Server: T1   Logout

BRIAN LOUGHRAN   13 ▼

Remaining Time: 27 minutes, 32 seconds.

❯❯ **Question Completion Status:**

Take Test: Mid-Term Exam Part B

Test Information

Description	
Instructions	
Timed Test	This test has a time limit of 45 minutes. This test will save and submit automatically when the time expires. Warnings appear when **half the time**, **5 minutes**, **1 minute**, and **30 seconds** remain.
Multiple Attempts	This test allows 3 attempts. This is attempt number 1.
Force Completion	Once started, this test must be completed in one sitting. Do not leave the test before clicking **Save and Submit**.

QUESTION 1   **5 points**   Save Answer

Let the matrix in P4:PR-A be the weight matrix in a Hopfield Network where the hardlimiting function in P4:PR-B is used to map vector elements into bipolar values.

Starting with an input vector V^T = (1, -1, 1, 1, -1) and using *asynchronous* updating, determine the state vector after updating just the first node in the associated network (corresponding to the first vector element), then use the resulting state vector to update the second node (2nd vector element) and so on until all the vector elements have been updated. The final state vector is:

○ $(-1, -1, 1, -1, -1)^T$

○ $(-1, 1, -1, -1, 1)^T$

○ $(-1, -1, 1, 1, -1)^T$

○ $(1, -1, 1, 1, -1)^T$

○ $(-1, -1, 1, 1, 1)^T$

Click Save and Submit to save and submit. Click Save All Answers to save all answers.

Save All Answers   Save

state vector (1, -1, 1, 1, -1) and the weight matrix in P4:PR-A.

The H-N function value (in integer values) is:

Remaining Time: 27 minutes, 32 seconds.

⩔ **Question Completion Status:**

QUESTION 3

5 points   Save Answer

Using the matrix in P4:PR-A in a Hopfield Network and the hardlimiting function in P4:PR-B and again starting with an input vector V^T = (1, -1, 1, 1, -1), use *synchronous* updating to determine the state vector. The updated state vector is:

○ $(-1, -1, 1, -1, -1)^T$

○ $(-1, 1, -1, -1, 1)^T$

○ $(-1, -1, 1, 1, -1)^T$

○ $(1, -1, 1, 1, -1)^T$

○ $(-1, -1, 1, 1, -1)^T$

QUESTION 4

5 points   Save Answer

Using the Hecht-Nielsen (H-N) function in P4:PR-C and the weight matrix in P4:PR-A, calculate the H-N value using the state vector you obtained from *asynchronous* updating.

The H-N function value (in integer values) is:

QUESTION 5

5 points   Save Answer

Given the following confusion matrix where the column labelled "C" indicates subjects who have a condition or characteristic and the column heading "Not C" corresponds to those subjects without the condition or characteristic and where the row labelled "D" indicates the corresponding numbers of subjects for which some detection of the condition or characteristic occurs and the row marked "Not D" indicates subjects for which the condition or characteristic was not detected, indicate the estimated probability that a person has the condition if they've been told they tested positive for it.

	C	Not C
D	30	50
Not D	5	40

QUESTION 6

5 points   Save Answer

Click Save and Submit to save and submit. Click Save All Answers to save all answers.

Save All Answers   Save

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Question Completion Status:

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