The NOR gate only needs one perceptron

output:

fault = 2.0167377194852145

fault = 0.8299343540756731

fault = 0.8465426459418547

fault = 0.5617788892373156

fault = 0.08120199488904116

fault = 0.014087116098935162

fault = 0.016899570612558597

fault = 0.028330524901933524

fault = 0.04355421571966909

fault = 0.0557552180428975

fault = 0.05585150721420805

fault = 0.04344072831468372

fault = 0.02749969689149233

fault = 0.01518138265410362

fault = 0.007749973382841848

fault = 0.003798923927212787

fault = 0.0018256735003460485

fault = 0.000869344165451262

fault = 0.00041231604168192725

fault = 0.0001952724375185281

fault = 9.24629496807309e-05

rate of change: 10 bias: 42.681503515117235 weigths:[-54.97108309 -52.79683652]

took 84 updates and 84.0 batches

input: [0 0] result: 1.0 desired: 1

input: [0 1] result: 4.04528501021804e-05 desired: 0

input: [1 0] result: 4.5994023975638365e-06 desired: 0

input: [1 1] result: 5.411636817953662e-29 desired: 0