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python
import json
import os
import random
DATA_FILE = "flashcards.json"
def load_cards():
if not os.path.exists(DATA_FILE):
return []
with open(DATA_FILE, "r", encoding="utf-8") as f:
try:
return json.load(f)
except json.JSONDecodeError:
return []
def save_cards(cards):
with open(DATA_FILE, "w", encoding="utf-8") as f:
json.dump(cards, f, ensure_ascii=False, indent=2)
def print_menu():
print("\n==== Flashcard Trainer ====")
print("1. List cards")
print("2. Add card")
print("3. Practice (random)")
print("4. Practice wrong ones only")
print("0. Exit")
return input("Select: ").strip()
def list_cards(cards):
if not cards:
print("No cards.")
return
for i, c in enumerate(cards, start=1):
print(f"{i}. {c['front']} -> {c['back']} (correct: {c.get('correct', 0)}, wrong: {c.get('wrong', 0)})")
def add_card(cards):
front = input("Front (question): ").strip()
back = input("Back (answer): ").strip()
if not front or not back:
print("Both sides are required.")
return
cards.append({"front": front, "back": back, "correct": 0, "wrong": 0})
print("Card added.")
def practice(cards, only_wrong=False):
if not cards:
print("No cards to practice.")
return
pool = cards
if only_wrong:
pool = [c for c in cards if c.get("wrong", 0) > c.get("correct", 0)]
if not pool:
print("No cards with more wrong answers than correct ones.")
return
print("Enter 'q' to quit practice.\n")
while True:
card = random.choice(pool)
print(f"Q: {card['front']}")
ans = input("Your answer: ").strip()
if ans.lower() == "q":
break
if ans.lower() == card["back"].lower():
print("□ Correct!")
card["correct"] = card.get("correct", 0) + 1
else:
print(f"□ Wrong. Correct answer: {card['back']}")
card["wrong"] = card.get("wrong", 0) + 1
def main():
cards = load_cards()
while True:
choice = print_menu()
if choice == "1":
list_cards(cards)
elif choice == "2":
add_card(cards)
save_cards(cards)
elif choice == "3":
practice(cards, only_wrong=False)
save_cards(cards)
elif choice == "4":
practice(cards, only_wrong=True)
save_cards(cards)
elif choice == "0":
save_cards(cards)
print("Bye.")
break
else:
print("Unknown menu.")
if __name__ == "__main__":
main()
```