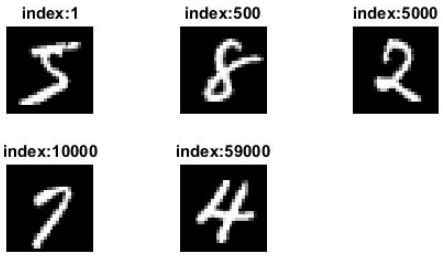
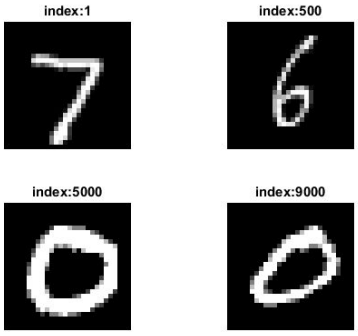
BÀI TẬP THỰC HÀNH 3

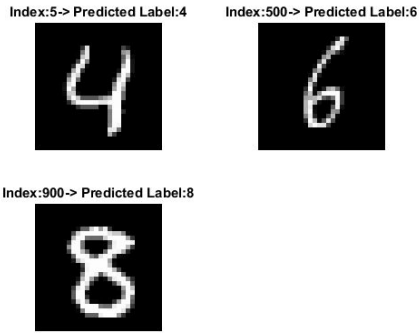
Ques	Code	Result

Q1	**%% Hien thi anh Train**
	
	function Q1_TH3_view_Train_image(imgTrainAll, index)
	  %% Q1 - BT3
	  img = imgTrainAll(:, index);
	  img = reshape(img, 28, 28);
	  imshow(img);
	end
		

Q2	**%% Hien thi anh Test**
	
	function Q1_TH3_view_Test_image(imgTestAll, index)
	  %% Q1 - BT3
	  img = imgTestAll(:, index);
	  img = reshape(img, 28, 28);
	  imshow(img);
	end
		

Q3	**function** so_luong_anh = **Q3_TH3_thong_ke_anh_Train**(lblTrainAll)
	  so_luong_anh = **zeros**(1, 10);
	  for i = 1:length(lblTrainAll)
	  so_luong_anh(lblTrainAll(i) + 1) = so_luong_anh(lblTrainAll(i) + 1) + 1;
	  end
	end
		Label 0: 5923
		Label 1: 6742
		Label 2: 5958
		Label 3: 6131
		Label 4: 5842
		Label 5: 5421
		Label 6: 5918
		Label 7: 6265
		Label 8: 5851
		Label 9: 5949

Q4	**function** so_luong_anh = **Q3_TH3_thong_ke_anh_Test**(lblTestAll)
	  so_luong_anh = zeros(1, 10);
	  for i = 1:length(lblTestAll)
	  so_luong_anh(lblTestAll(i) + 1) = so_luong_anh(lblTestAll(i) + 1) + 1;
	  end
	end
		Label 0: 980
		Label 1: 1135
		Label 2: 1032
		Label 3: 1010
		Label 4: 982
		Label 5: 892
		Label 6: 958
		Label 7: 1028
		Label 8: 974
		Label 9: 1009

Q5	%% Training Phase
	function model = **Q5_TH3_Training**(X_train, y_train)
	  %% Training model using knn
	  model = **fitcknn**(X_train, y_train);
	  save('model.mat', 'model');
	end
	
	%% Test Phase
	function label = **Q5_TH3_Predict_image**(imgTestAll, lblTestAll, index)
	  img = imgTestAll(:, index);
	  load('model.mat');
	  label = **predict**(model, img');
	  fprintf('Predicted Label: %d \n', label);
	  fprintf('Real Label: %d \n', lblTestAll(index));
	end
		Đã train model -> file model.mat
		
		 

Q6	**function** predicted_label = **Q6_TH3_Predict_Test_Image**(imgTestAll, lblTestAll, index)
	  img = imgTestAll(:, index);
	  label = lblTestAll(index);
	  load('model.mat');
	  predicted_label = **predict**(model, img');
	
	  fprintf('> Predicted label: %d\n', predicted_label);
	  fprintf('> Real Label: %d \n', lblTestAll(index));
	  if label == predicted_label
	  fprintf('--> Right prediction\n');
	  else
	  fprintf('--> Wrong prediction\n');
	  end
	end