

7) Implement a basic not gate using perceptron

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In [1]: # importing Python Library
import numpy as np
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In [4]: # define Unit Step Function
def unitStep(v):
    if v >= 0:
        return 1
    else:
        return 0
```

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In [5]: # design Perceptron Model
def perceptronModel(x, w, b):
    v = np.dot(w, x) + b
    y = unitStep(v)
    return y
```

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In [6]: # NOT Logic Function
# w = -1, b = 0.5
def NOT_logicFunction(x):
    w = -1
    b = 0.5
    return perceptronModel(x, w, b)
```

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In [7]: # testing the Perceptron Model
test1 = np.array(1)
test2 = np.array(0)

print("NOT({}) = {}".format(1, NOT_logicFunction(test1)))
print("NOT({}) = {}".format(0, NOT_logicFunction(test2)))

NOT(1) = 0
NOT(0) = 1
```

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In [ ]:
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