#include <stdio.h>

#include <stdlib.h>

#include <time.h>

char askQuestion(const char \*question, const char \*options)

{

char answer;

printf("%s\n%s", question, options);

while (1)

{

if (scanf(" %c", &answer) != 1 || (answer < 'a' || answer > 'd'))

{

printf("Invalid input. Please enter a valid option (a, b, c, or d).\n");

while (getchar() != '\n');

}

else

{

break;

}

}

return answer;

}

void checkAnswer(char userAnswer, char correctAnswer, int \*score)

{

if (userAnswer == correctAnswer)

{

printf("Correct!\n");

(\*score)++;

}

else

{

printf("Wrong answer. The correct option is %c.\n", correctAnswer);

}

}

int main()

{

char answer1;

char answer2;

char answer3;

char answer4;

int score = 0;

answer1 = askQuestion("Choose the correct option\nWhat does the 'printf' function do in C?", "a) Read input from the user\nb) Print output to the console\nc) Perform mathematical calculations\nd) None of the above\n");

checkAnswer(answer1, 'b', &score);

answer2 = askQuestion("What is the correct way to declare an integer variable in C?", "a) int x = 5;\nb) integer x = 5;\nc) x = 5;\nd) var x = 5;\n");

checkAnswer(answer2, 'a', &score);

answer3 = askQuestion("What is the purpose of the 'return 0;' statement in the main function of a C program?", "a) Terminate the program\nb) Indicate an error\nc) Return a value to the operating system\nd) Skip the main function\n");

checkAnswer(answer3, 'a', &score);

answer4 = askQuestion("Which of the following is not a valid C data type?", "a) int\nb) float\nc) string\nd) char\n");

checkAnswer(answer4, 'c', &score);

printf("\nCorrect options:\n");

printf("Q1: b\tQ2: a\tQ3: a\tQ4: c\n");

printf("Your answers:\n");

printf("Q1: %c\tQ2: %c\tQ3: %c\tQ4: %c\n", answer1, answer2, answer3, answer4);

printf("Your score is: %d out of 4\n", score);

return 0;

}