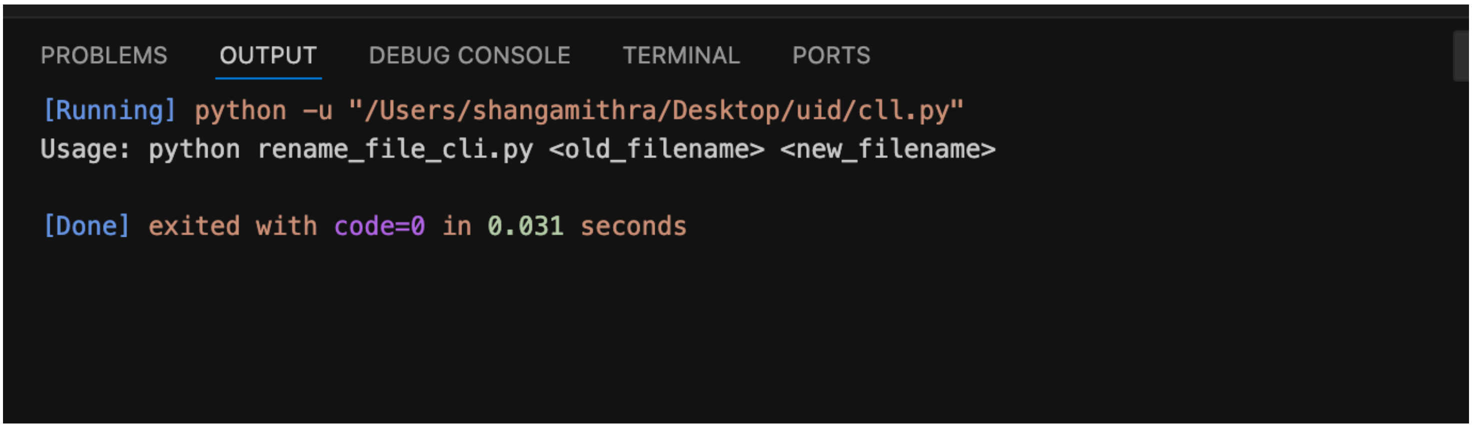
COMMAND LINE INTERFACE:

A text-based interface where users interact with a system by typing commands. It is efficient but requires knowledge of specific commands

```
import os
import sys

def  rename_file(TECHATHON, new_name):
    try:
        os.rename(TECHATHON, new_name)
        print(f"File renamed from {TECHATHON} to {new_name}")
    except FileNotFoundError:
        print(f"Error: {TECHATHON} not found.")
    except Exception as e:
        print(f"An error occurred: {e}")

if __name__ == "__main__":
    if len(sys.argv) != 3:
        print("Usage: python rename_file_cli.py <old_filename> 
<new_filename>")
    else:
        rename_file(sys.argv[1], sys.argv[2])
```

OUTPUT



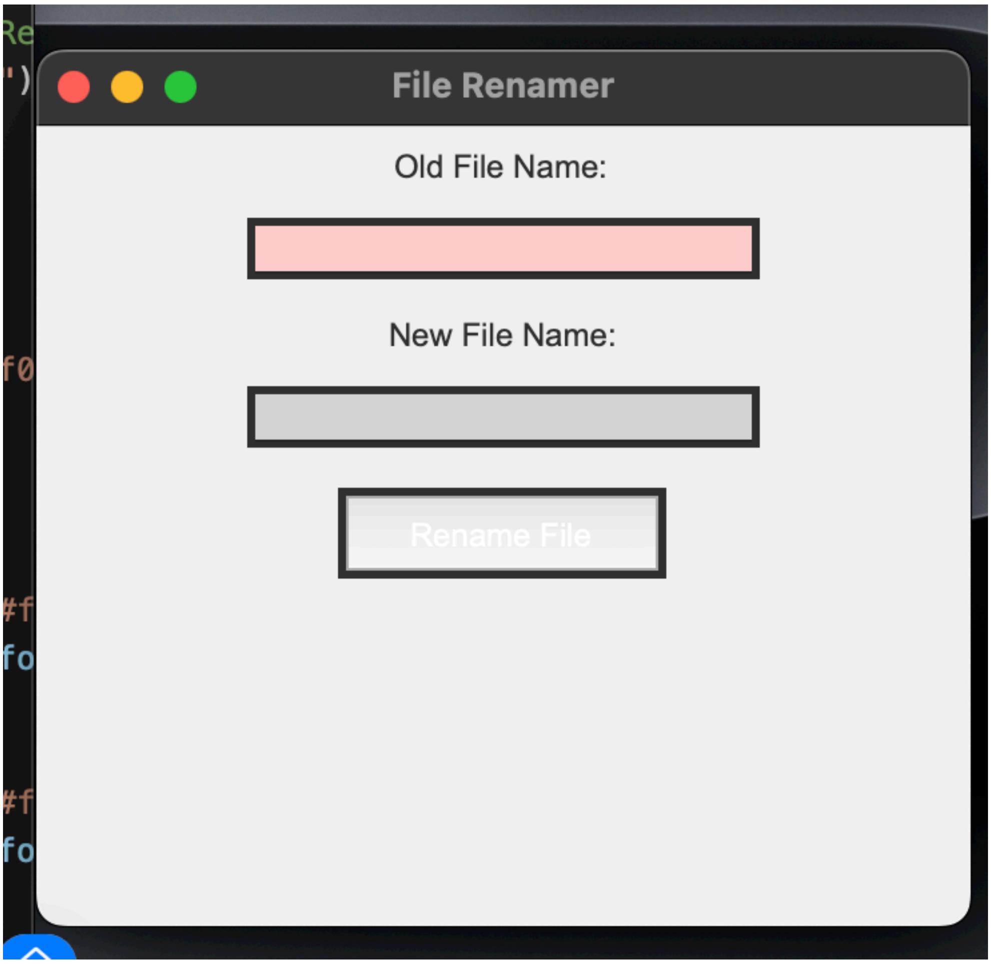
```
[Running] python -u "/Users/shangamithra/Desktop/uid/cll.py"
Usage: python rename_file_cli.py <old_filename> <new_filename>

[Done] exited with code=0 in 0.031 seconds
```

