coursera Help

Exporting an MNIST Classifier in SavedModel Format

In this exercise, we will learn on how to create models for TensorFlow Hub. You will be tasked with performing the following tasks:

- Creating a simple MNIST classifier and evaluating its accuracy.
- Exporting it into SavedModel.
- Hosting the model as TF Hub Module.
- Importing this TF Hub Module to be used with Keras Layers.

In [1]:
```
import numpy as np
import tensorflow as tf
import tensorflow_hub as hub
import tensorflow_datasets as tfds

from os import getcwd
```

Create an MNIST Classifier

We will start by creating a class called `MNIST`. This class will load the MNIST dataset, preprocess the images from the dataset, and build a CNN based classifier. This class will also have some methods to train, test, and save our model.

In the cell below, fill in the missing code and create the following Keras `Sequential` model:

```
Model: "sequential"
_________________________________________________________________
Layer (type)                 Output Shape              Param #
=================================================================
lambda (Lambda)              (None, 28, 28, 1)         0
_________________________________________________________________
conv2d (Conv2D)              (None, 28, 28, 8)         80
_________________________________________________________________
max_pooling2d (MaxPooling2D) (None, 14, 14, 8)         0
_________________________________________________________________
conv2d_1 (Conv2D)            (None, 14, 14, 16)        1168
_________________________________________________________________
max_pooling2d_1 (MaxPooling2 (None, 7, 7, 16)          0
_________________________________________________________________
conv2d_2 (Conv2D)            (None, 7, 7, 32)          4640
_________________________________________________________________
flatten (Flatten)            (None, 1568)              0
_________________________________________________________________
dense (Dense)                (None, 128)               200832
_________________________________________________________________
```