

AIM:

This project involves the development of an AI-powered Quiz Game using Python. The game aims to test the user's knowledge on various topics such as general knowledge, history, science, and more. The game presents multiple-choice questions, evaluates user responses, and provides feedback, making it both fun and educational. The AI aspect comes in when the game adapts based on the user's performance, offering increasingly difficult questions if the user answers correctly or providing hints for incorrect answers.

ALGORITHM:

1. Start the Game

- **Step 1.1:** Initialize the game by setting up necessary variables.
 - Initialize score to 0.
 - Set current_question index to 0.
 - Set difficulty_level to "easy" (or based on initial conditions).
 - Initialize a timer for each question (e.g., 30 seconds).
 - Set the question_bank (load questions from a file such as JSON/CSV).

2. Load Questions

- **Step 2.1:** Load the list of questions from a file (e.g., questions.json or questions.csv).
 - Each question consists of:
 - question_text (string)
 - options (list of choices)
 - correct_answer (string)
 - category (optional)
 - difficulty (optional)

3. Display Welcome Screen

- **Step 3.1:** Show a welcome screen to the user.
 - Provide a button to start the quiz game.

4. Start Quiz Round

- **Step 4.1:** Start the quiz by displaying the first question.
 - Show the question text.
 - Show multiple choice options as buttons.
 - Show the timer countdown.

6. User Answer Selection

- **Step 6.1:** Wait for the user to select an answer.
 - The user selects one of the multiple-choice options.
- **Step 6.2:** Check if the selected answer is correct.
 - If correct:
 - Increment the score.
 - Provide positive feedback (e.g., "Correct!").
 - If Wrong:
 - Provide feedback (e.g., "wrong").

End of Game

- **Step 9.1:** When all questions have been answered, or the user finishes the quiz:
 - Show the final score to the user.

- Optionally, ask if the user wants to restart the game or quit.

PROGRAM:

```
import random
```

```
# Quiz questions and answers
```

```
quiz_data = [
```

```
    {"question": "What is the capital of France?", "options": ["A) Paris", "B) London", "C) Rome", "D) Berlin"], "answer": "A"},
```

```
    {"question": "Who wrote 'To Kill a Mockingbird'?", "options": ["A) Harper Lee", "B) Mark Twain", "C) J.K. Rowling", "D) Jane Austen"], "answer": "A"},
```

```
    {"question": "What is the largest planet in our solar system?", "options": ["A) Earth", "B) Jupiter", "C) Mars", "D) Saturn"], "answer": "B"},
```

```
    {"question": "What is 5 + 7?", "options": ["A) 10", "B) 11", "C) 12", "D) 13"], "answer": "C"},
```

```
    {"question": "Which programming language is known as the language of AI?", "options": ["A) Python", "B) Java", "C) C++", "D) Ruby"], "answer": "A"}]
```

```
# Shuffle the questions
```

```
random.shuffle(quiz_data)
```

```
# Initialize score
```

```
score = 0
```

```
print("Welcome to the AI Quiz Game!\n")
```

```
print("Instructions:")
```

```
print("1. Each question has 4 options: A, B, C, or D.")
```

```
print("2. Enter the letter corresponding to your answer.")
```

```
print("3. Each correct answer gives you 1 point.\n")
```

```
# Ask questions
```

```
for i, question in enumerate(quiz_data, start=1):  
    print(f"Question {i}: {question['question']}")  
    for option in question['options']:  
        print(option)  
    user_answer = input("Your answer (A/B/C/D): ").strip().upper()  
  
    if user_answer == question['answer']:  
        print("Correct!\n")  
        score += 1  
    else:  
        print(f"Wrong! The correct answer was {question['answer']}\n")
```

```
# Display final score
```

```
print("Quiz Over!")  
print(f"Your final score is: {score}/{len(quiz_data)}")  
if score == len(quiz_data):  
    print("Excellent! You got all the answers right!")  
elif score > len(quiz_data) // 2:  
    print("Good job! You did well.")  
else:  
    print("Better luck next time!")
```

OUTPUT:

Welcome to the AI Quiz Game!

Instructions:

1. Each question has 4 options: A, B, C, or D.
2. Enter the letter corresponding to your answer.
3. Each correct answer gives you 1 point.

Question 1: What is the largest planet in our solar system?

- A) Earth
- B) Jupiter
- C) Mars
- D) Saturn

Your answer (A/B/C/D): b

Correct!

Question 2: Which programming language is known as the language of AI?

- A) Python
- B) Java
- C) C++
- D) Ruby

Your answer (A/B/C/D): a

Correct!

Question 3: What is the capital of France?

- A) Paris
- B) London
- C) Rome
- D) Berlin

Your answer (A/B/C/D): b

Wrong! The correct answer was A.

Question 4: What is $5 + 7$?

- A) 10
- B) 11
- C) 12
- D) 13

Your answer (A/B/C/D): c

Correct!

Question 5: Who wrote 'To Kill a Mockingbird'?

- A) Harper Lee
- B) Mark Twain
- C) J.K. Rowling
- D) Jane Austen

Your answer (A/B/C/D): c

Wrong! The correct answer was A.

Quiz Over!

Your final score is: 3/5

Good job! You did well.

Result:

Thus the above ai quiz program has been executed successfully using python