

BEGIN PROGRAM

PRINT "Welcome to Greg's Maths Test!"

PRINT "Select a difficulty:"

PRINT "1) Easy"

PRINT "2) Medium"

PRINT "3) Hard"

REPEAT

 READ choice

 IF choice NOT IN ["1", "2", "3"] THEN

 PRINT "Invalid choice! Enter 1, 2 or 3."

 ELSE

 EXIT LOOP

UNTIL valid choice selected

IF choice == "1" THEN

 PRINT "Easy mode selected!"

 min_val ← 1

 max_val ← 10

ELSE IF choice == "2" THEN

 PRINT "Medium mode selected!"

 min_val ← 1

 max_val ← 20

ELSE

 PRINT "Hard mode selected!"

 min_val ← 1

 max_val ← 50

END IF

score \leftarrow 0

total_questions \leftarrow 5

results \leftarrow empty list

FOR question_number FROM 1 TO total_questions DO

num1 \leftarrow RANDOM(min_val, max_val)

num2 \leftarrow RANDOM(min_val, max_val)

operator \leftarrow RANDOM CHOICE ["+", "-"]

IF operator = "-" AND num2 > num1 THEN

SWAP num1, num2

END IF

IF question_number = total_questions THEN

PRINT "Challenge question!"

END IF

PRINT "Score: " + score

PRINT "Question " + question_number + " of " + total_questions

PRINT "What is num1 operator num2?"

start_time \leftarrow CURRENT TIME

READ user_answer

end_time \leftarrow CURRENT TIME

response_time ← end_time - start_time

IF operator = "+" THEN

 correct_answer ← num1 + num2

ELSE

 correct_answer ← num1 - num2

END IF

IF user_answer = correct_answer THEN

 IF response_time ≤ 2 THEN

 points ← 8

 ELSE IF response_time ≤ 4 THEN

 points ← 6

 ELSE

 points ← 4

 END IF

 PRINT "Correct! response_time second(s) - points awarded."

 score ← score + points

 APPEND (question_number, "Yes", response_time) TO results

ELSE

 PRINT "Incorrect! response_time second(s) - no points awarded."

 APPEND (question_number, "No", response_time) TO results

END IF

END FOR

correct_count ← COUNT of "Yes" in results

percent_correct ← ROUND((correct_count / total_questions) * 100)

avg_time ← ROUND(SUM of all response_times / total_questions)

PRINT "Results:"

PRINT "Final score: " + score

PRINT "Correct answers: " + percent_correct + "%"

PRINT "Average response time: " + avg_time + "s"

PRINT "Breakdown:"

PRINT "Question Correct Time"

FOR EACH record IN results DO

 PRINT question_number, correctness, response_time

END FOR

PRINT "Note: Results are rounded to the nearest integer."

END PROGRAM