## Sample Problem 6

The purpose of these practice problems is to apply what the student has learned as well as to aid in retention. **This is not for a grade!** However, if the student completes all the sample problems, the student will be able to turn all sample problems in for extra credit worth 50 points at the end of the course.

## 1 Everything

Create a function that ties into a main program. Have the main program be titled as ExampleProgram7\_Loops.m and the function it is calling Program7\_Function.m. Create a function that requires the input of the size of a square matrix, n. In the function have a loop fill a n by n vector with the first component as 1 and the second as 2 and so on. Prior to the end of the matrix, implement an if statement where if the matrix is on its last component set it equal to 12. In the main program pass a value for n into the function and set the function call equal to A. Now create a vector of ones the size of n and set the vector to b. Take the inverse of A and multiply with b. Do you have to transpose b?