

 x 

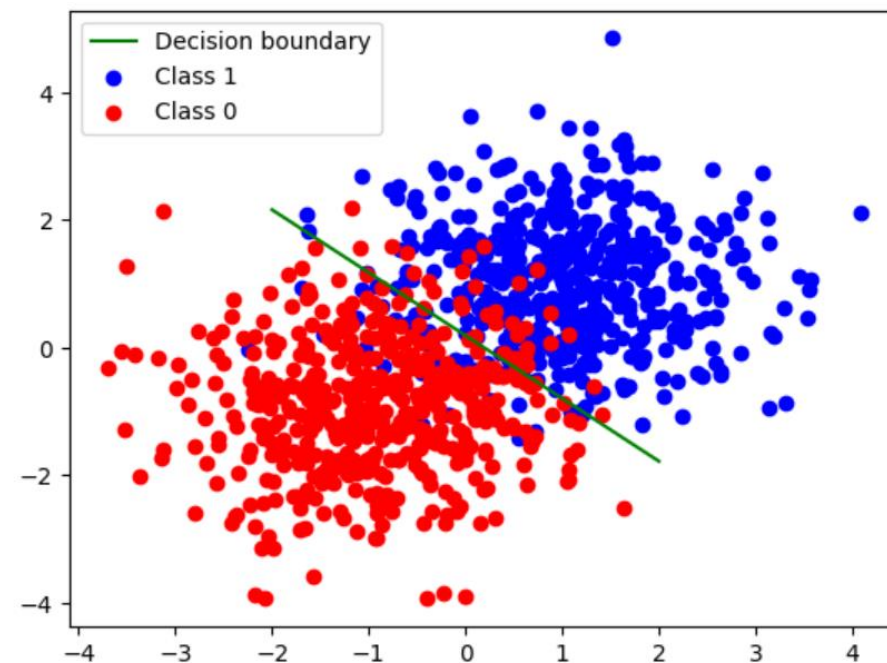
K-Digital Training 스마트 팩토리 3기

로지스틱회귀

- <https://colab.research.google.com/drive/1WtIki1KlmaZv11Wjn67fgAqPXikHaU-P?usp=sharing>

```
# Define logistic regression model
class LogisticRegression(nn.Module):
    def __init__(self, input_dim, output_dim):
        super(LogisticRegression, self).__init__()
        self.linear = nn.Linear(input_dim, output_dim)

    def forward(self, x):
        out = self.linear(x)
        out = torch.sigmoid(out)
        return out
```



- 다음의 데이터가 있을 때 Decision Boundary를 찾고, [1,1] 은 어디에 속하는지 구하라

- Label

- | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---|---|---|---|
| 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1] | | | | |

로지스틱회귀

- X

- ```
[[-1.45911997 1.27418673] [-1.40811432 0.7656503] [-0.80951052 -1.65609373] [-2.12064621 -0.66898039] [-1.47889457 0.75970564] [0.21492267 -0.94078319] [-0.88723533 1.27909021] [-1.69760226 0.2121016] [-0.95780633 -1.46767931] [-2.10161186 -0.05177387] [-0.57325084 -1.35015894] [0.321193 -0.02985844] [-2.5735914 -0.87730766] [-1.14876618 0.61554048] [-1.38262269 0.65768775] [-0.09595018 -0.40346164] [-0.76692811 1.06812167] [-2.10942592 -0.23163573] [0.55893733 -2.0168051] [-1.42934539 -1.8439296] [-1.84899277 0.29284397] [-1.00962409 1.14260845] [-1.80151453 -1.76488978] [0.41228357 2.37044324] [-1.96672657 -0.45787397] [-1.92263976 -0.07816785] [-0.68467409 1.31431729] [-1.72232541 0.34032824] [-1.61710431 0.55440197] [-0.50158669 1.46554165] [-1.13494826 -1.10274489] [0.04382985 1.99953558] [-0.91949553 -1.23405738] [-1.58958085 -0.66467512] [-1.15834408 0.86326863] [0.19071829 2.2581361] [0.85374174 0.45121711] [-0.78145505 -3.72642464] [-0.69210519 1.18544] [-0.34269714 1.84124514] [-1.16542994 -0.25209409] [0.03544744 -2.01297423] [-1.14895127 0.75941937] [-0.87448027 0.99119766] [-0.95218433 -0.7255449] [-1.44472745 0.4203996] [-3.37909783 0.90227751] [-0.33605416 -0.58055418] [-1.30653111 0.6841973] [-0.53596756 -1.06203261] [-2.24105517 -2.66497083] [-0.8418934 -1.36697538] [0.11185643 1.80990919] [-0.08704842 1.79826469] [-0.32179094 1.38840766] [-0.77115091 1.44962084] [1.53582237 -1.35952342] [-0.77137009 0.95041669] [0.95817687 -1.68111971] [-0.17508112 1.94450501] [0.27983489 2.15449013] [-1.10311345 -2.30164911] [-1.89651215 -0.06786658] [1.02369385 2.91761024] [-3.44086677 -1.22134089] [-0.16503895 1.81466655] [-0.87149586 -0.69110736] [-1.3967273 0.61158218] [-1.01744934 0.81087452] [-0.88416906 -0.49424196] [0.66587906 -1.09206153] [0.39747262 -1.82237472] [-1.01832839 -1.60005169] [0.33371829 2.35165976] [-0.55109541 1.04295984] [-0.0300587 -0.89092092] [-1.31928433 -0.12198647] [-1.6115414 0.23596121] [-1.00895151 0.82914492] [-2.0375607 1.07077242] [0.54660097 2.58059711] [-2.26540046 0.70234877] [-3.77092541 -0.58113997] [-2.2225742 -0.25879024] [0.12957675 -1.11474827] [-0.94312631 -1.7764906] [0.19677121 2.32058808] [-1.80386855 -0.07024802] [-3.15024419 -0.37787135] [0.09356338 2.1447265] [-0.28862204 1.78649941] [1.15354602 3.19128357] [-2.30889422 0.23218934] [-1.41098943 0.61757286] [-0.78790862 1.28282852] [-0.73590709 1.40162745] [-0.8181465 -0.4159796] [-3.51742052 -1.22222597] [-3.08756883 -2.49000395] [0.70101383 2.94258516]]
```