

Learning Goals/Objectives

Be able to read, comprehend, trace, adapt and create

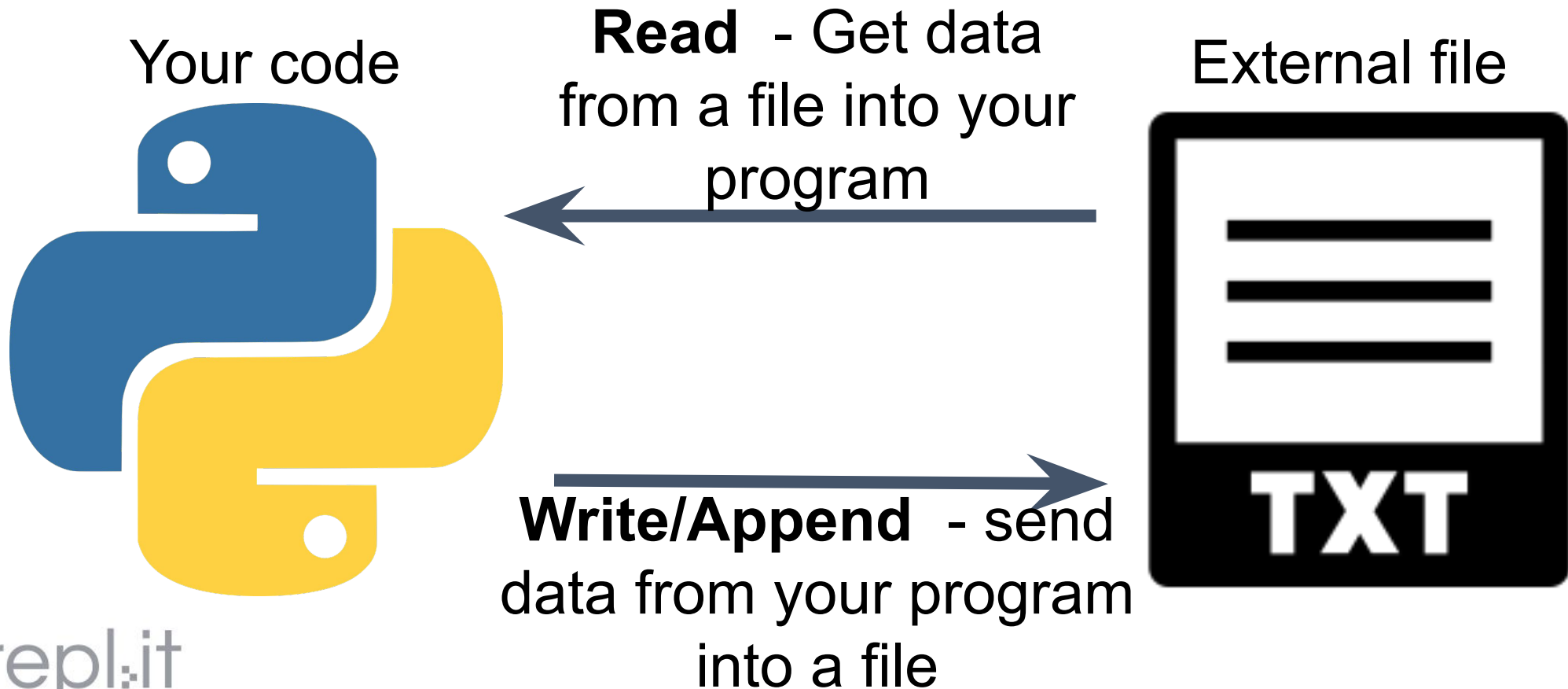
Python code that:

- Opens a file
- Reads data from a file into a program
- Writes data from a program into a file
- Appends data from a program into a file
- Closes a file

Theory - File Handling

What Is File Handling?

Computer programs can import data from and export data to files outside the code.

