

Basic file handling operations | Part A

Sometimes it's really useful to be able to store data from a program in a simple text file. You might be writing a game and want to store the high scores and names of players who achieved them. Let's see how we would make this using Python.

Here's what our High Scores file might look like inside:

```
Bobby, 1200  
Victoria, 8080  
Jess, 3910
```

To be able to use a file, we need to open a file handle first. A file handle is a variable which is a way of referring to the file so we can use it. A common name for a file handle variable is simply the letter `f`.

```
f = open("highscores.txt", "r")
```

You can see where I have plugged in the name of the file I want to open. The `r` at the end is the File Access Mode and depends on what you want to do with the file.

`w` = writing, `r` = reading, `a` = appending or adding things on to the end.

If you try to open a file which doesn't exist, Python will create that file for you – very helpful, but use it wisely as it could lead to bugs.

OK, so our file is open in read mode (remember the `r`?) Now we want to read the information from it so we can display it in our program. Don't forget that we can't do anything with a file unless we have opened it first.

There are several ways of reading from a file but here is my favourite one!


```
lines = f.readlines()
```

Remember that `f` was the name I gave the file handle when I opened the file. This reads all of the lines from the file into an array called `lines`. If I want a specific line in the file, I can now add an index. For example here is the first line in the file:

```
print( lines[0])
```

Don't forget the first line is line 0!

If I want to use all of the lines one by one to display the high scores in my program, I can loop through the array:



```
for line in lines:  
    print ( line )
```

When we've finished using the file, regardless of whether we were reading or writing, we need to close it:

```
f.close()
```

This is so that we can use it for other operations, and so that any resources such as memory which are being used up keeping the file open are freed up so we can use them elsewhere.