**迴歸分析 作業1**

1. Problems (a) and (b) refer to the matrices ***A***, ***B***, and ***C*** defined as follows:

  

a. Compute (的轉置矩陣).

b. Which of the following operations are defined(下面哪些運算有定義)?

***C***+, ***B***+***C***, ***B***+, ***AC***, ***CA***, ***B***-

c. In (b), evaluate the expressions that are defined(算出(b)中有定義的式子).

2. Let

***A*** =

Find the 2 by 1 vector such that .

3. Problems (a) through (d) refer to the matrices ***X*** and *y* defined as follows:

***X*** = 

a. Find ***X***.

b. Find *y*.

c. Find (求***X***的反矩陣).

d. Find the 2 by 1 vector such that

4. For the function , find and .

5. For the function , defined for all real values of , find

6. For the function , defined for -3, , find .

7. The function is defined by for 449. Find the following.

(a)

(b)

(c)

(d)

(e)

8. Problems (a)-(c) refer to the function defined by

, for , .

(a) Compute

(b) Compute

(c) Is the function linear in ? Is it linear in ?

Is it simultaneously linear in and ?