

```
learn_rate = 0.05
epoch = 20
for i in range(1,epoch+1):
    loss = out-1
    w_out = w_out-learn_rate*loss*z1.reshape(-1)
    w_l1 = w_l1-learn_rate*loss*inputs*w_out
    z1 = np.dot(w_l1, inputs)
    out = np.dot(w_out, z1)
    print(out, i)
```

```
# print(f"w1 = {w_l1[0,0]}, w2 = {w_l1[0,1]}, w3 = {w_l1[0,2]}")
```

```
[0.3333145] 1
[0.42335661] 2
[0.51920946] 3
[0.61479954] 4
[0.70360506] 5
[0.7804411] 6
[0.84266825] 7
[0.89027026] 8
[0.92504654] 9
[0.94957687] 10
[0.96644325] 11
[0.9778333] 12
[0.98543068] 13
[0.99045623] 14
[0.99376213] 15
[0.99592884] 16
[0.9973455] 17
[0.99827028] 18
[0.99887334] 19
[0.99926634] 20
```