

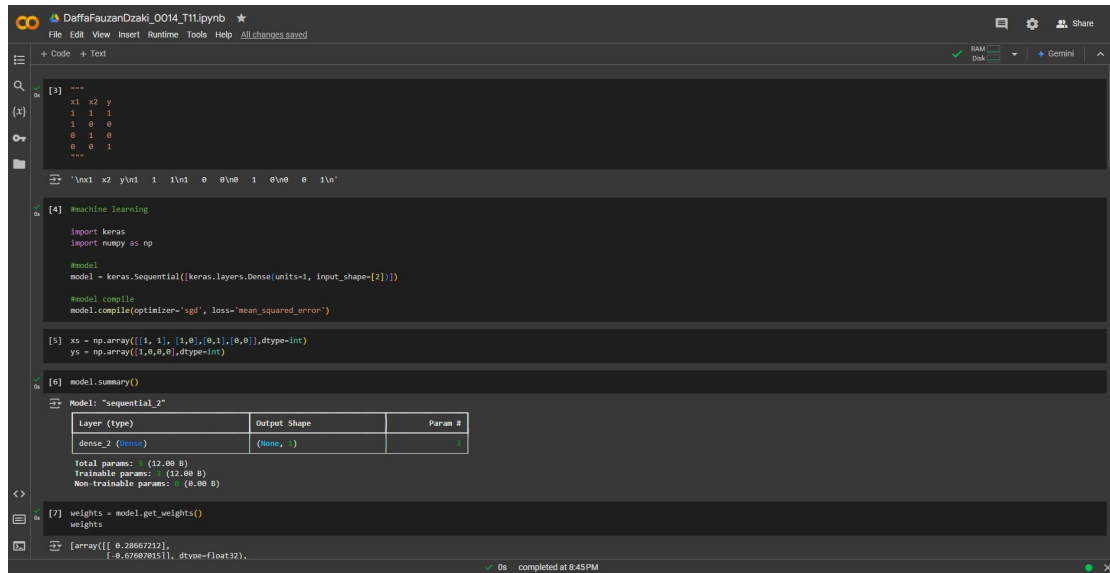
# TUGAS PERTEMUAN 11 MACHINE LEARNING

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## 1. TAHAP 1



```
[3] ---
x1 x2 y
1 1 1
1 0 0
0 1 0
0 0 1
---
```

```
[4] #machine learning
import keras
import numpy as np

#model
model = keras.Sequential([keras.layers.Dense(units=1, input_shape=[2])])

#model compile
model.compile(optimizer='sgd', loss='mean_squared_error')
```

```
[5] xs = np.array([[1, 1], [1, 0], [0, 1], [0, 0]], dtype=int)
ys = np.array([1, 0, 0, 1], dtype=int)
```

```
[6] model.summary()
```

