

## PRACTICAL 8

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### Modules and File Handling

Develop a small file-based quiz game.

- Use the random module to shuffle questions stored in a text file.
- Write a program to read the quiz data from a file, present questions to the user, and store the user's responses in another file.
- Use the pickle module to save and retrieve quiz results.

```
import random
```

```
import pickle
```

```
# Function to load questions from file
```

```
def load_questions(filename):  
  
    with open(filename, "r") as f:  
  
        lines = f.readlines()  
  
        questions = []  
  
        for line in lines:  
  
            parts = line.strip().split("|")  
  
            if len(parts) == 6:  
  
                question, op1, op2, op3, op4, correct = parts  
  
                questions.append({  
  
                    "question": question,  
  
                    "options": [op1, op2, op3, op4],  
  
                    "answer": correct  
  
                })  
  
    return questions
```

```
# Function to save results using pickle
```

```
def save_results(results, filename="results.pkl"):  
  
    with open(filename, "wb") as f:
```

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```
pickle.dump(results, f)

# Function to load results using pickle

def load_results(filename="results.pkl"):

    try:
        with open(filename, "rb") as f:
            return pickle.load(f)
    except FileNotFoundError:
        return []

def quiz_game():

    questions = load_questions("quiz.txt")
    random.shuffle(questions) # shuffle questions

    user_answers = []
    score = 0

    print("\n==== QUIZ GAME ====\n")

    for i, q in enumerate(questions, 1):
        print(f"Q{i}. {q['question']}")
        for j, opt in enumerate(q["options"], 1):
            print(f" {j}. {opt}")
        choice = input("Enter your answer: ")
        user_choice = q["options"][int(choice)-1] if choice.isdigit() and 1 <= int(choice) <= 4 else None
```

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```
user_answers.append((q['question'], user_choice))

if user_choice == q["answer"]:
    score += 1

print(f"\nYour Score: {score}/{len(questions)}")

# Save user responses in a file
with open("user_responses.txt", "w") as f:
    for q, ans in user_answers:
        f.write(f"{q} -> {ans}\n")

# Save results using pickle
results = load_results()
results.append({"score": score, "total": len(questions), "answers": user_answers})
save_results(results)

print("\n✓ Responses saved to 'user_responses.txt'")
print("✓ Results saved using pickle in 'results.pkl'")

# Run the quiz
quiz_game()
```

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```
===== QUIZ GAME =====
```

Q1. What is the capital of India?

- 1. Delhi
- 2. Mumbai
- 3. Kolkata
- 4. Chennai

Enter your answer: 1

Q2. Which language is this quiz written in?

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

Enter your answer: 1

Q3.  $2 + 2 = ?$

- 1. 2
- 2. 3
- 3. 4
- 4. 5

Enter your answer: 2

Your Score: 2/3

Responses saved to 'user\_responses.txt'  
 Results saved using pickle in 'results.pkl'

Name	Date modified	Type	Size
quiz	9/6/2025 2:37 AM	Text Document	1 KB
quiz_game	9/6/2025 2:38 AM	Python Source File	3 KB
results.pkl	9/6/2025 2:43 AM	PKL File	1 KB
user_responses	9/6/2025 2:43 AM	Text Document	1 KB