The Internet:

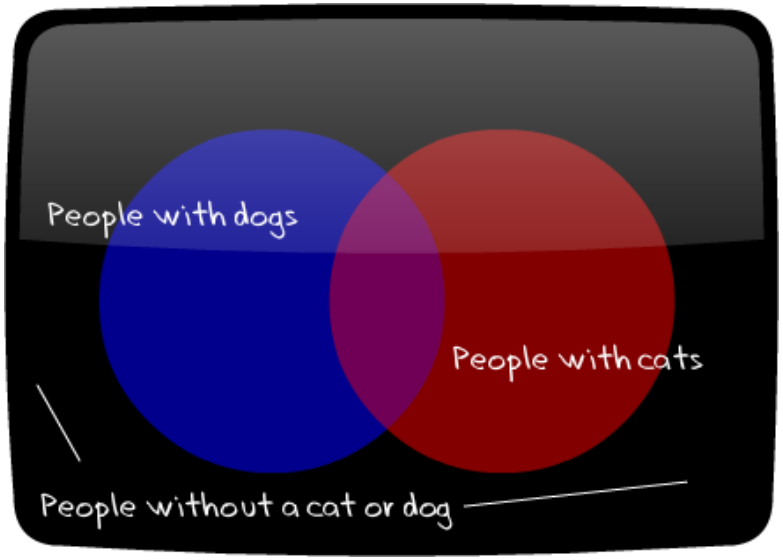
A Layer View

- Understanding a View
- Modules - What and Why?
- TCP/IP Model
- Encapsulation of Data

Understanding a View

If we are going to say "Let's have a layer view." then we need to know what a view is.

Views of Oakville:



