Prelab –

Part 1:

Is this section we are asked to compute the bidiagonal reduction to the random 10 by 5 matrix “A”. This is done using the “bidiag\_reduction” function written in a previous lab session. From this we get the products B, U and V. Next, we are asked to produce the singular values of the matrices “A” and “B” where “B” is the upper bidiagonal matrix produced from “A”. Comparing the singular values from these matrices it is found that U1 and U2 are unrelated. However, it is found that the Sigma values for each of the matrices is the same and that the first column of V1 and V2 are the negative values of each other, all other values in V1 and V2 are unrelated also.

Part 2:

In this part we formulate the singular values of matrix A by simple multiplication. We do this by multiplying the output of Bi-Diagonal Reduction of ‘A’ with the Singular values of B which we assume to have obtained. Sigma values of B which is a Upper Diagonal Matrix is the same as that of A.  
So the New Unitary matrixes are NewU with m\*m dimension and NewV with n\*n Dimension and NewSigma is the New Sigma value.