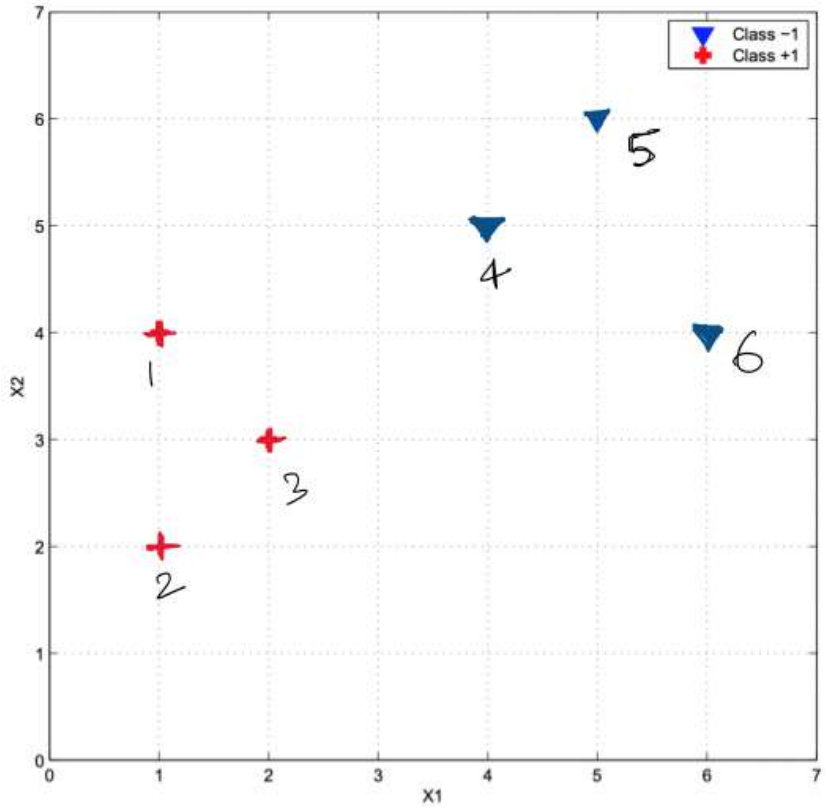
Started on	Thursday, 18 February 2021, 9:02 AM
State	Finished
Completed on	Thursday, 18 February 2021, 10:00 AM
Time taken	58 mins 13 secs
Marks	9.00/14.00
Grade	**6.43** out of 10.00 (**64**%)

Question **1**

Correct

Mark 1.00 out of 1.00



Select the support vectors in the figure above when training an SVM. There are two classes and each sample is marked with an id. Enter comma-separated ids for an answer. For example, if you think 5 and 2 are support vectors, enter 2,5 or 5,2 (both are valid answers). Do not enter any spaces between the commas.

