Med Scan AI

AI-powered prescription and drug safety assistant

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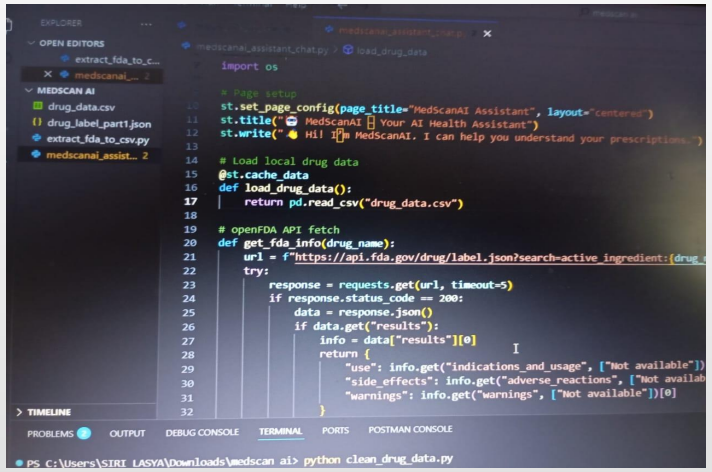
PROBLEM STATEMENT :

- Handwritten medical prescriptions are often unclear and difficult to read.
- Patients and caregivers struggle to accurately identify drug names, dosages, and instructions.
- Misinterpretation of prescriptions can lead to incorrect medication use, adverse drug reactions, and serious health risks.
- There is a lack of accessible tools that can provide real-time, reliable information about prescribed medicines to ensure safe and effective use.
- This gap creates a pressing need for an intelligent assistant to help decode prescriptions and inform patients about drug usage, side effects, and warnings

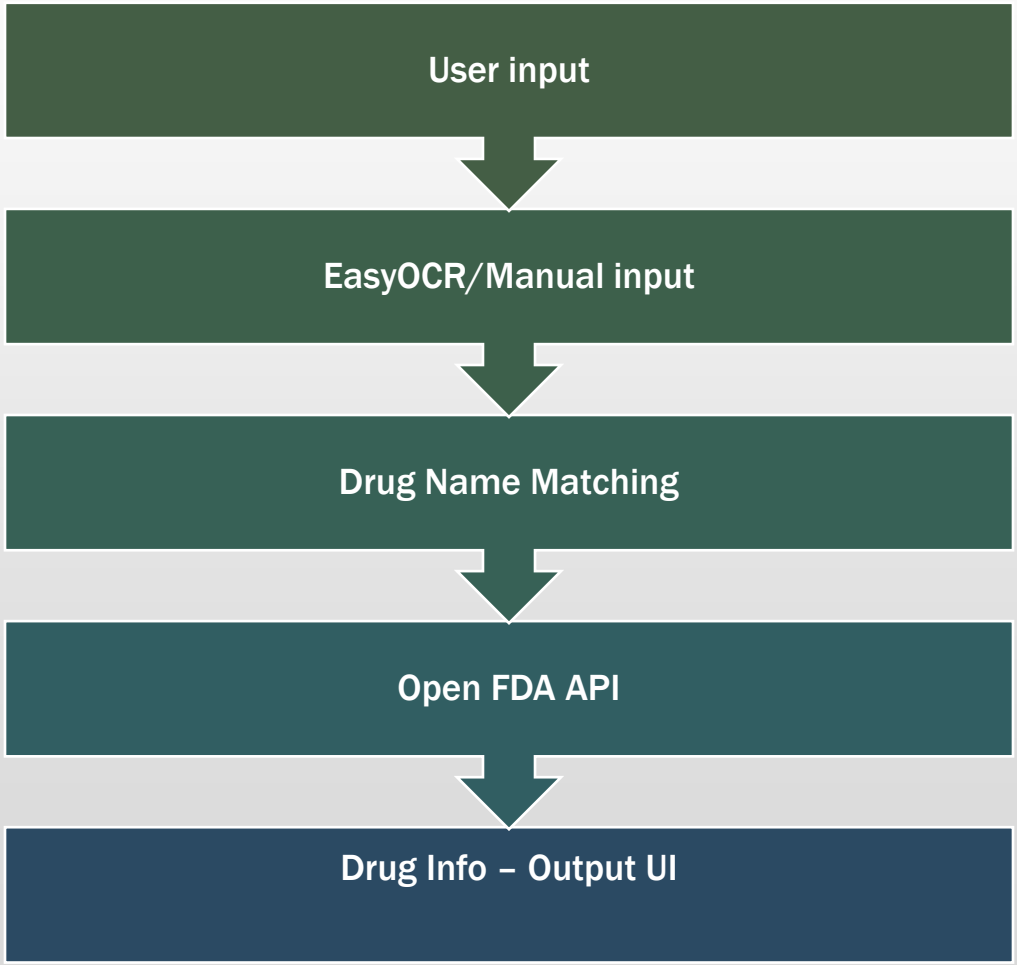
THE SOLUTION :