Layer (type)	Output Shape	Param #
dense_2 (Dense)	(None, 1)	1

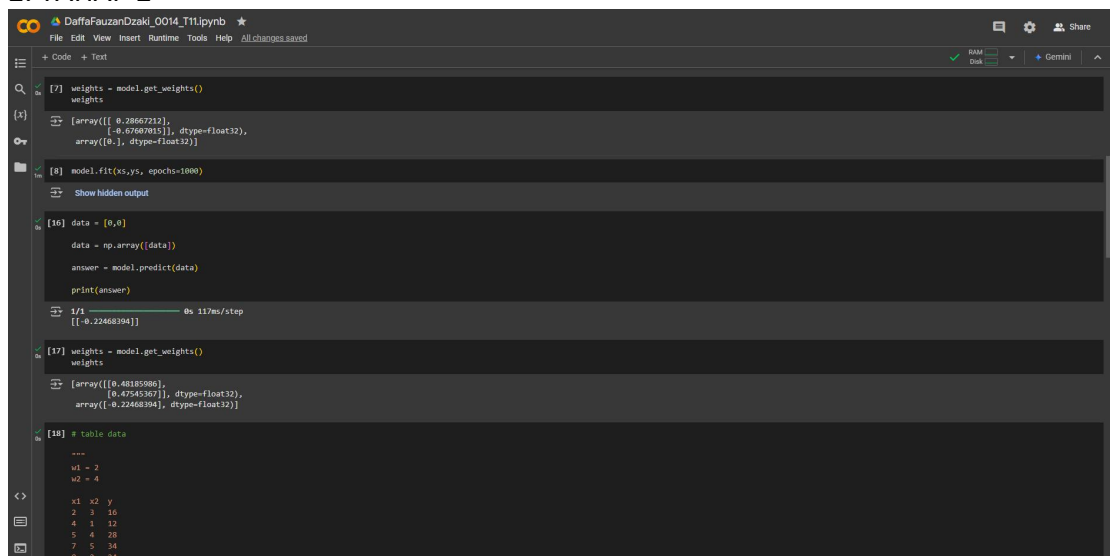
Total params: 1 (12.00 B)  
Trainable params: 1 (12.00 B)  
Non trainable params: 0 (0.00 B)

```
[7] weights = model.get_weights()
weights
```

```
[array([[ 0.28667212],
        [-0.67607915]], dtype=float32),
 array([0.], dtype=float32)]
```

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## 2. TAHAP 2



```
[7] weights = model.get_weights()
weights
```

```
[array([[ 0.28667212],
        [-0.67607915]], dtype=float32),
 array([0.], dtype=float32)]
```

```
[8] model.fit(xs,ys, epochs=1000)

Show hidden output
```

```
[16] data = [0,0]

data = np.array([data])
answer = model.predict(data)
print(answer)
```

```
1/1 [ 0.22468394] 0s 117ms/step
```

```
[17] weights = model.get_weights()
weights
```

```
[array([[0.48185986],
        [0.47545367]], dtype=float32),
 array([-0.22468394], dtype=float32)]
```

```
[18] # table data

---
x1 x2 y
2 1 15
4 1 12
5 4 28
7 5 34
8 2 24
```

### 3. TAHAP 3

```

DaffaFauzanDzakl_0014_T11.ipynb
File Edit View Insert Runtime Tools Help All changes saved
+ Code + Text
[18] # table data
---
u1 = 2
u2 = 4

x1 x2 y
2 3 16
4 1 12
5 4 28
7 5 34
8 2 24
2 1 8
4 9 44
8 2 24
7 1 18
6 5 32
1 1 6
3 2 14
---

'\nu1 = 2\nu2 = 4\n\nx1 x2 y\n2 3 16\n4 1 12\n5 4 28\n7 5 34\n8 2 24\n2 1 8\n4 9 44\n8 2 24\n7 1 18\n6 5 32\n1 1 6\n3 2 14\n'

[20]
#model
model2 = keras.Sequential([keras.layers.Dense(units=1, input_shape=[2])])
#model compile
model2.compile(optimizer='sgd', loss='mean_squared_error')
xs = np.array([[2,3], [4,1], [5,4], [7,5], [8,2], [2,1], [4,9], [8,2], [7,1], [6,5], [1,1], [3,2]], dtype=int)
ys = np.array([16, 12, 28, 34, 24, 8, 44, 24, 18, 32, 6, 14], dtype=int)

[21] weights = model2.get_weights()
weights
array([[ 0.24023182],
       [-1.2742629 ]], dtype=float32,
array([0.], dtype=float32))

[22] model2.fit(xs,ys, epochs=1000)

```

### 4. TAHAP 4

```

DaffaFauzanDzakl_0014_T11.ipynb
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+ Code + Text
model2.fit(xs,ys, epochs=1000)
Show hidden output
[29] data = [0,0]
data = np.array([data])
answer = model2.predict(data)
print(answer)
1/1 [0.87979872] 0s 18ms/step

[28] weights = model2.get_weights()
weights
array([[ 2.008751],
       [ 4.620809]], dtype=float32,
array([0.87979872], dtype=float32))

[ ] Start coding or generate with AI.
0s completed at 8:45 PM

```