1. 試說明類神經網路的特性與優點。請舉例說明哪些問題適合使 用類神經網路解決，哪些問題不適合使用類神經網路解決。

2. Give one example for each of the following topics: .
   – A book on neural networks or neuroinformatics,
   – A software tool realizing neural networks ("simulator"),
   – A company using neural networks, and
   – A product or service being realized by means of neural networks.

3. 請查詢類神經網路相關於您研究主題的相關資料。

(a) Address all the information of the data you might have

(b) Review the papers (at least two papers) and write what you have learned from the papers (300-500 words for each paper)

4. 請說明前饋式類神經網路與回饋式類神經網路的差異。

5. 推導 S 型函數 $\quad f(x) = \dfrac{1}{1 + \exp(-ax)} \quad$ 對x的微分式

$$\frac{df(x)}{dx} = af(x)(1 - f(x))$$