1. An array contains \( n \) numbers. Write a computer algorithm to find the median of the \( n \) numbers in the array. (15%)

2. Variables \( X \) and \( Y \) satisfy the following equation:
\[
X = Y - e \cos Y
\]
where \( e \ll 1 \). There is no analytical solution of \( Y \) in terms of \( X \). However, given a \( X \) value, it is possible to find \( Y \) using a numerical method. Propose a numerical solution of \( Y \) from \( X \), and show a computer algorithm for your proposed numerical solution. (15%)

3. The Laguerre polynomial \( L_n(x) \) satisfies the following recurrence relation:
\[
(n + 1)L_{n+1}(x) = (2n + 1 - x)L_n(x) - nL_{n-1}(x)
\]
where \( n \) is called degree. It is known that \( L_0(x) = 1, L_1(x) = -x + 1 \). Use a computer language to write a module (or subroutine) that can compute Laguerre polynomials from degree 2 to degree \( K \). (20%)

4. 因應數位組成之資訊的傳遞需求，常在數位中另加一些檢查位元(Check Bits)，同位元檢查(Parity Check)為其中一種。漢明碼檢查(Hamming Code Check)為另一種。請分別以文字及數值例敘述。
   (1) 同位元檢查 (15%)
   (2) 漢明碼檢查 (15%)

5. 請就所知敘述各種電子計算機可讀之儲存設備之名稱、概要原理、目前儲存量範圍、及其特色。 (20%)