HW2

- Due Jan 29 by 5pm
- Points 100
- Submitting a file upload
- File Types pdf, docx, lst, and asm
- Available Jan 19 at 8am - Feb 5 at 5pm

This assignment was locked Feb 5 at 5pm.

HW # 2: Theme: x86 Organization Basics

All main questions carry equal weight. Credit awarded to only those answers with work shown

1. Name all eight 32-bit general-purpose registers. What is the general function of each of the registers? Which of these registers cannot be addressed in parts of 8-bits?
2. What do the Sign, Zero, Carry, Auxiliary Carry, Parity and Overflow flags indicate when they are '1'? How do OF and CF differ in what do they signify?
3. What is cache memory and what are its benefits?
4. Is memory protection available from unauthorized accesses in real-address mode? Explain. How is memory protection achieved in Protected mode?
5. If the number of address lines is 20 what is the maximum memory amount that can be addressed in protected mode?
6. Let us say your computer is running at 5 GHz. You come to know that the ADD instruction takes 5 clock periods on your computer.   Express the time taken by the instruction in nanoseconds.