

Computing

# Lesson 3: Reading Text Files

**Programming Part 6: Dictionaries and Datafiles**

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# Read a Text File



# Task: Open and read a text file

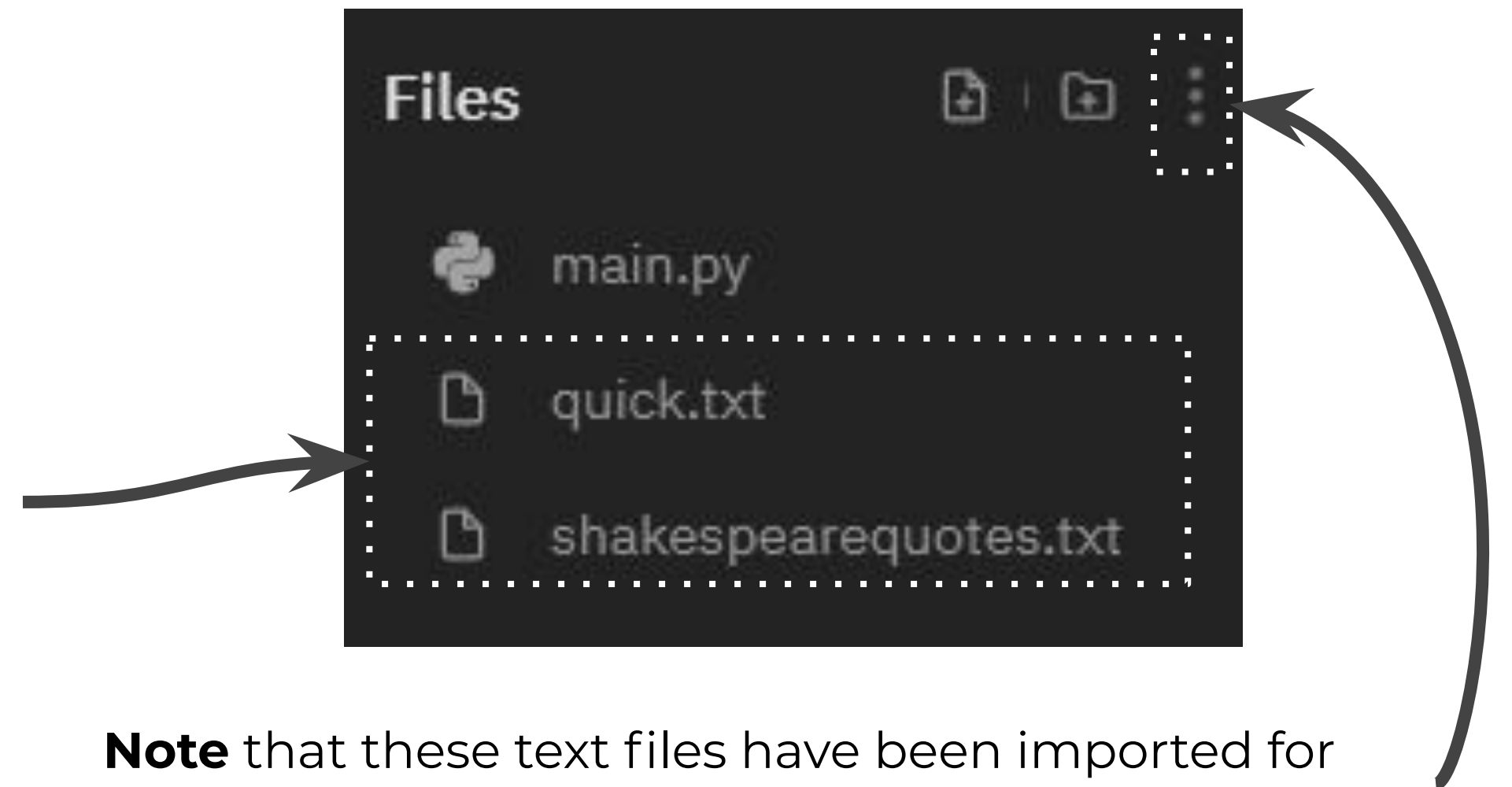
## Step 1

Open the Repl.it using this shortlink:  
**[noaknat.uk/comp-oak-readtext](https://noaknat.uk/comp-oak-readtext)**

## Step 2

You will notice that on the left hand side there are two text files `quick.txt` and `shakespearequotes.txt`.

