spring 25-26

Feb. 13, 2026

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Cisco #1

- https://www.netacad.com/courses/python-essentials-1?courseLang=en-US&instance_id=46a69b3a-c3d8-48eb-85ab-f00fe08f742c

Deadline: Feb. 26, 2026

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Cisco #1

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Files

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Persistence

- **Transient**: a program runs for a short time and produce some output, but when it ends, its data disappears. If you run the program again, it starts with a clean state.

- **Persistent**: a program runs for a long time (or all the time); it keeps at least some of their data in permanent storage (a hard drive, for example); and if it shuts down and restarts, it picks up where it left off.

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Writing

- To write to a file, you have to open it with mode 'w' as a second parameter:

```
fout = open('output.txt', 'w')
```

- If the file already exists, opening it in write mode clears out the old data and starts fresh, <u>so be careful</u>!
- If the file doesn't exist, a new one is created.

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Writing

- The write method puts data into the file

```
line1 = "Istanbul Medipol\n"
fout.write(line1)
```

- Again, the file object keeps track of where it is, so if you call write again, it adds the new data to the end.

```
line2 = "University.\n"
fout.write(line2)
```

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Closing

- When you are done writing, you have to close the file.

```
fout.close()
```

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Reading – Method 1.1

```
file = open('newfile.txt', 'r')
for line in file:
    print(line)
file.close()
```

Reading – Method 1.2

```
for line in open('newfile.txt', 'r'):
    print(line)
file.close()
```

Reading – Method 2

```
with open('newfile.txt', 'r') as file:
    for line in file:
        print(line)
```

```
for line in open('newfile.txt', 'r') :
    print(line)
file.close()
```
___

```
with open('newfile.txt', 'r') as file:
    for line in file:
        print(line)
```
___

```
with open('newfile.txt', 'r') as file:
    for line in file:
        print(line)
```

Modes

Modes	Description
r	Opens a file for reading only. The file pointer is placed at the beginning of the file. This is the default mode.
r+	Opens a file for both reading and writing. The file pointer placed at the beginning of the file. Does not create the file if it does not exist.
w	Opens a file for writing only. Overwrites the file if the file exists. If the file does not exist, creates a new file for writing.
w+	Opens a file for both writing and reading. Overwrites the existing file if the file exists. If the file does not exist, creates a new file for reading and writing.
a	Opens a file for appending. The file pointer is at the end of the file if the file exists. That is, the file is in the append mode. If the file does not exist, it creates a new file for writing.
a+	Opens a file for both appending and reading. The file pointer is at the end of the file if the file exists. The file opens in the append mode. If the file does not exist, it creates a new file for reading and appending.

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Additional Resources

- https://www.geeksforgeeks.org/python/reading-writing-text-files-python/
- https://www.w3schools.com/python/python_file_write.asp
- https://docs.python.org/3/tutorial/inputoutput.html

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