Exercise #4 (No computers needed)
Due Friday, 10/23/2015, at 11:59pm

Computer Science/Programming Terminology

• Explain these terms:
  – Decomposition, parameters, function prototype

Continue Designing Assignment #3: We are going to continue to work on incremental design and programming. Now that we have our summation and integration working for a specific function ($x^5+10$), let’s decompose our problem into the proper modules. A module might just do something (procedures), such as print instructions, or it might be a little more complex taking input and/or return information (functions).

Design Your functions

Begin by designing you functions on a piece of paper with the function header specified. Read more about the details of the program below. Try to think of as many tasks/subtasks as you can for your Assignment #3. For example, you need to prompt user for the math operation (sum or integration), check that the operator entered is valid, evaluate the function, $f(x)$, etc.

List as many functions as you can think of, keeping in mind that future assignments will take points off for having functions greater than 10 lines of code!!! With each function you list, provide the function header with description, preconditions, post conditions, and return values.

For example:

//Description: Called by main to get the sum or integration operation from the user, and
//it calls check_user_op() for a valid math operator.
//Pre Condition: none
//Post Condition: the op returned from this function is a valid op, sum or integrate
// Return: What are you going to return to indicate the operation?

prompt_user_for_op()

//Description:
//Pre Condition:
//Post Condition:
// Return:

check_user_op()

//Description: Returns the y value at a specific x. **Ex. $f(x)=x^5+10$**
//Pre Condition:
//Post Condition:
// Return:

float f(float x)
For **take-home exercises completed in peer-led groups**, each student must participate and **write answers to each of the questions on his/her own paper** to show for credit. Your 1-2-3 grade will be based on the completion/understanding shown on your own piece of paper shown to your TA for a grade before leaving the group session!!

For **take-home exercises completed on your own**, turn in your work electronically using the TEACH website!!!