Exercise 1 (pass-by-reference):

# Create a simple numpy array
A = np.array([1, 2, 3, 4, 5])
b = a + 2

print a

print b

Exercise 2 (slicing):

# Defining numpy array x
x = np.array([0, 1, 2, 3, 4, 5, 6, 7, 8, 9])

# Write the expression to extract the last 3 items in the array.

# Provide two different ways to get the 1, 3, 5 ... nth element from array x.
# (hint: one of the ways could involve creating an array)

We have ran the SVD which returned a matrix of eigen_vectors, where each eigenvector is a column vector.

# Provide an expression to get the top k eigen_vectors from our matrix.

Exercise 3 (coding formulas):

We have a numpy matrix X with dimensions N x d.

# Write out X^T X in python.

print(X.shape[0])