Begin the program

Import random and time functionality

Define function create\_question that takes min\_num and max\_num:

num1 = random number between min\_num and max\_num

num2 = random number between min\_num and max\_num

operator = randomly choose either "+" or "-"

Return the string: num1 + " " + operator + " " + num2

Define function ask\_question that takes question:

start\_time = current time

Show "What is " + question + "?" and wait for user input (store in answer)

end\_time = current time

response\_time = convert (end\_time - start\_time) to whole seconds

Try to:

correct\_answer = calculate the question mathematically

is\_correct = check if user's answer equals correct\_answer

If anything goes wrong:

is\_correct = False

Return is\_correct and response\_time

Main program:

Print "Welcome to Krishmantha's Maths Test!"

Set difficulty = ""

While difficulty is not "easy", "medium", or "hard":

Ask user to "Choose difficulty (easy, medium, hard): "

Store answer in difficulty and convert to lowercase

If difficulty is "easy":

questions = 5

max\_num = 10

Else if difficulty is "medium":

questions = 10

max\_num = 20

Else:

questions = 15

max\_num = 50

Print "You have chosen " + difficulty + " mode with " + questions + " questions."

Set score = 0

Set correct\_count = 0

Set total\_response\_time = 0

Create empty list results\_correctness

Create empty list results\_times

For i from 0 to questions-1:

Print "Score: " + score

Print "Question " + (i+1) + " of " + questions

If i equals questions-1 (last question):

min\_num = max\_num

question\_max\_num = max\_num \* 2

Print "Challenge question!"

Else:

min\_num = max\_num divided by 2 (whole number)

question\_max\_num = max\_num

question = call create\_question with min\_num and question\_max\_num

(is\_correct, response\_time) = call ask\_question with question

Add is\_correct to results\_correctness list

Add response\_time to results\_times list

total\_response\_time = total\_response\_time + response\_time

If is\_correct is True:

points = maximum of either 1 or (10 - response\_time)

Print "Correct! You took " + response\_time + " seconds and earned " + points + " points."

score = score + points

correct\_count = correct\_count + 1

Else:

Print "Incorrect. You took " + response\_time + " seconds and earned 0 points."

Print "Final Score: " + score

percentage = (correct\_count / questions) \* 100

Print "Percentage Correct: " + convert percentage to whole number + "%"

average\_time = total\_response\_time divided by questions (whole number)

Print "Average Response Time: " + average\_time + " seconds"

Print "Breakdown"

Print "Question Correct Time(s)"

Print "-----------------------------"

For i from 0 to questions-1:

If results\_correctness[i] is True:

result = "Yes"

Else:

result = "No"

Print "Question " + (i+1) + " " + result + " " + results\_times[i]

End program