Student Name ---------- XYZ

Student Number ---------- XYZ

CSP2151 Assignment 2 ---------- Pseudo code

Define a function to ask a math question with parameters (min_num, max_num, difficulty):

Generate two random numbers within the specified range

If difficulty is hard, allow all four basic operators (+, -, x, /), else only allow addition and subtraction

Randomly choose an operator

If the selected operator is division (/) and the second number happens to be 0, adjust it to 1 to avoid encountering a division by zero error

Subsequently, display the question in the following format: "What is <first_number> <operator> <second_number>?"

Read the user's answer

Calculate the correct answer using the given operator and numbers

If the user's answer matches the correct answer:

Print "Correct!"

Return 1

Else:

Print "Incorrect! The correct answer is <correct_answer>."

Return 0

Define the main function:

Start an infinite loop

Initialize user_score to 0

Print a welcome message and prompt the user to select a difficulty level (easy, medium, hard)

Read the user's choice and convert it to lowercase

Map the user's choice to a numerical difficulty level (1 for easy, 2 for medium, 3 for hard)

If the input doesn't match any valid difficulty level, print "Invalid choice. Exiting." and exit the program

Based on the difficulty level chosen:

Set the number of lives, maximum number for questions, and total number of questions

Print a message indicating the selected difficulty level

Loop through each question from 1 to total_questions:

Print the question number and remaining lives

If it's the last question, print "Challenge question!"

Ask a question using the ask_question function with appropriate parameters

If the answer is incorrect, deduct a life

If lives reach 0, print "Out of lives, game over!" and exit the loop

Calculate the user's percentage score

Print the user's score and percentage

Determine the grade based on the percentage and print it

Ask the user if they want to start again

If the user chooses not to start again, exit the loop

Exit the program