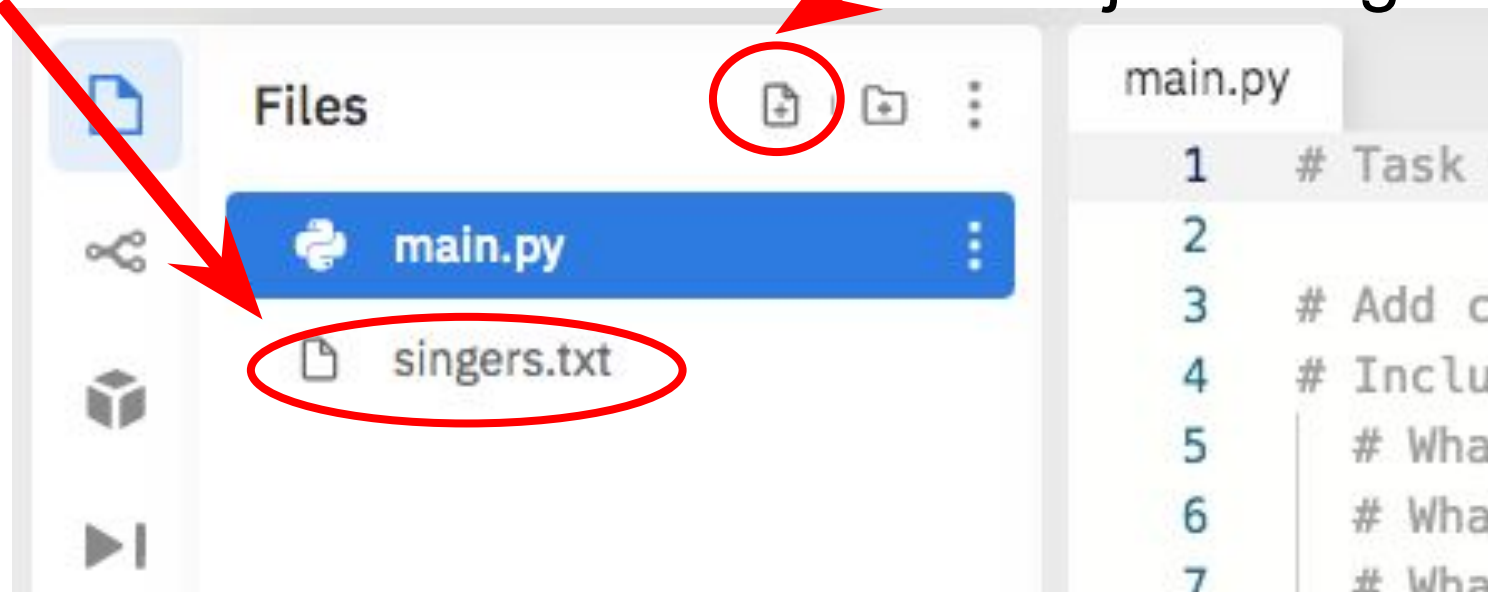


Files In Replit

Replit allows you to upload and use external files with your code.

See the file in the main window.

Upload your own file (or just drag & drop)



File Permissions

r	<i>Read</i> - File can be 'looked at' by the program but not changed. Error if the file doesn't already exist.
a	<i>Append</i> - File can be added to. File is created if it doesn't already exist.
w	<i>Write</i> - Overwrites existing data, starting from the beginning of the file. File is created if it doesn't already exist.

Read From a File

Read From A File - The Algorithm

1. Connect to and open the file
 - a. Give the file name and path
 - b. Set the permissions for opening
2. Read the contents into a variable
3. Output the variable
4. Close the file.

Read All From A File - How To Code

1. Create a new variable to store the contents of the file.

2. 'open' tells the program to open the file.

4. 'r' means **read only**. The program can look at data from the file but not change it.

```
myFile = open("test.txt", "r")
```

```
for line in myFile:
```

```
    print(line)
```

```
myFile.close()
```

3. Put the **whole filename** in speech marks.

Read From A File - How To Code

5. 'for' is another type of loop. It has a fixed length so does not need a condition.

6. 'line in myFile' sets the length of the loop to the number of lines in the external file.

```
myFile = open("test.txt", "r")  
  
for line in myFile:  
    print(line)  
myFile.close()
```

7. Outputs each line from the file one by one. The loop moves through each one.

8. **ALWAYS** close the file once you have finished with it.

Write & Append to a File

Write To A File - How To Code

1. Create a new variable to store the contents of the file.

2. 'open' tells the program to open the file.

4. 'w' means **write**. If there's an existing file with this name Python will open it. If not it will create it.

```
myFile = open("test.txt", "w")
```

```
myFile.write("Andy")
```

```
myFile.close()
```

3. Put the **whole filename** in speech marks.

5. Put the data or variable to be written

Append To A File - How To Code

1. Create a new variable to store the contents of the file.

2. 'open' tells the program to open the file.

4. 'a' means **append**. This means 'add to the end' of the file.

```
myFile = open("test.txt", "a")
```

```
myFile.write("Andy")
```

3. Put the **whole filename** in speech marks.

```
myFile.close()
```

5. Put the data or variable to be written