

Report

Q 1)

(a) Dimensions of the matrices

W= 2x4

V= 4x3

B= 4x1

C= 3x1

(b).py files are attached in the final submission

(c) Initial Assignment

W=0.80945508, 0.74079746, 0.97152311, 0.49670915
0.21656934, 0.81131337, 0.43246331, 0.16548499

B=Transpose([0.41903348, 0.70677806, 0.5148631, 0.35186311])

V= 0.59637375, 0.17860063, 0.284249
0.3050028, 0.27314847, 0.06503157
0.4036418 , 0.66967731, 0.1760832
0.41073093, 0.67606424, 0.2979859

C=Transpose([0.85749418, 0.47666205, 0.84339381])

Y=Transpose([0.91115397, 0.98218792, 0.37107385])

(d)

(e) learning rate = 0.01

(f)

(g)

Q 2)

Results using the API in sklearn python

W= -0.76847129, -0.01387998, 0.64697369, 0.29729657
0.64443643, -0.36911915, 0.30606109, 0.17654824

W is a 2x4 matrix

V= 0.3101808 , -0.36719396, 0.33320932
0.72755618, -0.33638538, 0.47921014
0.46544633, -0.59252871, -0.00379072
-0.28520739, -0.02431305, -0.08418451

V is a 3 x 4 matrix

Report

B=Transpose [0.11038775, -0.05518473, 0.16475532, -0.70023506] 4x1 matrix

C=Transpose[0.2442471 , 0.19625491, -0.34865149] 3x1 matrix

Predicted Values=

[3, 3, 2, 3, 1, 3, 2, 3, 3, 3, 3, 3]