Solutions - Homework 1

(Due date: Sep. 19th)

PROBLEM 1 (20 PTS)

- Refer to Lecture *Notes – Unit 1* in this question.
  - ✓ In a microprocessor system, the chipset usually includes both the northbridge and the southbridge.
    - What is the functionality of the northbridge?
      It provides the interface between the processor and the memory subsystems. It also usually implements the graphics functionality.
    - What is the functionality southbridge?
      It provides the interface between the processor and the I/O devices on the platform.
  - ✓ In the case of the Intel Atom™ D2000/N2000 series, the chipset does not include the northbridge.
    - Where is the functionality of the southbridge implemented?
      The southbridge functionality is implemented by the Intel ® NM10 Express Chipset. Note that the northbridge functionality is implemented by the processor.

PROBLEM 2 (80 PTS)

`* You can alternatively complete these activities using a Linux laptop.`

- Complete the Activities 2 and 3 in the *High-Performance Embedded Programming with the Intel® Atom™ platform → Tutorial 1*
  - ✓ Activity 2 – Fibonacci Series: Execute the application so that it prints the Fibonacci numbers F_0 to F_{15}. Provide a screenshot of the execution in the Terminal.
  - ✓ Activity 3 – SAXPY: Compile the application using the Makefile. Execute the application (use `#define N 2000`). Provide a screenshot of the execution (the part where the execution time is displayed) in the Terminal.