Deadline: 3/21/2007, 8:30am

Object-Oriented Programming Homework-1

1. Use looping and the following formula to find sin(x). You can test your solution by letting x=0.5235. Is it equal to the value provided by C library? What is the difference between those two numbers? (Hint: remember to include math.h and feel free to change the upper boundary)

$$\sin(x) = \sum_{n=1}^{10} \frac{(-1)^{n-1} x^{2n-1}}{(2n-1)!}$$

2. Use 'Recursive' to solve: $1 - \frac{1}{2} + \frac{1}{3} - \frac{1}{4} + \cdots\cdots + \frac{1}{M-1} - \frac{1}{M}$, where M is an even number. What is the maximum M you can assign?

3. Write a program to print out the ASCII table, and then output it as a file named 'ascii.txt.'

4. Write a program to find a prime number as soon as you can.

5. Write a program that keeps printing the multiples of the integer 2, namely 2, 4, 8, 16, 32, 64, etc. Your loop should not terminate (i.e., you should create an infinite loop). What happens when you run this program? Why?