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BEGIN PROGRAM

  FUNCTION create_question(difficulty):
    IF difficulty = "easy":
      number_range ← (1, 10)
    ELSE IF difficulty = "medium":
      number_range ← (1, 25)
    ELSE:
      number_range ← (1, 50)

    num1 ← RANDOM number in number_range
    num2 ← RANDOM number in number_range
    operator ← RANDOM choice from ["+", "-", "*"]
    expression ← num1 operator num2
    correct_answer ← EVALUATE(expression)
    RETURN expression, correct_answer
  END FUNCTION


  FUNCTION ask_question(expression, correct_answer):
    DISPLAY expression
    start_time ← CURRENT TIME

    TRY
      Error 1: user input stored as string, not converted to integer
      user_input ← INPUT("Your answer: ")
    CATCH invalid input:
      DISPLAY "Invalid input"
      RETURN 0, None, (CURRENT TIME - start_time)

    end_time ← CURRENT TIME
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    elapsed_time ← end_time - start_time

    Error 2: compares string to integer
    IF user_input = correct_answer THEN
        IF elapsed_time ≤ 5 THEN
            score ← 2
        ELSE:
            score ← 1
        END IF
        DISPLAY "Correct, score awarded"
    ELSE:
        score ← 0
         Error 3: incorrect variable name 'correct_ansewr'
        DISPLAY "Incorrect, the correct answer was correct_ansewr"
    END IF

    RETURN score, user_input, elapsed_time
END FUNCTION



FUNCTION maths_quiz():
    DISPLAY "Welcome to the Maths Quiz"
    DISPLAY "Select difficulty (1, 2, or 3)"

    REPEAT
        choice ← INPUT
        IF choice = "1":
            difficulty ← "easy"
            total_questions ← 5
            BREAK
        ELSE IF choice = "2":
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      difficulty ← "medium"
      total_questions ← 8
      BREAK
    ELSE IF choice = "3":
      difficulty ← "hard"
      total_questions ← 12
      BREAK
    ELSE:
      DISPLAY "Invalid selection"
UNTIL valid choice chosen

total_score ← 0
results ← empty list

FOR question_number FROM 1 TO total_questions DO
    expression, correct_answer ← create_question(difficulty)
    score, user_input, elapsed_time ← ask_question(expression, correct_answer)
    total_score ← total_score + score
    APPEND (expression, correct_answer, user_input, score, elapsed_time) TO results
END FOR

Error 4: wrong formula for percentage
percentage ← (total_score * (total_questions * 2)) * 100

DISPLAY "Quiz Completed"
DISPLAY "Final Score: total_score / (total_questions * 2)"
DISPLAY "Percentage: percentage %"

DISPLAY "Question Breakdown"
FOR EACH record IN results DO
    DISPLAY record
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    END FOR
  END FUNCTION


  CALL maths_quiz()

END PROGRAM
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