Q1.

Suppose m=4 students have taken some class, and the class had a midterm exam and a final exam. You have collected a dataset of their scores on the two exams, which is as follows:

|  |  |  |
| --- | --- | --- |
| midterm exam | (midterm exam)^2 | final exam |
| 89 | 7921 | 96 |
| 72 | 5184 | 74 |
| 94 | 8836 | 87 |
| 69 | 4761 | 78 |

You'd like to use polynomial regression to predict a student's final exam score from their midterm exam score. Concretely, suppose you want to fit a model of the form , where is the midterm score and is (midterm score)^2. Further, you plan to use both feature scaling (dividing by the "max-min", or range, of a feature) and mean normalization.

What is the normalized feature ? (Hint: midterm = 72, final = 74 is training example 2.) Please round off your answer to two decimal places and enter in the text box below.