PROBLEM ONE: MOVIE RATING PREDICTIONS

The Distance Formula is given by the following formula:

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2 + (z_2 - z_1)^2}$$

This formula is commonly used to find the Cartesian distance between two points in the real world, perhaps the distance between two flying aircraft. However, this formula can also be applied to problems that are more abstract than the real world. For instance, the distance formula can be applied to help predict what movies a person might like.

The following is a table of movie reviews from 4 Professional Reviewers. Each reviewer has rated six movies where the movies are rated from 1 (terrible) to 5 (excellent).

	1) Inception	2) Toy Story 3	3) Scott Pilgrim vs. the World	4) Harry Potter	5) TRON: Legacy	6) Easy A
1) Jason	3	1	5	2	1	5
2) David	4	2	1	4	2	4
3) Keenan	3	1	2	4	4	1
4) Derek	5	1	4	2	4	2

Write a program where this data is stored in an array or other data structure. Your program must prompt the user to enter their personal ratings for the first three movies (Inception, Toy Story 3, and Scott Pilgrim vs. the World). It is assumed that the users have seen those movies. Your program must then find the professional reviewer whose ratings most closely match the ratings input by the user. Search through each Professional Reviewer's ratings and find the smallest distance between between the users ratings and each Professional Reviewer's ratings for the first three movies. **You must use the distance formula as a metric and it must be implemented correctly**; apply the variables x, y and z to the first three movies. For example, if the user inputs a rating of 5 for Inception, your x variables should be set the following when calculating the distance between Jason's ratings and the user's ratings:

$$x_1 = Jason's\ review\ of\ Inception = 3 \text{ and } x_2 = User's\ review\ of\ Inception = 5$$

REQUIRED INPUT: Prompt User for Ratings of Inception, Toy Story 3, Scott Pilgrim
REQUIRED OUTPUT: The Professional Reviewer whose movie ratings are the mathematically smallest distance from the user's movie ratings.