* **NO CHEATING!** You get an “F” without discussion
* Delete the **debug folders**, the .sdf file, and the ipch folder before you submit.
* Copy and paste your folder into the Homework & Exam folder named “**Mid2**”.
* **Your program must be compiled to get any credit.**
* **Turn in this paper with your name filled.**
* **No question will be answered once the test starts.**

**Written Part:**

1. Given the following C statement

unsigned int a=0x00000035;

(a) what is the binary representation for variable **a**?

00000035

(b) (continue from (a)) After the execution of the C command

a=~a

what is the **hex** representation for variable a? FFFFFFCA

(c) (continue from (b)) After the execution of the C command

a= a ∧ a

what is the **hex** representation for variable a?

2. An integer is stored in the memory using little Endian’s format. If the value of the integer is 53 (53 is already in **Hex** representation), and the starting memory address to store this integer is 0x002e5701, give the contents of the memory (using Hex representation) addressed below:

53

0x002e5701

00

0x002e5702

00

0x002e5703

00

0x002e5704

**Programming Part:**

Taylor’s theorem can lead to the approximation that

, where |ε| ≤ 10-5 and is omitted in this assignment. Write a C program which contains a **recursive function** to evaluate the approximation of *ex,* where *x* is a value of user’s input.

**Note:** You got no credit if (1) your program is not compiled, or (2) your program does not have the recursive function.