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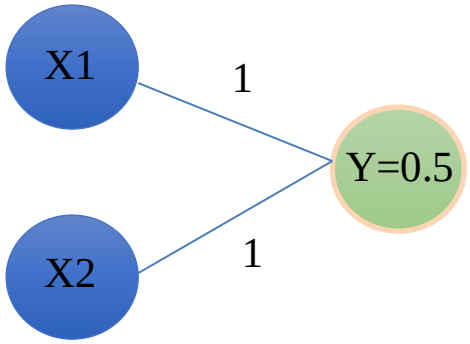
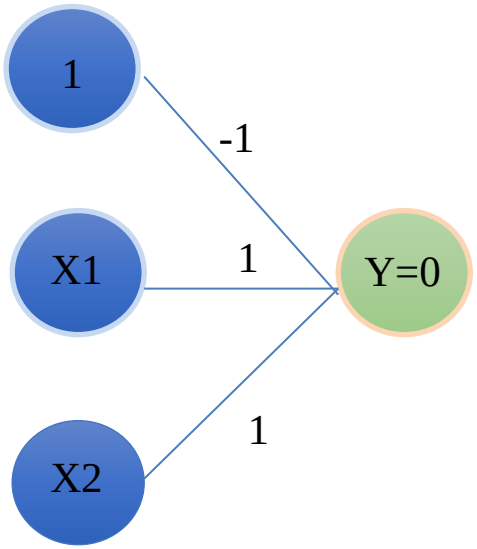
TANGGAL : 10 JUNI 2020

1. Rancanglah Perceptron untuk operator OR!

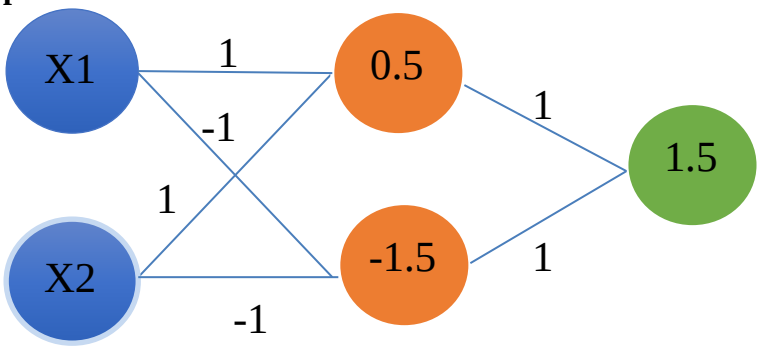
   - **Perceptron OR tanpa bias** :



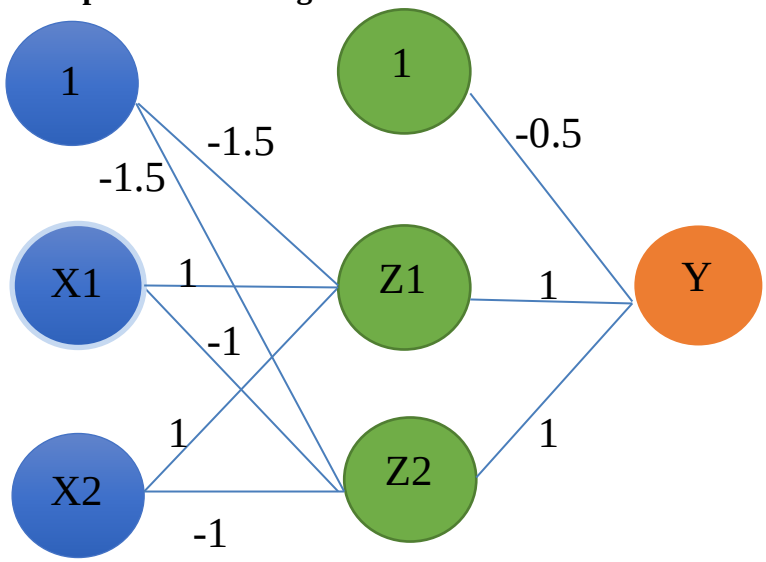
   - **Perceptron OR dengan bias** :



2. Rancanglah Perceptron untuk operator XOR! - **Perceptron XOR tanpa bias** :



- **Perceptron XOR dengan bias** :



3. Implementasikan salah satu perceptron untuk AND atau OR atau XOR!
   Implementasi perceptron OR dengan bias -

   - Listing program :

```
import random

# Persiapan Data
test_inputs = [(0, 0), (0, 1), (1, 0), (1, 1)]
targets = [0, 1, 1, 1]
learning_rate = 0.1
weight = []

# Inisialisasi Weight(weight[0] merupakan bias)
for i in range(3):
    weight.append(round(random.uniform(-1.0,1.0), 1))

## Training
train = True
while(train) :
    for test_input, target in zip(test_inputs, targets):
        linear_combination = weight[0] + weight[1] * test_inpu
t[0] + weight[2] * test_input[1]
        output = int(linear_combination >= 0)
        error = target - output
        if (error != 0):
            weight[0] += learning_rate * error
            weight[1] += learning_rate * test_input[0] * error
```

```
            weight[2] += learning_rate * test_input[1] * error

            break
        else :
            train = False

### Testing
x1 = int(input('X1 : '))
x2 = int(input('X2 : '))

result = weight[0] + x1 * weight[1] + x2 * weight[2]

print('{} OR {} : {}'.format(x1, x2, int(result >= 0)))
```

- Capture output :

```
C:\Users\LENOVO-PC\Documents\pencitraan>python ai.py
X1 : 1
X2 : 0
1 OR 0 : 0

C:\Users\LENOVO-PC\Documents\pencitraan>python ai.py
X1 : 1
X2 : 1
1 OR 1 : 0

C:\Users\LENOVO-PC\Documents\pencitraan>python ai.py
X1 : 0
X2 : 0
0 OR 0 : 0
```