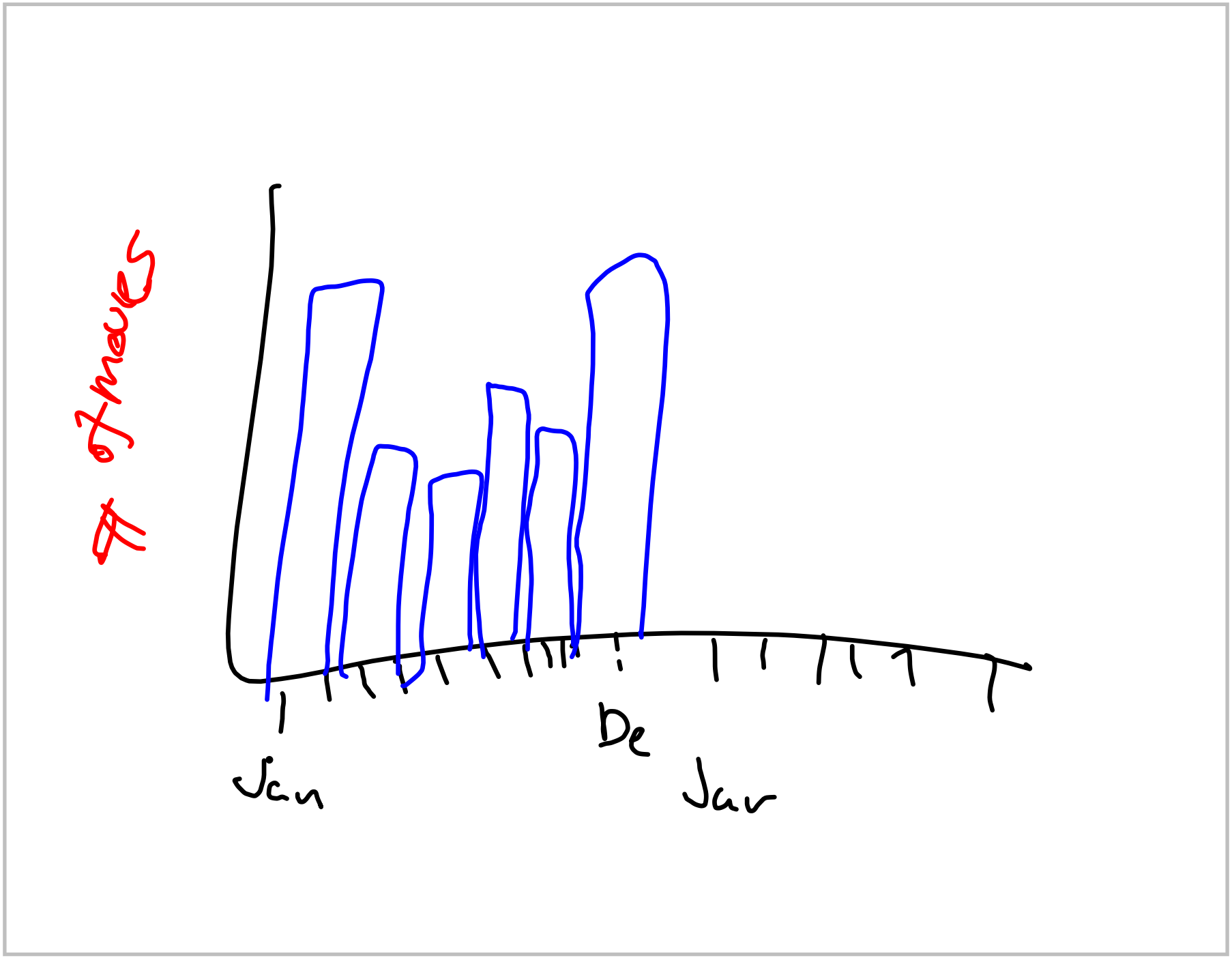
Understanding a View

We use different views to be able to "see" things a certain way. One view of Oakville may help you to see:

- The shortest route to get to the mall (roadways)
- The route with the least hills (terrain)
- People's pet ownership

A view is:

A perspective designed to highlight, showcase, or further our understanding of certain characteristics of something - like the Internet.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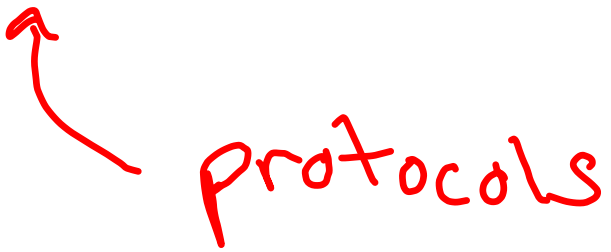
Understanding a View

Views of the Internet may include:

- Physical - routers, switches, cable, etc.
- Sociological - chat, VoIP, social networking
- Economical - ISP's, e-commerce

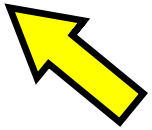
Our layered view is going to highlight how network communication works. It will help us to see things from both a physical and logical perspective.

Physical - Connections, nodes
Logical - rules of communication



Modules

Definition: A module means we have modularized something, or are being modular.



Example of fabulously terrible definition.

Example of an oxymoron.

