1. Describe the operation of the control unit. What characteristic of the control unit supports sequencing? What characteristics support selection and repetition? 10%

2. 並非所有的問題都必須用recursion去解，試問在那些情況下用recursion去寫algorithm較爲適合？並舉一例說明之。 10%

3. 何謂local variables 與 global variables? 並說明其用途。 10%

4. 由於應用程式日趨複雜，程式往往大得無法一次全部放入主記憶体中，此時我們會用overlays或demand paging等strategies，請說明這些strategies的原理及作法。 20%

5. What is concurrent execution? What are the motivations for allowing concurrent execution? 15%

6. 給予一個four-bit value B，試用operators：AND, OR, NOT, ← (assignment), SHL(shift left)或SHR(shift right)，(1)求出B的one's complement；(2)另某些four-bit binarys運算：(a)將B的前兩個bit全部改變成one，後兩個bit不變；(b)將B的後兩個bit全部變成zero，前兩個bit不改變；(3)設A為eight-bit binary，試將B乘於four-bit value 0100的結果存放入A。請分別寫出運算過程。 10%

7. Let P be a pointer to the first node in a singly linked list and x a pointer to an arbitrary node in this list.
   (1) Write a nonrecursive algorithm to delete x from this list. 5%
   (2) Write a recursive algorithm to delete x from this list. 10%
   (3) Do (1) for the case of circularly linked lists. 10%
   註：須先定義您的資料結構，並注意各algorithm的參數.

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