2 Homework

Write the functions or code blocks which are given below. You also, have to write **a main code block** in order to test your functions work properly.

2.1 Matrix Transpose

Create a function which calculates the transpose of a given matrix. *(Use dynamic arrays.)*

2.2 Norm of a Vector

Create a function to calculate the norm of any given vector. Norm of a vector $\mathbf{u} = [u_1, u_2, u_3]$ is notated as $\|\mathbf{u}\|$ and calculated as;

$$\|\mathbf{u}\| = \sqrt{u_1^2 + u_2^2 + u_3^2}. \tag{1}$$

Maximum dimension of a vector will be selected as 10. Use dynamic arrays when creating vector variables.

2.3 Equal Matrices

Create a function which compares two matrices and prints a statement that matrices are equal or not.