Files Lecture ❤️

Takes the lowest value and puts it in front
The list is 'n' big and we use n-1 as our stop range
If the lowest value is not in the correct index then swap

Files

A sequence of data that is stored wherever you wanna store it(hard drive etc)

Why we need files:

- **when you run a program it has all the data there(eg a university system storing all student data. there'rs a lot of data since UCT started)**

- **The data needs to be stored somewhere so we need to access it we can get it back**

- **We can keep It in memory for Long periods of time cause memory runs out of space**

There's 2 types of memory
RAM - random access memory.Info goes in and out all the time.Every variable that you create uses space in RAM.

A File is one way to store data but not necessarily the best way to do it probably the worst way to use

Text file and binary file(exam question):

- **Text file stores the data as raw text(not a secure file)**
- **Binary file stores data as binary(os and 1s)**
- **In a binary file you specify the format**

Binary - Stores as 0s and 1s if someone where to open the file

Binary format is a more secure format than text

Close the file when you're done,

- Buffer - an area in memory that is linked to your file
- If buffer is almost full the computer switches off, if you didnt close

your file your staff will be deleted(gone)

○ You either reading from your file or writing from your file
'+' allows you to read and write at the same time

Open- read -close general option

'X' creates a new file, if a file with that name exists your program will crash
○ 'A' appends ,opens the file snd ends to the end of the file
Can have a problem if the file doesn't exist

When using 'r' 'a' and 'x' we gotta be careful if we using or our programs could crash to prevent this we use exceptions.

Read uses the most memory

Writing
Write ,writeline, or print

Write-in takes a list and writes it to the file
It will write all the lines as one line ,you have to format it

Print does the formatting for you,generally the best technique to use
Be careful when using the others