Assignment 5: Binary Classification of river and non-river using neural network:

Take river64.png image as input and read the all pixel value of grayscale image. First convert the each pixel in two categories if pixel value is greater than 245 make it 1 and rest 0.

```
        if (datasetX[i][j] > 245):
            datasetY[i][j] = 1
        else:
            datasetY[i][j] = 0
```

Apply neural network learning with learning rate (alpha=.001), Gradient Descent optimization function and run for 1000 epoch. Classify in river and non-river category and return the image with white for river (pixel value = 0) and black for rest of the class (pixel value = 255).

Refer the logic.

```
if (predic >= 0.5):
            outputY.append(255)
        else:
            outputY.append(0)
```

Assignment 6: Image Classification:

Design a Multilayer neural network for classification of 10 different class of persons. Refer the training and testing folder for image.
Input - Image data set. Total 20 images
Output – 10 different person
Hidden Layer – 2 layers with 5,5 neurons each and sigmoid function.
Classify the images. The training and testing data set is given. In training folder, you have 20 images of 10 subjects (2 images per class) and testing folder you have single image for per person. Take image as input for testing and return the corresponding correct image with matching class.