Chapter 1

Computer consists of

* Cpu - the brain - unit to measure cpu is megahertz
* Memory is used to store data before its sent to the cpu for execution;
  + its a sequence of bytes ; 1 byte = 8 bits
  + Its never empty
  + **How is data stored** 
    - ASCII
    - Each character is converted and stored into the byte; bytes are not taking into parts, like .5 byte or .25 byte only full bytes
* BIOS - when computer is turned on then this checks if everything is good ; OS starts than you can start using the computer
* Storage devices
  + Hard drives
    - When stored in this its permenant, stil there when delete
* Output
  + The monitor,
    - Resolution
    - Dot pitch
      * The bigger the space the less quality there is
* Communication devices
  + DSL- the phone line
  + Speed is bit/second
  + Ethernet cord, LAN
* Programs
  + Software, set of instructions to the computer
  + Programming languages
    - Machine langages - basically 0 and 1
    - Assembly language - ex) C++, java; was used before these languages were created
    - Higher level laugages - similar to english;

**Note)** Important what is the difference between these 3 ? and how do each interact w/each other

Compiling source code = reads the code

OS - between the user and the work with the applications; controls the computers activities

History of c++

* It is similar to java and the difference
* What is the difference between c++ and C
  + Difference between the two is : C is sequential and C++ is different as you can define objects ( programming is different) ; C++ is object programming

Simple c++ program requirements

* #include <iostream>, using namespace std; int main() { }
  + Namespace allows you to cout and if no namespace is mentioned than you have to do ⇒ std :: cout << blah blah blah …
* IDE - ways to run your code, ex) eclipse , can even use any text file and run it by changing its extension; *integrated development environment*

Know the creating compiling = **know this** - in first lecture

Know differences between these 3

* Syntax errors - ex missing semicolon,
* Runtime errors- u dont know when ex u div two variables but when you run it maybe a = 0;
* Logic errors- everything is good but result is not what's expected; ex ) precision problem

Common errors : missing braces, colons, quot marks, misspelling

Fstream --- input output file

Const double pi=3.14;