- Upload or type medicine names from prescriptions
- AI extracts drug names using OCR or manual input
- Pulls usage, side effects & warnings via openFDA API
- Uses fallback local dataset if API is unavailable
- Chat-style AI interface using Streamlit



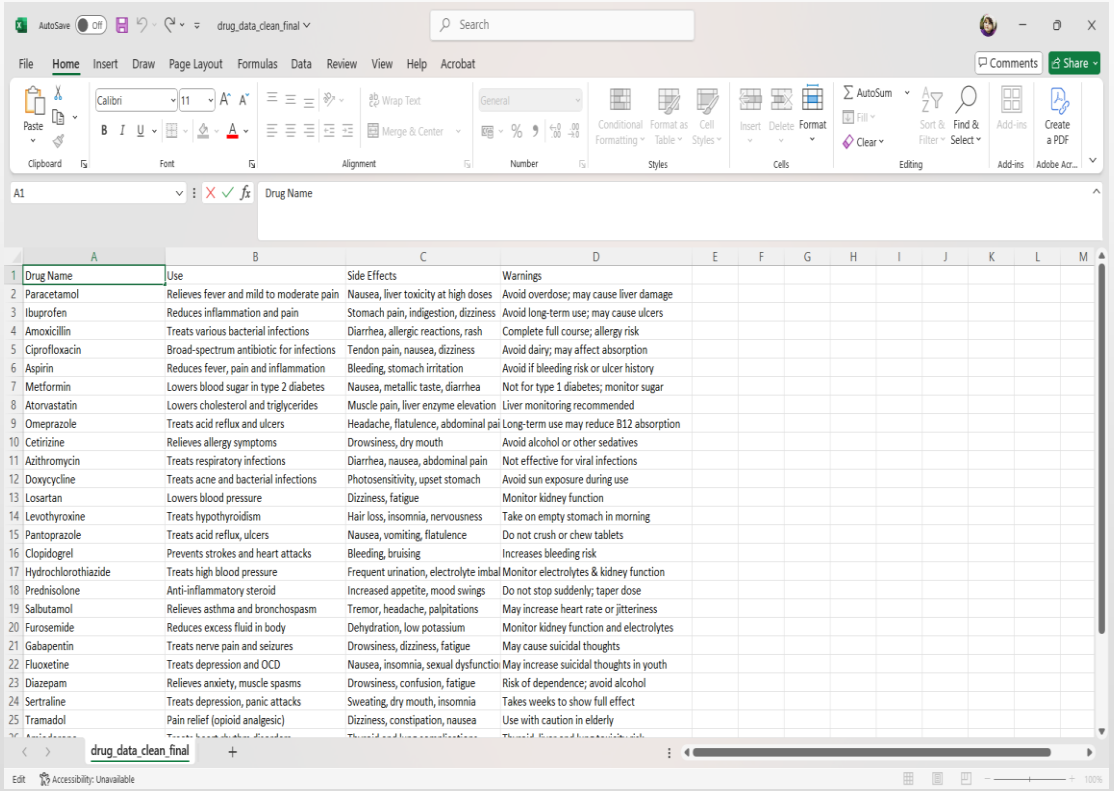
SYSTEM ARCHITECTURE :

