

Date of the Session: \_\_\_\_/\_\_\_\_/\_\_\_\_

Time of the Session: \_\_\_\_ to \_\_\_\_

**SKILLING -3:**

Design a one-layer Perceptron network to classify 4 classes.  
Assume that the data set includes 25 samples and each sample is 10 dimensional. Print the weights and biases of the model

```
import numpy as np
from sklearn.linear_model import Perceptron

np.random.seed(0)
X = np.random.rand(25, 10)
y = np.random.randint(0, 4, 25)

model = Perceptron(max_iter=1000, tol=1e-3, random_state=0)
model.fit(X, y)

print("Weights: \n", model.coef_)
print("Biases: \n", model.intercept_)
```

**Output:****Weights:**

[[ 0.09812 4.76972891 -2.06970397 1.03755676 1.64770842  
4.27718936  
-2.38608025 0.95760336 3.92436641 1.54341693]

[ 4.0677893 -3.19886674 3.33941403 -0.90704964 -1.49992007 -  
0.87825652  
2.06207815 -2.02003131 -5.27521362 0.81267334]

[-6.08972966 7.18350041 -0.65539991 -0.86464169 1.52798491  
1.03251823  
-3.79449376 -5.43466517 -1.37880209 -1.05064322]

[ 0.53970142 -6.21485263 -2.50424173 -2.20341635 -1.98327199 -  
4.39073723  
0.74307386 6.45978502 7.36528644 -3.50773292]]

**Biases:**

[-9. 1. 5. 0.]

<u>Comment of the Evaluator (if Any)</u>	
	<u>Evaluator's Observation</u> Marks Secured _____ out of <u>50</u>  Full Name of the Evaluator:  Signature of the Evaluator Date of Evaluation: