Consider the two matrices

and .

1. Find the component-wise sum of the matrix A with itself.
2. Find the transpose of each of matrix A and matrix B.
3. Find the inverse of matrix A.
4. Find the matrix product AB.
5. Reshape the matrix B to be of size 2 x 3 (as opposed to its current size of 3 x 2). Store the result as matrix C.
6. Find the matrix product CA.
7. Replace all the odd entries of matrix A with the value -1. Store the result as matrix D.
8. Create a new matrix whose entries are the sums of the rows of matrix A.
9. Create a new matrix whose entries are the means of the columns of matrix A.
10. Find the component-wise square root of matrix B.