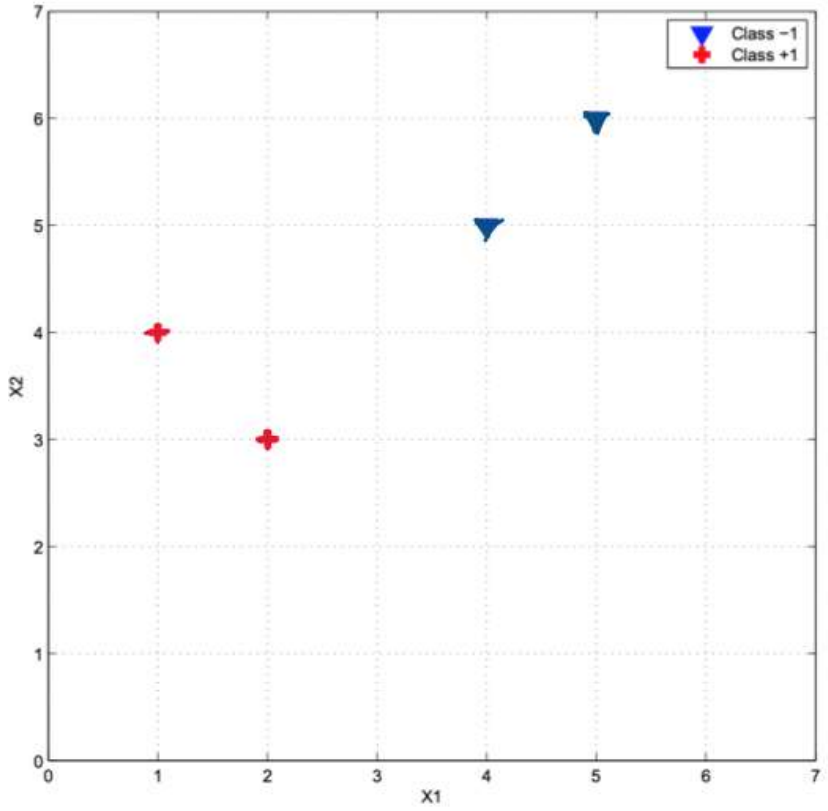
Answer: 1,3,4 ✔

The correct answer is: 1,3,4

Question **2**

Correct

Mark 2.00 out of 2.00



Enter the slope and intercept of the decision boundary trained on the above data using a linear SVM. Enter comma-separated values as your answer. For example if slope = -3/4 and intercept = 4, you should enter: -3/4,4

Alternatively, you can also enter the line equation. For example, if your equation is 7x2+3x1-2=0, enter: 7x2+3x1-2

Enter whatever you are comfortable with the line equation or the slope,intercept. Both answers would be accepted.

Answer: -1,7 ✔

The correct answer is: -1,7

Question **3**

Complete

Mark 1.00 out of 4.00

Attendance	Attitude	Hours per day	Performance
H	P	2	Poor
H	N	2	Poor
H	N	2	Poor
L	N	3	Poor
L	N	3	Poor
L	P	4	Good
H	P	4	Good
H	N	4	Good
L	P	3	Good
L	P	3	Good

Draw a decision tree with the goal to predict the performance of a student based on his attendance, attitude, and a number of self-study hours per day.

(a) Compute the entropy of each rule in the first stage.

(b) Show the final decision tree. Clearly draw it.

Submit a handwritten response. Clearly show all the steps.

WhatsApp Image 2021-02-18 at 9.29.15 AM.jpeg

Comment:

Question **4**

Complete

Mark 3.00 out of 3.00

Q. minimize $x^2 + y^2 + 2z^2$

Subject to: $2x + 2y - 4z \geq 8$

Hint :- Obtain the Lagrangian and then compute derivatives.

Note :- you will get partial marks for part correct answer.

Submit a handwritten response with a complete solution.

WhatsApp Image 2021-02-18 at 9.45.26 AM.jpeg

Comment:

Question **5**

Incorrect

Mark 0.00 out of 2.00

Q. Consider fitting the linear regression model for the data below

x	-1	2	1
y	0	1	3

a) fit $y_i = \beta_1 x_i + \epsilon_i$ (linear regression without the constant term).

Find the value of β_1

If your answer is 3/8, then just enter 3/8 as a fraction. Please do not compute the value 0.375. Just enter the fraction.

Answer: 4/3 ✖

The correct answer is: 5/6

Question **6**

Complete

Mark 2.00 out of 2.00

Q. True/False The parameters (α) can be using a valid linear regression formulation for the model:—

$$y_i = \log_e(x_i^{\alpha_1} e^{\alpha_2}) + \epsilon_i$$

where $\epsilon_i \sim N(0, \sigma^2)$ iid noise

Illustrate your proof, and justify the true / false decision.

Submitted handwritten photo of your solution with justification.

WhatsApp Image 2021-02-18 at 9.59.54 AM.jpeg

Comment:

◄ Final Project

Jump to...

Quiz2 ►