Assignment 09 - Simple Linear Model

The example linear fit model uses an equation of

```
y = 2x -1
```

So the data looks like:

x	y
-1	-3
0	-1
1	1
2	3
3	5
4	7

The code: https://github.com/Univ-Wyo-Education/S122-1010/blob/main/homework/09/linear1.py

```
 1: import tensorflow as tf
 2: import numpy as np
 3: from tensorflow import keras
 4:
 5: # The Model
 6: model = tf.keras.Sequential([keras.layers.Dense(units=1, input_shape=[1])])
 7: model.compile(optimizer='sgd', loss='mean_squared_error')
 8:
 9: # This is the data based on the function:
10: # y = 2x -1
11: # Calculate new data and train the model with new data.
12: xs = np.array([-1.0,  0.0, 1.0, 2.0, 3.0, 4.0], dtype=float)
13: ys = np.array([-3.0, -1.0, 1.0, 3.0, 5.0, 7.0], dtype=float)
14:
15: # Train the model
16: model.fit(xs, ys, epochs=500)
17:
18: # Input a new value and have the model calcualte the exptected
19: # output for the new data.
20: print("expect output of approx. 19.0")
21: print(model.predict([10.0]))
```

Create a new linear fit set of data with the equation

```
y = 4x - 6
```

Update the data and re-train the model to use the new set of data. Then do a prediction with it.

Turn in your code with the updated model and an example of your output.