COMPRO1 (for S18A and S19A) MP Specifications – Part 2 of 3
User-Defined Functions for Taylor Series Expansion of Sine and Cosine
Part 2 is 40% of the MP Grade

I. INTRODUCTION

The 2nd part of the machine problem is concerned with an **improved** (i.e., better) implementation of the cosine and sine approximations by user-defined functions in C.

The objectives of 2nd part of the machine problem are:

1. to apply what you learned on the "divide and conquer method" with functions, and
2. to realize and (hopefully) appreciate the fact that functions provide a better solution to the Taylor Series expansion problem (compared with your previous implementation where all computations are inside the **`main()`** function), and
3. to apply and appreciate the concept of separate compilation, and linking

II. REQUIREMENTS

We will **restructure** the solution to the Taylor series expansion as a collection of **user-defined functions** instead of implementing everything inside the **`main()`** function.

You will be provided three source files for this activity, namely:

a. **`mp2_math.h`** – contains the **`#define`** for **`PI`** and four function prototypes
b. **`lastname_mp2_math.c`** – contains the skeleton of the function definitions corresponding to the function prototypes in **`mp2_math.h`**, and
c. **`lastname_mp2_main.c`** – contains the skeleton of the main() function

These files should have been attached together with this MP specification document in the email sent to you.

Your task is to implement the body of the function definitions in the C skeleton programs (items b and c in the list above).

The output of your executable file should be the same and follow the same format as Part 1.

III. DELIVERABLES AND SUBMISSION DEADLINES

You need to submit THREE items, namely:

1. Your C program source codes – remember that there are two files. Make sure that you followed the naming convention. The softcopy of the source codes should be RECEIVED as email attachments **before 11:59PM of August 4, 2014 (Monday)**. Send your email to the **TWO** addresses indicated below:

   `florante.salvador@dlsu.edu.ph`
   `pulingfe@yahoo.com`

   Email subject should be:
   COMPRO1 LASTNAME<underscore>FIRSTNAME <space> SECTION <space>MP2

2. Accomplished MP submission checklist (print and accomplish the document named "mp2_checklist.pdf").

3. On short-bond paper, the hardcopy/printout of your:
    a. C program source code
    b. One sample output corresponding to **`NUMBER_OF_TERMS`** equal to 10

Staple the MP submission checklist on top the program and sample output hardcopies. Submit these **on August 5, 2014 (Tuesday)** within the **first 10 minutes of your own COMPRO1 class hours only** (not those of another section). Note that the softcopy of the source code must be exactly the same as the hardcopy. That is, DO NOT modify your program after submitting it via email.

INCOMPLETE SUBMISSION (i.e., did not email the source codes, or did not submit the checklist, or did not submit the hardcopy of source code or sample output) will automatically result into a grade of 0.0 for this particular requirement.

LATE SUBMISSION WILL **NOT BE ACCEPTED** unless there is a valid and verifiable excuse (example: sickness, emergency).

IV. TESTING, CHECKING and GRADING SCHEME

The testing, checking and grading scheme is the same as in Part 1. In case your program turns out NOT to be 100% semantically correct, there is still one more chance (the last!) to fix it in Part 3 (final) part of this machine problem.

***** End of the Machine Problem (Part 2) Specifications *****

Last Note: Consult me immediately if you have any clarification, question or problem regarding this academic activity. Enjoy! ☺☺☺