



Logical Programming – Operators

Model-Answer Approach

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Auto-graded task 1

The program calculates the total time taken for a triathlon and determines an award based on the total time. It begins by prompting the user to input the times for three events – swimming, cycling, and running – in minutes, which are stored in three separate variables. The program then calculates the total time by summing the times of these three events.

Once the total time is computed, the program uses a series of `if-elif` conditions to determine the appropriate award. If the total time is less than or equal to 100 minutes, the user is awarded "Provincial colours." For a time between 101 and 105 minutes, the award is "Provincial half colours." For times between 106 and 110 minutes, "Provincial scroll" is awarded. Any time above 111 minutes results in "No award." The final output displays the total time and the award.

Possible pitfalls in this program include the assumption that the user will always provide valid numerical input. If the user enters non-numeric data or leaves the input blank, the program will raise an error and potentially crash. To make the program more robust, input validation could be added to ensure that only numeric values are accepted. Additionally, since the program uses floating-point numbers to represent time, small precision issues may arise, especially when dealing with very specific values. This could affect the accuracy of the results in certain competitive environments. Lastly, the program doesn't check for the format of the time input, so users need to be careful to enter times in minutes, as intended. Without this clarification, input errors could lead to incorrect results or unexpected behaviour.