1. Write a program named Power.cpp to compute the power function \( p(x, n) \) defined as \( p(x, n) = x^n \) \( (n: \text{non-negative integer}) \) so that the running time for the computation of the power function is \( O(\log n) \).

2. Write a program named MaxMin.cpp to describe a method for finding both the minimum and maximum of \( n \) integers using fewer than \( 3n/2 \) comparisons.

3. Suppose that each row of an \( n \times n \) array \( A \) consists of 1’s and 0’s such that, in any row of \( A \) all the 1’s come before any 0’s in that row. Assuming \( A \) is already in memory, write a program named FastFind.cpp to describe a method running in \( O(n) \) time for finding the row of \( A \) that contains the most 1’s.