Notes CSE 9/10/18

* Can no longer skip cse 21
* Lab 2 is assigned this week
* Reading assignment sections 2.1 - 2.18 due to
* Due 9/17 – next week Monday and are soft deadlines
* Lab 2 is about getting used to eclipse and everything
* Professor is going to evaluate everything at the end of the year
* Soft deadline will be changed into HARD deadline if activity completion remains low
* DON’T FALL BEHIND
* Read the chapters before going to the lecture
* Extra credit is given and graded at the end of the semester
* Extra credit can add up to 5% at the end of the semester
* Tutoring is available by ACM on Tuesday 1:30 – 4:30pm kl 397
* Follow them on Facebook at ACM @ucmerced
* Tutoring is also available from PALS

***LECTURE***

* The discipline of computing is the systematic study of algorithmic processes that describe and transform information: their theory, analysis, design, efficiency, implementation, and application. The fundamental question underlying all computing is “what can be efficiently automated”
* Prefect for lazy people
* Computer program: a sequence of actions we want a machine(computer) to perform
  + Think about a list of chores from your parents
* Bits are for speed and bytes are for storage
* A bit is a digit that can be either 0 or 1(On of Off)
* 2 bits can be
  + 00
  + 01
  + 10
  + 11
* Information is always stored as power of 2’s
  + Digital system
* Byte is basic unit in computer storage
  + 1 byte = 8 bits
  + 5 MB = 40Mb (its requires 40 sec to download using DSL of 1 Mbps)

***Java***

* Outputs: ways a computer to communicate with us
  + Displays (monitors), printers, speakers….
* To display a statement on a monitor:
  + System.out.print(“Test print:);
  + System.out.println(“Test println”);
  + System.out.print(“Done”);

system

out in

print println

* Input from keyboard – scanner
* We can interact with the program using input devices:
  + Keyboards, mice, microphone

Scanner

nextInt nextFloat next nextLine

* Scanner input = new Scanner(System.in);

Input.nextInt();

Input.nextFloat();

Input.next();

Input.nextLine();

**Data Types**

* **Boolean**: 1-bit
  + 2 values, range :0-1
* **Short:** 16 bits (2 bytes)
  + 2^16 values, range : -31,768 to 32,767
* **Char:** 16 bits (2 bytes)
  + 2^16 values, range: 0 to 65,535
* **Int**: 32 bits (4 bytes)
* **Float**: 32 bits (4 bytes)
* **Double:** 64 bits
* **String**: Any length (string of characters
* Operations can be done
* Addition, subtraction, multiplication, division, modulo (remainder)
* Add names/identifiers to each as a way of referring to them
  + When using numbers
  + They can be any word
  + Try to choose the names that make sense.
* Need to know the data types.

1 – 0.5 -> 0.5

First second result

Int first = 1;

Double second = 0.5;

Double result = first – second;

* Names are case sentitive
* Naming convention
* begin with a letter or \_
* class (program) names capitalized
  + Averages
  + FirstProgram
    - UpperCameICase
* Variable names
  + Begins with lowercase letter
    - Main
    - Average
    - Results
  + Combining words
    - toUpper
    - toUpperCase
    - theSquare
      * lowerCameICase