

Python Tutorial 5: File I/O

1) Simple file I/O

1. Download the file `input.txt` from the course website and look at its content.
2. Write a Python program that finds the smallest and the largest values stored in the file.
3. Create a new file to save those values using the following format:

```
max: 42.69
min: -1.0
```

2) The Caesar cipher revisited

Remember the encryption algorithm from our tutorial on functions? If you don't, have a look at it once again. You can find the solution on the course website (see tutorial 3).

We now want to decrypt an encrypted text stored in a file. As an example, look at the file `encrypted.txt`. Our task is to find what shift value was used to encrypt the original text, and to decrypt it using the function `encrypt(text, -shift)`.

1. Read in the text in the file `encrypted.txt`
2. We now assume that the most common letter used in a given text is `e`. This means that we should count how often each letter appears in the encrypted text, and whichever letter appears most often will most likely correspond to the letter `e`. This way, we can calculate by how many places each letter was shifted. What's the easiest way to count the number of occurrences of each letter?
3. Use the value you found to decrypt the text using `encrypt(text, -shift)`.