**Practical 3**

**Aim:**

**Write a python program to perform Linear classification using AND and OR logic.**

**Code:**

from random import choice

from numpy import array, dot, random

def unit\_step(x): return 0 if x < 0.5 else 1

training\_data = [

(array([0, 0, 1]), 0),

(array([0, 1, 1]), 1),

(array([1, 0, 1]), 1),

(array([1, 1, 1]), 1),

]

w = random.rand(3)

errors = []

n = 100

try:

xrange

except NameError:

xrange = range

for i in xrange(n):

x, expected = choice(training\_data)

result = dot(w, x)

error = expected - unit\_step(result)

errors.append(error)

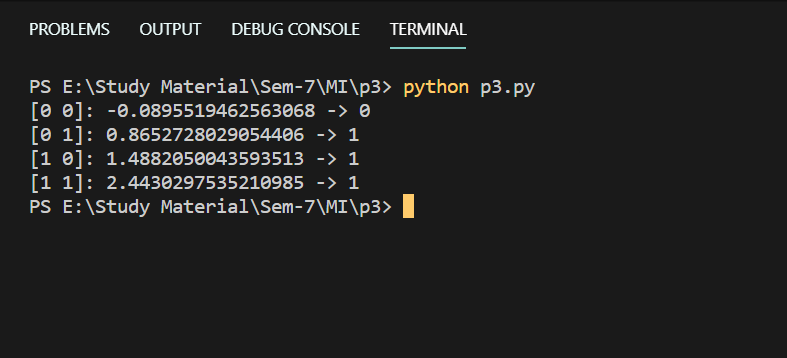
w += error \* x

for x, \_ in training\_data:

result = dot(x, w)

print("{}: {} -> {}".format(x[:2], result, unit\_step(result)))

**Output:**

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