

## Code Implementation

```
import json

class QuizCompiler:
    def __init__(self, quiz_file='quiz.json'):
        self.quiz_file = quiz_file
        self.questions = self.load_quiz()

    def load_quiz(self):
        """Load quiz questions from a JSON file."""
        try:
            with open(self.quiz_file, 'r') as file:
                return json.load(file)
        except (FileNotFoundError, json.JSONDecodeError):
            return []

    def save_quiz(self):
        """Save quiz questions to a JSON file."""
        with open(self.quiz_file, 'w') as file:
            json.dump(self.questions, file, indent=4)

    def add_question(self, question, options, correct_answer):
        """Add a new question to the quiz."""
        self.questions.append({
            "question": question,
            "options": options,
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        "answer": correct_answer
    })
    self.save_quiz()
```

```
def take_quiz(self):
    """Let the user take the quiz and calculate the score."""
    score = 0
    for i, q in enumerate(self.questions):
        print(f'Q{i+1}: {q["question"]}')
        for j, option in enumerate(q['options'], 1):
            print(f'    {j}. {option}')

        try:
            answer = int(input("Your answer (1/2/3/4): "))
            if q['options'][answer - 1] == q['answer']:
                score += 1
        except (ValueError, IndexError):
            print("Invalid choice. Moving to next question.")

    print(f"Your final score: {score}/{len(self.questions)}")
```

```
if __name__ == "__main__":
    quiz = QuizCompiler()
```

```
while True:
    print("\nQuiz Application")
    print("1. Add Question")
```

```
print("2. Take Quiz")
print("3. Exit")
choice = input("Enter choice: ")

if choice == "1":
    question = input("Enter the question: ")
    options = [input(f"Option {i+1}: ") for i in range(4)]
    correct_answer = input("Enter the correct answer: ")
    quiz.add_question(question, options, correct_answer)
elif choice == "2":
    quiz.take_quiz()
elif choice == "3":
    break
else:
    print("Invalid choice! Try again.")
```