1. Write a program that allows the user to input a matrix and output the inverse and transpose. You should
   * Include a check to ensure that the inverse exists.
   * Use functions to
     1. Input the matrix
     2. Calculate the inverse
     3. Calculate the transpose
     4. Output a matrix

Hint:

For the matrix , the inverse and the transpose .

It is suggested that you write and test the functions in this order: input, output, inverse and transpose

1. Write a program that allows the user to input two matrices and , and calculates the sum and product . You should
   * Use functions to
     1. Input a matrix
     2. Calculate the product
     3. Output a matrix

Hint:

You can copy and modify the functions from question 1 to input and output a matrix.

If the element in row and column in matrix is and in matrix is , for and , then .