**Memory**

**What is memory?**

A physical chip t=that is used to hold chunks of data

Commonly used to store program code and data

All application run use this memory, this includes the OS

This is also called RAM (Random Access Memory) due to its ability to access any data at will form chip without having to go through the full set of data

How is it used?

* When an app loads, it will load itself into memory
* Every application has an entry point or entry memory address
* When this happens, EIP will start moving through the code based on its entry point and start executing the instructions at each memory

**Virtual memory**

* Also called SWAP
* Swaps loads bits of memory physically on the hard drive that is not as commonly used to conserve space in RAM
* This makes reading from SWAP much slower than RAM but will allow you to store more data in memory
  + A lot slower as it will need to go to drive, find location of data, load data back into physical memory and the reformat the data so that its readily available

**Memory Structure**

* Memory is commonly structured with the following flows
  + The Stack
  + The Heap
* Memory also contains
  + Writeable and non-writeable sections
  + Executable and non-executable sections