一、请说明如何评估及表示演算法（Algorithm）之複雜度（Complexity）？并请以
二元化寻找（Binary Search）
快速排序（quicksort）
为例说明。 (20%)

二、请问何谓物件导向资料库？在地理资讯系统中，物件导向资料库之应用情形如何？试述之。 (15%)

三、在请问何为独立磁碟多重阵列（RAID）？请就其等级分别敘述。 (15%)

四、y is a function x defined as \( y = f(x) \). Given y, x is to be found. For a non-linear
function, x can be found by the method of Newton’s iteration as follows:
\[
    h = \frac{y - f(x_0)}{f'(x_0)}
\]
where \( x_0 \) is an approximation of x. Then h is found by
\[
    x = x_0 + h
\]
Then an improved x is found by \( x = x_0 + h \), which is used in the above equation to
find a further improved x. The iteration stops when h reaches a threshold. Write a
computer program to find x using this iteration method. (15%)

五、A is a \( n \times n \) matrix, P is a diagonal matrix, y is a matrix defined as \( y = A^T P A \).
Write a algorithm for efficiently computing \( y \) given A and P. Your mark will depend
on the efficiency and the required computer memory of your program. (15%)

六、Explain the following terminologies in computer science:
(1) Cluster (5%)
(2) Parallel computation (5%)
(3) Virtual processing (5%)
(4) Hierarchical (5%)