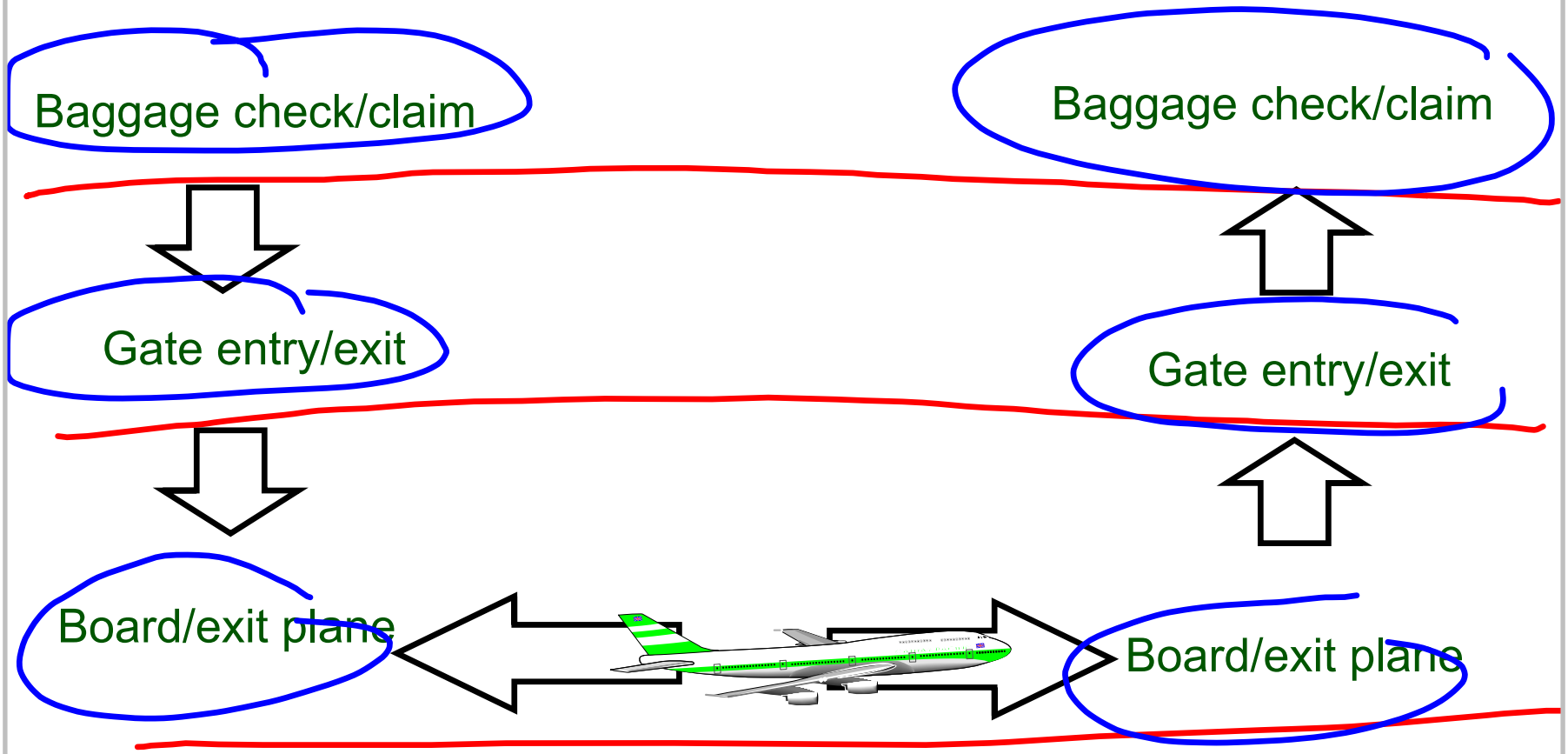
Proper Definition: Modules are logical chunks of something larger. Your courses are broken down into units, these could easily be called **modules.**

