**Classwork 8**

**PCA**

Data preparation.

Download data from Moodle. The data contains 40 folders with 10 images each.

Part one is to split the data into three groups and arrange it in accordance with PCA algorithm requirements.

Group one: Training set - 5 images from each person

Group two: Test set - 3 images from each person

Group three: Validation set - 2 images from each person

You cannot use the same images for different groups!

Each image must be reshaped into a row vector. All of the images from the same group must be placed into a single matrix, meaning that each row in that matrix is a different image. Also you should create a label vector for algorithm validation step. Label vector is a column vector and each of its fields holds a number representing a person in the image located in the same row of the dataset.

As a result, your function should return three datasets and three corresponding label vectors.