These will be used with these tasks.



**Note** that these text files have been imported for you into Repl.it. If you wish to import your own text files you will need to click on the 3 dots and choose “Upload file”



# Task: Open and read a text file

## Step 3

Make a prediction about what will happen when the program is executed. Remember to write your prediction down.

```
file = open("quick.txt", "r")  
quicktext = file.read()  
print(quicktext)
```

## Step 4

Run the program.

Was your prediction correct? Did anything surprise you about it?



# Task: Open and read the shakespearequotes.txt text file

## Step 1

Take a look at the code that was used to read and display the contents of the text file quick.txt.

```
file = open("quick.txt", "r")  
quicktext = file.read()  
print(quicktext)
```

## Step 2

Create 3 new lines of code that will read and display the shakespearequotes.txt file.

## Step 3

Run and test your program.



# Text File Challenges



# Code Snippets

Read a single line from a text file

```
1 file = open("quick.txt", "r")  
2  
3 print(file.readline()) # read a single line and add \n
```

Iterate over a text file

```
1 file = open("quick.txt", "r")  
2  
3 for line in file:  
4     print(line)
```



# Code Snippets

Iterate over a text file AND strip the \n

```
1 file = open("quick.txt", "r")
2
3 for line in file:
4     print(line.strip())
```

Read all the lines from a text file and place into a list, includes the \n

```
1 file = open("quick.txt", "r")
2
3 quicklist = file.readlines()
```





# Code Snippets

Populates a list with each line from a text file and strips the \n

```
1 file = open("quick.txt", "r")
2
3 quicklist = []
4
5 for line in file:
6     quicklist.append(line.strip())
7
8 print(quicklist)
```



# Challenge 1: Find the sum of a collection of numbers

## Step 1

Open the Repl.it using the shortlink: [oaknat.uk/comp-oak-numbers](https://oaknat.uk/comp-oak-numbers)

This is a blank Python file that gives you access to the required text files.

## Step 2

The text file contains a list of numbers. You need to create a program that will read the text file and add each number together before displaying the total sum to the user.

An example output would be:

```
The total sum of the number is: 210  
>>>
```



# Challenge 1: Find the sum of a collection of numbers

## Step 3

Test your program to make sure that it works correctly. It should match the output on the previous slide.



# Challenge 2: Piece the messages together

## Step 1

Open the Repl.it using the shortlink: **[oaknat.uk/comp-oak-messages](https://oaknat.uk/comp-oak-messages)**

This is a blank Python file that gives you access to the required text files.

## Step 2

Queen Droger has intercepted a conversation that has taken place between two traitors in her Kingdom. The transcripts are in two separate text files. You need to write a program that will piece the two transcripts together so that it can be read as one document.

**Note that the two files are exactly the same length.**



# Challenge 2: Piece the messages together

An example output can be seen below:

```
is it safe to talk?  
affirmative  
when does the dragon fly west?  
2 past the sun  
how many men?  
10,000  
we have 5 ships  
good, you will need them  
see you in battle my friend  
where shall we rendezvous when this is over?  
ftqigt ecuvng  
over and out  
>>>
```



# Challenge 2: Piece the messages together

## Step 3

Test your program to make sure that it works. It should match the output seen on the previous slide.



# Explorer Task (Optional)

Queen Droger has noticed that the rendezvous location has been encoded.

When the text files were uncovered, a **+2** was hand written on a slip of paper.

Create a program that will **decrypt** the location.

