ECE3210 Microprocessor Engineering

Homework 2

1. Chapter 2.13(c)

(c) 23000H—32FFFH

2. Chapter 2.14(d)

CS:IP = 1A00: B000 = 1A000H + B000H =25000H

3. Chapter 2. 20 (e)

SS:SP = 2900H: 3A00H = 29000H+3A00H = 2CA00H

4. 2.26

Start address: A00000H

End address: A01000H

Explanation: for 80286, G=0. Ending=Base+Limit.

5. Chapter 2.31

0105H -> 0000 0001 0000 0101

Descriptor 20H, local table, a privilege ring 1

6. Chapter 2.34

03 D0 92 00

00 00 2F FF

Explanation: 05FFFFFFH-03000000H=02FFFFFFH, so limit is 02FFFH and G=1.

Since it is P4 32bit, D=1, AV=1.

For access rights, P=1, because data segment can be written, E=0, W=1, and S=1. Expand upwards, ED=0. DPL=00 and A=0. From Figure 2-6 80386-P4, we have :

$00000011_{(B31-B24)}11010000_{(L19-L16)}10010010_{(access\ rights)}00000000_{(B23-B16)}$

0000000000000000(B15-B0)0010111111111111(L15-L0)

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