Assignment on Array and Stack

1. Multiply two matrices of order ($m \times n$) and ($n \times p$). If the order of the matrices is other than this, then supply an error message.
2. Compute the inverse of a square matrix of order $(n \times n)$. If the matrix is a singular matrix, then supply appropriate error message.
3. Design a two players game of stack using C as follows: two players are given n numbers as input and a stack to store these numbers. Initially, players push all input numbers into their respective stack. In each turn of the game, both players pop up a number from the stack. Let n_1 and n_2 be the popup numbers for player 1 and 2 respectively.
   a. If $n_1 > n_2$, then $(n_1 - n_2)$ number of elements from the stack of player 1 is popped and pushed into the stack of player 2.
   b. If $n_2 > n_1$, then $(n_2 - n_1)$ number of elements from the stack of player 2 is popped and pushed into the stack of player 1.
   c. If If $n_1 = n_2$, then no action is taken and game proceeds to next turn.

   A player is declared as the winner, if its stack becomes empty.