GRAPHICAL USER INTERFACE:

A visual interface that allows users to interact with a system using graphical elements like buttons, icons, and windows, making it more user-friendly.

```
import os
import tkinter as tk
from tkinter import messagebox, PhotoImage

def rename_file():
    old_name = old_name_entry.get()
    new_name = new_name_entry.get()

    if not old_name or not new_name:
        messagebox.showerror("Error", "Please enter both old and new file
names.")
        return

    if not os.path.exists(old_name):
        messagebox.showerror("Error", "The specified file does not exist.")
        return

    try:
        os.rename(old_name, new_name)
        messagebox.showinfo("Success", f"File renamed to {new_name}")
    except Exception as e:
        messagebox.showerror("Error", f"Failed to rename file: {e}")

# Create the main window
root = tk×Tk()
root.title("File Renamer")
root.geometry("350x300")
root×configure(bg="#f0f0f0")

# Load images (Ensure the image files exist in the same directory)
try:
    icon = PhotoImage(file="icon.png")  # Replace with your image file
    tk.Label(root, image=icon, bg="#f0f0f0")×pack(pady=5)
except Exception as e:
    print(f"Image not loaded: {e}")

try:
    banner = PhotoImage(file="banner.png")  # Replace with your image file
    tk.Label(root, image=banner, bg="#f0f0f0")×pack(pady=5)
except Exception as e:
    print(f"Banner image not loaded: {e}")

# Labels and entry fields
tk.Label(root, text="Old File Name:", bg="#f0f0f0", fg="#333",
font=("Arial", 12))×pack(pady=5)
old_name_entry = tk.Entry(root, width=30, font=("Arial", 10), bg="#ffcccc")
old_name_entry×pack(pady=5)

tk.Label(root, text="New File Name:", bg="#f0f0f0", fg="#333",
font=("Arial", 12))×pack(pady=5)
new_name_entry = tk.Entry(root, width=30, font=("Arial", 10), bg="#d3d3d3")
new_name_entry×pack(pady=5)

# Rename button
rename_button = tk×Button(root, text="Rename File", command=rename_file,
bg="#007bff", fg="white", font=("Arial", 12), padx=10, pady=5)
rename_button×pack(pady=10)

# Run the Tkinter event loop
root.mainloop()
```

