Console based quiz game

Program;

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <time.h>
#define MAX_QUESTIONS 5
#define MAX_OPTION_LEN 100
#define MAX_NAME_LEN 50
#define TIME_LIMIT 10
typedef struct {
  char question[256];
  char options[4][MAX_OPTION_LEN];
  int correctOption; // 1-based index
} Question;
Question questions[MAX_QUESTIONS] = {
  {
    "What is the capital of France?",
    {"Berlin", "Madrid", "Paris", "Rome"},
    3
  },
  {
    "Which planet is known as the Red Planet?",
    {"Earth", "Mars", "Jupiter", "Saturn"},
```

```
2
  },
  {
    "What is 5 + 3?",
    {"6", "7", "8", "9"},
  },
  {
    "Which language is used for system programming?",
    {"Python", "Java", "C", "HTML"},
    3
  },
  {
    "Who wrote 'Romeo and Juliet'?",
    {"Shakespeare", "Hemingway", "Tolkien", "Austen"},
    1
  }
};
void shuffleQuestions() {
  for (int i = 0; i < MAX_QUESTIONS; i++) {
    int j = rand() % MAX_QUESTIONS;
    Question temp = questions[i];
    questions[i] = questions[j];
    questions[j] = temp;
  }
}
void clearInputBuffer() {
  int c;
  while ((c = getchar()) != \n' \&\& c != EOF) {}
```

```
}
void saveHighScore(const char *name, int score) {
  FILE *file = fopen("highscores.txt", "a");
  if (file != NULL) {
    fprintf(file, "%s: %d/%d\n", name, score, MAX_QUESTIONS);
    fclose(file);
    printf("Score saved successfully!\n");
  } else {
    printf("Failed to save score.\n");
  }
}
void startQuiz() {
  int answer, score = 0;
  char name[MAX_NAME_LEN];
  time_t start, end;
  shuffleQuestions();
  printf("\n--- Quiz Started! ---\n");
  for (int i = 0; i < MAX_QUESTIONS; i++) {
    printf("\nQ%d: %s\n", i + 1, questions[i].question);
    for (int j = 0; j < 4; j++) {
      printf("%d. %s\n", j + 1, questions[i].options[j]);
    }
    printf("You have %d seconds to answer...\n", TIME_LIMIT);
    time(&start);
    printf("Enter your answer (1-4): ");
```

```
if (scanf("%d", &answer) != 1) {
    clearInputBuffer();
    printf("Invalid input! Skipping question.\n");
    continue;
  }
  time(&end);
  double timeTaken = difftime(end, start);
  if (timeTaken > TIME_LIMIT) {
    printf("① Time's up! You took %.0f seconds.\n", timeTaken);
    continue;
  }
  if (answer < 1 | | answer > 4) {
    printf("Invalid option. Skipping question.\n");
    continue;
  }
  if (answer == questions[i].correctOption) {
    printf("

Correct!\n");
    score++;
  } else {
    printf("X Wrong! Correct answer: %s\n", questions[i].options[questions[i].correctOption - 1]);
  }
}
printf("\n--- Quiz Completed! ---\n");
printf("Your score: %d out of %d\n", score, MAX_QUESTIONS);
```

```
if (score == MAX_QUESTIONS)
    printf(" Excellent!\n");
else if (score >= 3)
    printf(" Good job!\n");
else
    printf(" Try again!\n");

printf("Enter your name to save the score: ");
scanf("%s", name);
saveHighScore(name, score);
}

int main() {
    srand(time(NULL)); // Initialize random seed
    startQuiz();
    return 0;
}
```

Sample ouput;

```
--- Quiz Started! ---
Q1: What is the capital of France?

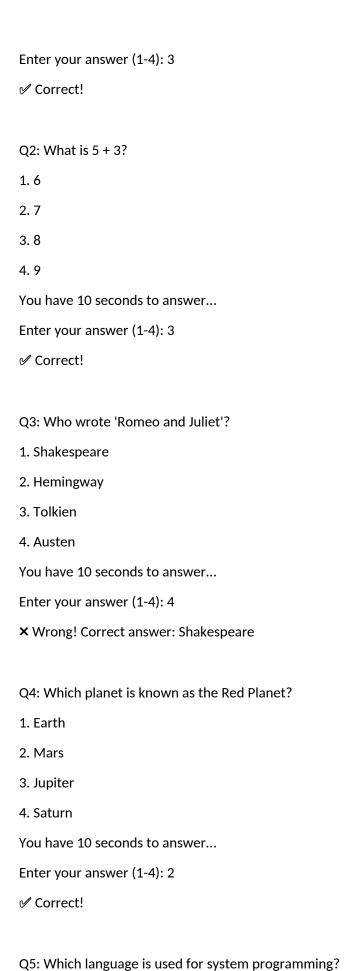
1. Berlin

2. Madrid

3. Paris

4. Rome

You have 10 seconds to answer...
```



- 1. Python
- 2. Java
- 3. C
- 4. HTML

You have 10 seconds to answer...

Enter your answer (1-4): 3

✓ Correct!

--- Quiz Completed! ---

Your score: 4 out of 5

Good job!

Enter your name to save the score: Alice

Score saved successfully!