Author: Pedro Jahir Hinojosa García

Instructor: Miguel Rugerio

Activity: JPA Activity

Date: 31/08/2024

The main objective of this program is to provide functional implementations in Java for modifying MySQL databases. Using JPA, the connection and methods are easy to declare because it handles opening and closing connections automatically. Additionally, the framework protects against SQL injection by avoiding concatenated operations in queries.

The program calculates an average based on the first two grades. The methods are focused on modifying the data in the table: adding one or multiple students, updating grades, adding points, deleting records, and retrieving specific information about a student. Images 1 and 2 demonstrate the successful implementation of the code.

id	last_name	first_name	first_period	second_period	average
1	Smith	John	85.50	90.00	87.75
2	Johnson	Emily	78.25	82.50	80.38
3	Williams	Michael	91.00	88.75	89.88
4	Brown	Sarah	70.00	75.50	72.75
5	Jones	David	88.00	85.25	86.63
NULL	NULL	NULL	NULL	NULL	NULL

Image 1: Table before the implementation in java.

id	last_name	first_name	first_period	second_period	average
1	Smith	John	85.50	90.00	87.75
2	Johnson	Emily	78.25	82.50	80.38
3	Williams	Michael	91.00	88.75	89.88
4	Brown	Sarah	70.00	75.50	72.75
5	Jones	David	88.00	85.25	86.63
6	Hinojosa	Pedro	78.00	82.00	80.00
7	Martinez	Lucia	75.00	80.00	77.50
8	Ramirez	Lucia	88.50	92.00	90.25
9	Garcia	Maria	90.00	92.00	91.00
10	Epeneto	Duck	85.00	90.00	87.50
NULL	NULL	NULL	NULL	NULL	NULL

Image 2: Table after the implementation in java.