OUTPUT

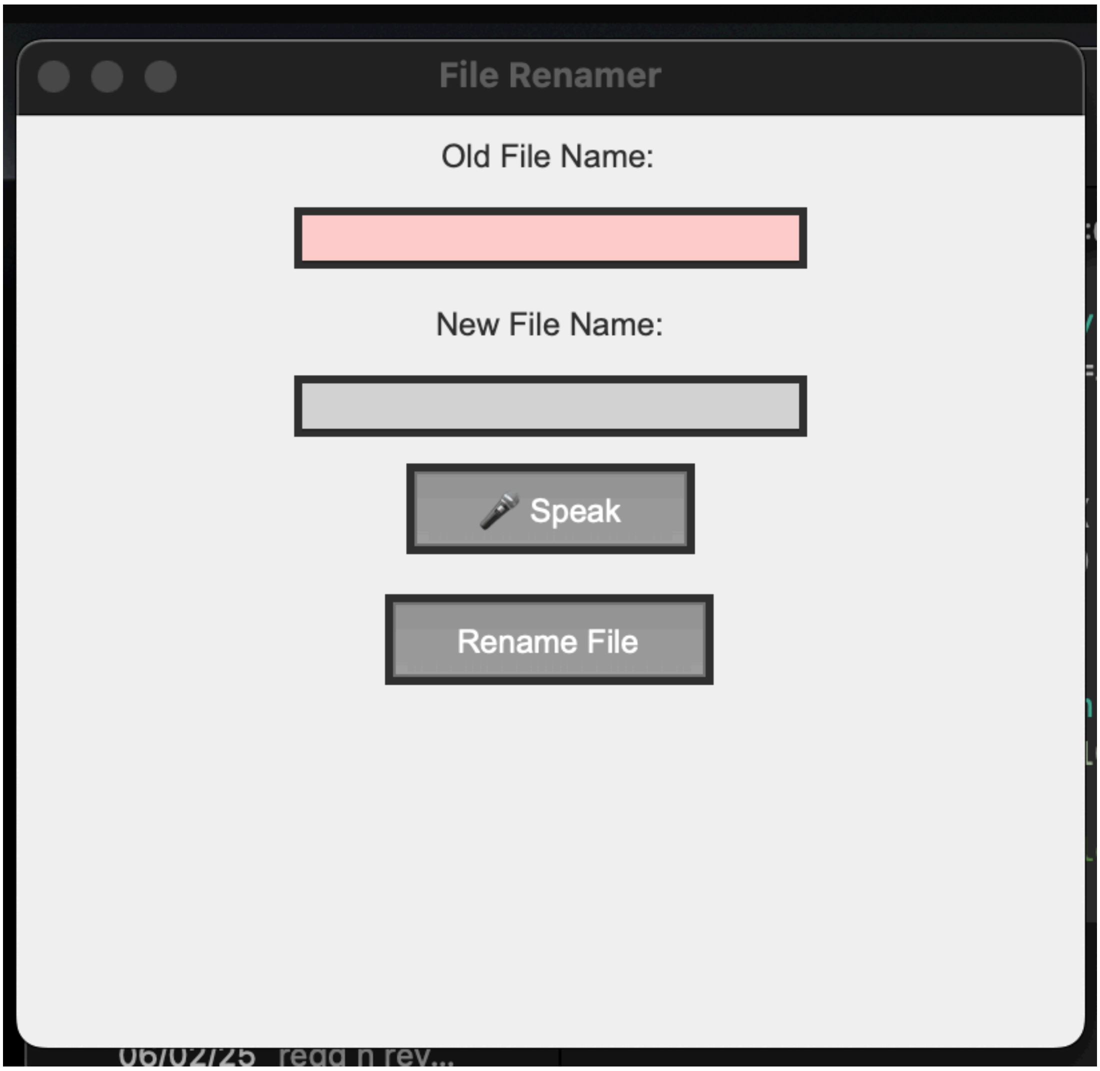


VOICE USER INTERFACE:

