HW2

Q1 Total = 8

Pi	Max	Allo	Avail	Need
P1	3	1	2	2
P2	2	1		1
P3	5	2		3
P4	6	2		4

a.) 1.) <P2, P1, P3, P4> (3 4)

2.) <P2, P3, P1, P4>

3. <P2, P3, P4, P1>

4. <P2, P1, P4, P3>

5. <P1, P2, P3, P4> (3 4)

6. <P1, P2, P4, P3>

7. <P1, P3, P2, P4> (3 5)

8. <P1, P3, P4, P2>

b.)

Pi	Max	Allo	Avail	Need
P1	3	1	1	2
P2	2	1		1
P3	5	2		3
P4	6	3		3

(2 3) <P2, P1, P3, P4> or <P2, P1, P4, P3>

yes

HW 2

Q2. a.) virtual add = (1, 1200) P1

P1 = 1080 ÷ 7 , 1080+1 = 1081 = 2

physical add = 4096 x 2 + 1200 = **9392**

b.) virtual = (3, 800) P2

P2 = 1085 + 3 = 1088 = 24

physical = 4096 x 24 + 800 = **99104**

c.) Physical = 57344 / 4096 = 14

Page 14 does not exist, therefore, it does not exist in virtual memory.

d.) Physical = 57343 / 4096 = 13 $^{4095}/_{4096}$

Process = P3 Logical = (1, 4095)

9999
5600
5599

HW2

Q3. $p = 10^{-6}$ $ma = 100ns$ $e^6 = 10^6$

$$EAT = (1-10^{-6})\cdot 100 + 10^{-6}(.7(10e^6) + .3(.6(12e^6)+.4(20e^6)))$$

$$= 99.9999 + 10^{-6}(7e^6 + 4.56e^6)$$

$$= 99.9999 + 10^{-6}(11.56e^6) = 99.9999 + 11.56$$

$$= 111.5599 \approx \boxed{111.56\,ns}$$