



Experiment 1 – Registers and Conditional Expressions 2020-2021 Spring

Preliminaries:

1. Students who will attend to this experiment are assumed to know:
 - Usage of registers on 8086
 - Usage of memory operations on 8086
 - Usage of addressing modes on 8086
 - Usage of conditional jumps
 - Usage of emu8086
2. Study related topics from course slides and the textbook
3. Run example codes from slides and textbook
4. Study instruction set for 8086
5. Always comment your code!!

Work:

1. Find two numbers that generate both carry flag and zero flag when they are added. Show a simple addition example in emu8086 with resulting flags.
2. Write an 8086 assembly code that finds the position of bit '0' starting from LSB as 1st position in a binary number with only single '0' in it and **stores in AX register** (e.g for 1011 1111 answer is 7, for 1111 1011 answer is 3).
3. Write an 8086 assembly code that finds the number of bits '0' in a binary number stored in DX register, stores in AX register (e.g for 0010 1001 answer is 5, for 0110 1010 answer is 4).

Notes :

- You should prepare a preliminary work report with the answers of the questions on the “Work” part.
 - All answers should be in English, it may be better to put your assembly codes in a Text box for better readability, code parts has to use a Type Writer font like Courier New.
-



- Each answer code file should be uploaded to the system separately. You should also upload a proper report containing all answers and results together with your comments.