A system that allows users to interact through voice commands, using speech recognition technology, commonly found in virtual assistants like Siri and Alexa.

```
import os
import tkinter as tk
from tkinter import messagebox, PhotoImage
import re

try:
    import speech_recognition as sr
except ImportError:
    messagebox.showerror("Error", "SpeechRecognition module is not installed. Run 'pip install SpeechRecognition'.")
    exit()

def recognize_speech():
    recognizer = sr×Recognizer()
    with sr.Microphone() as source:
        messagebox.showinfo("Voice Input", "Listening...")
        try:
            audio = recognizer.listen(source)
            text = recognizer.recognize_google(audio)

            match = re×search(r"rename (.+) to (.+)", text, re.IGNORECASE)
            if match:
                old_name = match.group(1).strip()
                new_name = match.group(2).strip()
                old_name_entry.delete(0, tk.END)
                old_name_entry.insert(0, old_name)
                new_name_entry.delete(0, tk.END)
                new_name_entry.insert(0, new_name)
            else:
                messagebox.showerror("Error", "Could not understand the
rename command.")
        except sr.UnknownValueError:
            messagebox.showerror("Error", "Could not understand audio")
        except sr.RequestError:
            messagebox.showerror("Error", "Could not request results, check
your internet connection")

def rename_file():
    old_name = old_name_entry.get()
    new_name = new_name_entry.get()

    if not old_name or not new_name:
        messagebox.showerror("Error", "Please enter both old and new file
names.")
        return

    if not os.path.exists(old_name):
        messagebox.showerror("Error", "The specified file does not exist.")
        return

    try:
        os.rename(old_name, new_name)
        messagebox.showinfo("Success", f"File renamed to {new_name}")
    except Exception as e:
        messagebox.showerror("Error", f"Failed to rename file: {e}")

# Create the main window
root = tk×Tk()
root.title("File Renamer")
root.geometry("400x350")
root×configure(bg="#f0f0f0")

# Load images (Ensure the image files exist in the same directory)
try:
    icon = PhotoImage(file="icon.png")  # Replace with your image file
    tk.Label(root, image=icon, bg="#f0f0f0")×pack(pady=5)
except Exception as e:
    print(f"Image not loaded: {e}")

try:
    banner = PhotoImage(file="banner.png")  # Replace with your image file
    tk.Label(root, image=banner, bg="#f0f0f0")×pack(pady=5)
except Exception as e:
    print(f"Banner image not loaded: {e}")

# Labels and entry fields
tk.Label(root, text="Old File Name:", bg="#f0f0f0", fg="#333",
font=("Arial", 12))×pack(pady=5)
old_name_entry = tk.Entry(root, width=30, font=("Arial", 10), bg="#ffcccc")
old_name_entry×pack(pady=5)

tk.Label(root, text="New File Name:", bg="#f0f0f0", fg="#333",
font=("Arial", 12))×pack(pady=5)
new_name_entry = tk.Entry(root, width=30, font=("Arial", 10), bg="#d3d3d3")
new_name_entry×pack(pady=5)

# Voice input button
voice_button = tk×Button(root, text="🎤 Speak", command=recognize_speech,
bg="#28a745", fg="white", font=("Arial", 12), padx=10, pady=5)
voice_button×pack(pady=5)

# Rename button
rename_button = tk×Button(root, text="Rename File", command=rename_file,
bg="#007bff", fg="white", font=("Arial", 12), padx=10, pady=5)
rename_button×pack(pady=10)

# Run the Tkinter event loop
root.mainloop()
```

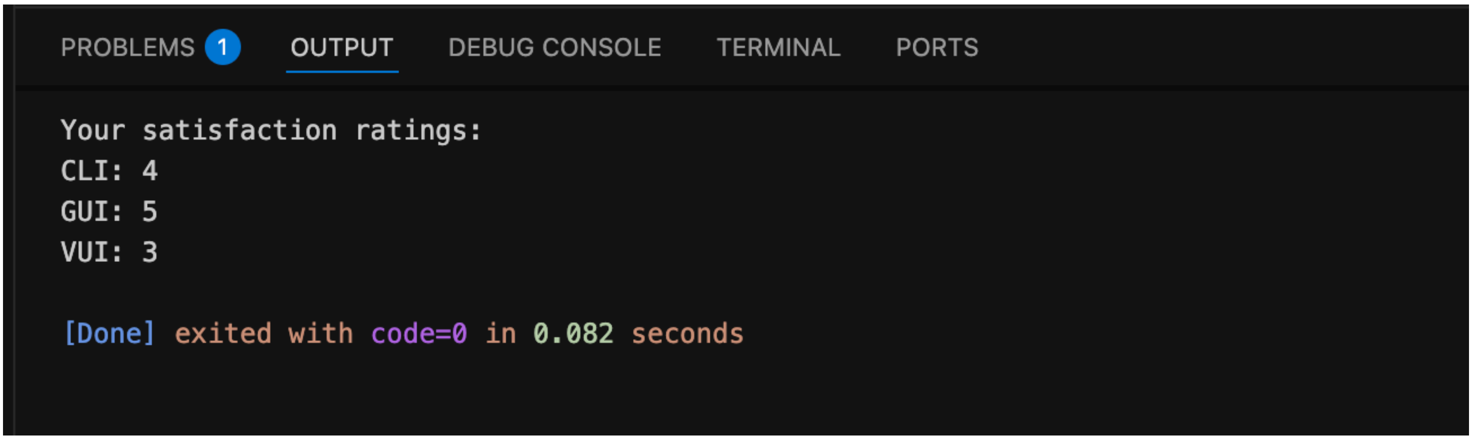
OUTPUT



COMPARE

```python
def survey():
    cli_satisfaction = 4
    gui_satisfaction = 5
    vui_satisfaction = 3

    print("\nYour satisfaction ratings:")
    print(f"CLI: {cli_satisfaction}")
    print(f"GUI: {gui_satisfaction}")
    print(f"VUI: {vui_satisfaction}")

survey()
```

OUTPUT



```
Your satisfaction ratings:
CLI: 4
GUI: 5
VUI: 3

[Done] exited with code=0 in 0.082 seconds
```