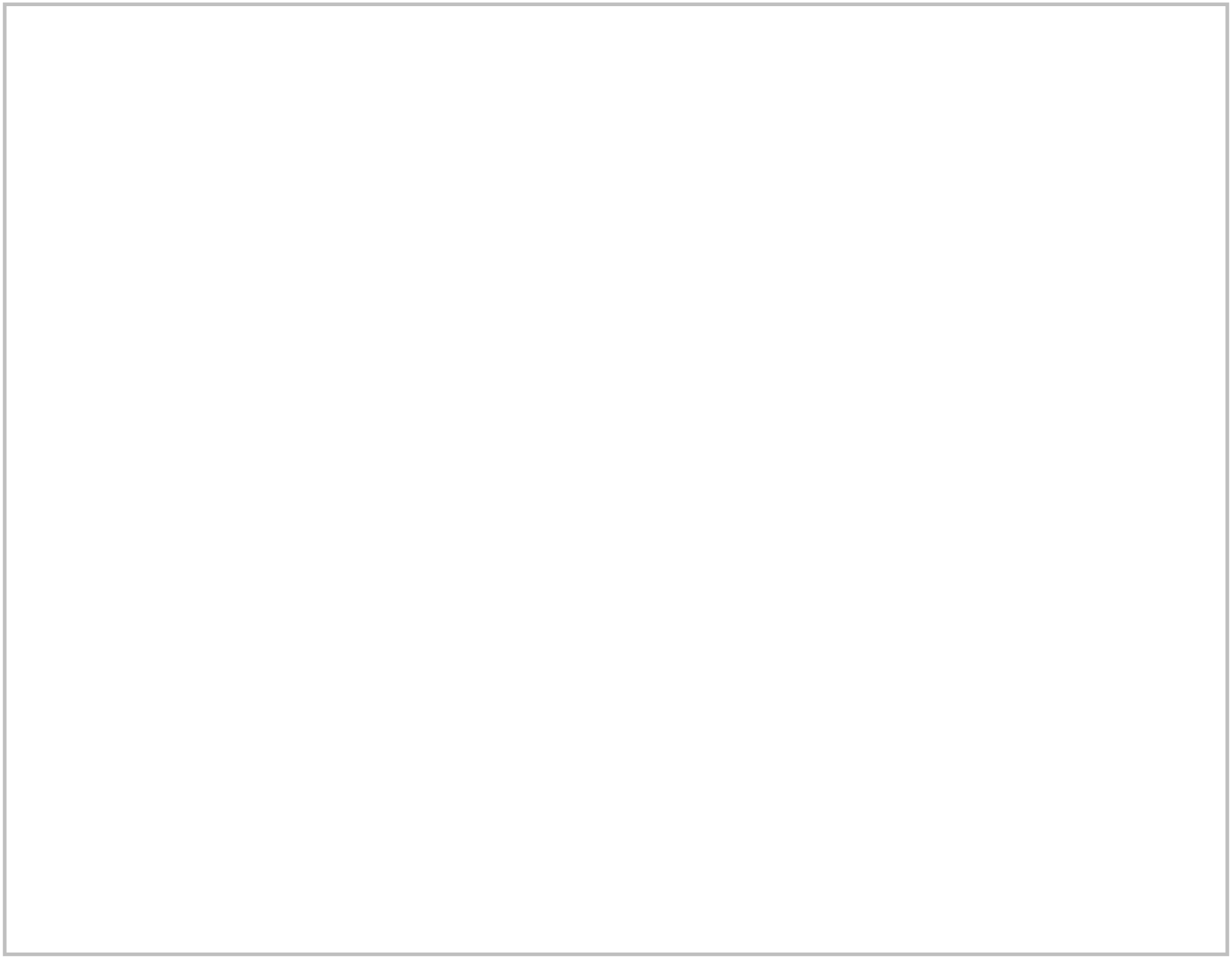
Why Modules?

- Easier to understand
- Can focus on only one module if necessary
- Do not need to understand all other modules
- *Using the word "module" is impressive to others*

Modules - An Example

Imagine you take a flight to another country. You would go through a series of processes: baggage check, gate entry, plane boarding, and the actual flight. You would then go through the inverse when you arrive at your destination.





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Modules - An Example Explained

With individual modules, the baggage check person doesn't have to worry about boarding you on the plane, or the flight there.

- They only worry about their responsibility
- Do not have to understand other details about the flight
- A change in another module's procedure does not change the others

Modules:

- Easier to understand
- Can focus on only one module if necessary
- Do not need to understand all other modules
- *Using the word "module" is **still** impressive to others*

Two Models

TCP/IP Model

OSI Model

Homework:

1) Draw both layer models

2) Generally, compare them

3) For each layer give an example of a **protocol** that operates at that layer