

Quiz 2 [SML] Rubric

Q1.

$w=[0.4722, 1.1111]'$

Value of objective function (J): 10.1389

Predicted label: 1

Correct J: 1 marks

Computed only w: 1 mark

Correct label: 0.5 mark; otherwise 0 marks.

Q2. If $lr=0.02$, $\hat{Y}=6.1118$.

If $lr=0.01$, $\hat{Y}=6.2124$.

If $lr=0.1$, $\hat{Y}=6.6340$.

If $lr=0.2$, $\hat{Y}=10.6060$.

Rounding upto 2 decimal digits is allowed.

Correct answer: 2.5 marks.

Performed only 1 iteration correctly: 1 marks

Steps are correct, but made a calculation mistake: 1.5 marks

Q3. See Slide 13 of Lec 13.

Given the derivative of sigmoid: 1 mark

Complete derivation: 2.5 marks.

Partial derivation: 0.5 marks.

Q4. See Slide 4 of Lec 11.

Complete proof: 2.5 marks.

Partial proof: 1.5 marks. Just started with notations: 0.5 marks

Q5.

$x=1/\sqrt{3}$

$y=\sqrt{2}$

$z=\sqrt{2}/\sqrt{3}$

$u=v=0$

All four data points are at a distance of 2.25 from their centroid, so none of them can be potential outliers.

cv

Marks: 2.5