Assignment #8

For all your work, submit a Notebook (either Jupyter or Colab.)

This assignment resembles the previous task, assignment #7. However, rather than focusing on classification, your objective is to develop a regression model utilizing both the **TensorFlow** and **PyTorch** frameworks.

It's important to note that while both frameworks provide comparable functionality, their syntax and APIs vary. Keep this in mind as you navigate through the implementation process.

Phases:
(#1) Import necessary libraries.

(#2) Generate sample data:
np.random.seed(0)
X = np.random.rand(100, 1) * 10
y = 2 * X + 1 + np.random.randn(100, 1)

TF:
Convert data to TensorFlow tensors.

PT:
Convert data to PyTorch tensors.

Feel free to perform preprocessing steps should they be needed.

(#3) Define and build the models.
Be creative, create as many hidden layers as you see fit.
Be careful with the type of Activation Functions used on each layer.

(#4) Define Loss Function, Optimizer, and Metric.
Loss = MeanSquareError (MSE)
Optimizer = Stochastic Gradient Decent (SGD) w/ lr = 0.001
Metric = Accuracy

(#5) Train the models.
Fit the models for 100 epochs.

(#6) Plot the results.
Use Matplotlib's plt method to plot both graphs, one for TF and another for PT.

(#7) Evaluate the models.
Print out the 'accuracy' for both models (TF, PT). Which one is better? Any possible tuning?