1. Problems 33.2, 36.1, 38.5, 38.6

2. Following link provides a data structure to store sparse matrices:

   `http://www.cs.utexas.edu/users/inderjit/courses/cs383c/sparse_matrices.txt`

   Write a matlab code using the above specified data structure to compute the matrix-vector product $\boldsymbol{y} = A\boldsymbol{x}$ in $O(nz)$ operations, where nz is the number of non-zero entries in the sparse matrix A. Also write a matlab code to compute $\boldsymbol{y} = A^T\boldsymbol{x}$ in $O(nz)$ operations. Note that you should not explicity create A^T to solve the latter problem.