Recitation Notes

CS1371 Spring 2020 Section A03
Week 1

1. General Information

a. Contact Information

i. *Contact us first, NOT the instructor
ii. Chloe Tang: ztang301@gatech.edu
iii. Hannah White (Also head TA!): hwhite35@gatech.edu
iv. Triton Wolfe (Homework TA): triton.wolfe@gatech.edu

b. Course Website

i. cs1371.gatech.edu
ii. Materials in this website:
    1. Question bank: good practice for each topic
    2. Regrade requests
    3. Video lectures

c. Homework

i. Original submission
    1. Due Tuesday at 11:59 pm
ii. Resubmission
    1. Due the following Friday at 11:59pm
    2. Resubmission grade will be averaged with your original grade ONLY if you resubmit it
    3. Must submit ALL files for resubmission
    4. Can only increase your grade

d. Help Desk

i. Location: CULC 272
ii. Monday-Thursday, 2pm – 8pm; 2-5pm on Fridays
iii. Come in with SPECIFIC questions

e. Piazza

i. Search BEFORE posting
ii. TA's average response time is awesome so it's a great source to ask GENERAL questions
iii. DO NOT post your codes

2. Functions

a. **Black box metaphor:** function is a black box that has a certain job and always does that job no matter what inputs are given
b. **Built-in functions:** made by MATLAB, you can call them from anywhere

c. Defining vs Calling

i. Defining a function: writing a new function
ii. Calling a function: using a previously defined function by putting in a set of inputs

d. Function Headers

i. Valid:
    1. function [] = name() — no inputs, no outputs
    2. function name — no inputs, no outputs
    3. function [out1,out2] = name(in1,in2) — 2 inputs, 2 outputs
    4. function [out1 out2] = name(in1,in2) — 2 inputs, 2 outputs
    5. function out = name(in) — 1 input, 1 output
ii. Invalid:
    1. Function.... — Capital F is not allowed
    2. function (out1,out2) = name(in1,in2) — Use [] for outputs
    3. function [] = name[in1, in2] — Use () for inputs
    4. function [] = name(in1 in2) — MUST include , for inputs
    5. function = name() — MUST have both [] and =

e. Abstraction

i. Once you write a function, you can use it as many times as you want
ii. The function works in the same way with different sets of inputs

f. Encapsulation

i. Function scope: things defined in the function are only known by the function itself
ii. Variables defined in functions only exist while function is running
iii. ONLY the outputs are sent from function scope to the command window scope

g. Formal vs Actual Parameters

i. Formal = variable names used in defining the function
    1. function out = name(in1,in2)
    2. out, in1, and in2 are forma; parameters
ii. Actual = actual values used when you call a function in command window
    1. name(3,6)
    2. 3 and 6 are both actual parameters

h. Helper Functions

i. A function defined in the same file as the main function
ii. CANNOT be called from the command window
iii. Example:

```
function out = sum_extreme(A,B,C,D)
inter = A + simple_sum(B,D);
result = simple_sum(inter,C);
out = result;
end

function result = simple_sum(in1,in2)
inter = in1 + in2;
result = inter;
end
```