- **OCR → Text Extraction → Drug Detection → Data Fetch → Display**
- **Primary Source:** openFDA API
- **Fallback:** Local drug_data_clean.csv (CSV with 30+ drugs
- **Display:** Streamlit frontend (chat-like)



DRUG DATASET :

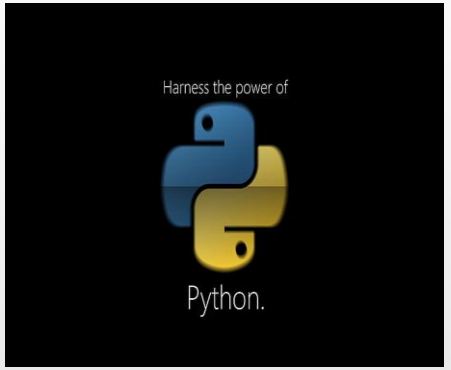
- Local CSV file → drug_data_clean.csv
- Fields: Drug Name, Use, Side Effects, Warnings
- 30+ medicines manually cleaned
- Used when openFDA API returns no results



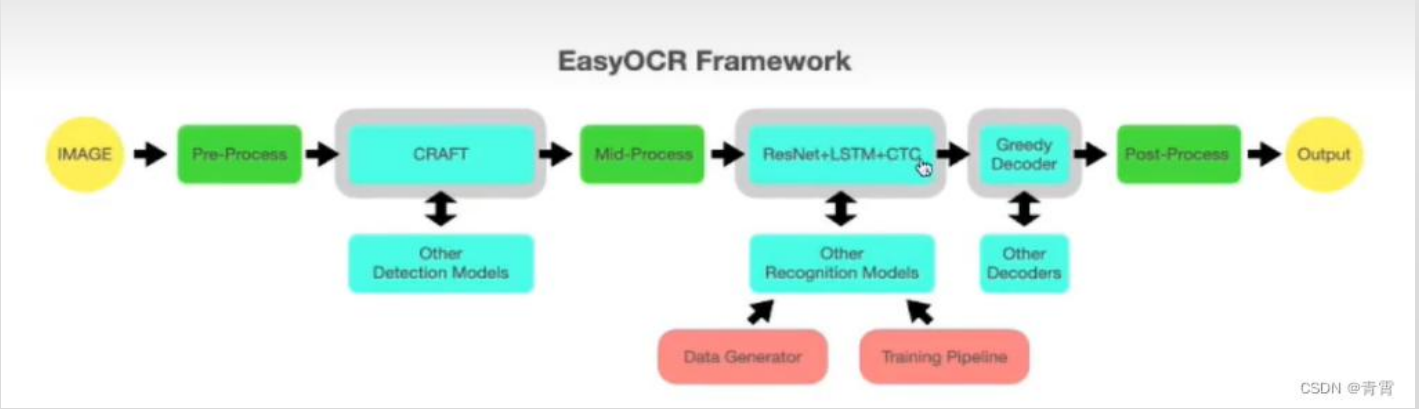
Drug Name	Use	Side Effects	Warnings
Paracetamol	Relieves fever and mild to moderate pain	Nausea, liver toxicity at high doses	Avoid overdose; may cause liver damage
Ibuprofen	Reduces inflammation and pain	Stomach pain, indigestion, dizziness	Avoid long-term use; may cause ulcers
Amoxicillin	Treats various bacterial infections	Diarrhea, allergic reactions, rash	Complete full course; allergy risk
Ciprofloxacin	Broad-spectrum antibiotic for infections	Tendon pain, nausea, dizziness	Avoid dairy; may affect absorption
Aspirin	Reduces fever, pain and inflammation	Bleeding, stomach irritation	Avoid if bleeding risk or ulcer history
Metformin	Lowers blood sugar in type 2 diabetes	Nausea, metallic taste, diarrhea	Not for type 1 diabetes; monitor sugar
Atorvastatin	Lowers cholesterol and triglycerides	Muscle pain, liver enzyme elevation	Liver monitoring recommended
Omeprazole	Treats acid reflux and ulcers	Headache, flatulence, abdominal pai	Long-term use may reduce B12 absorption
Cetirizine	Relieves allergy symptoms	Drowsiness, dry mouth	Avoid alcohol or other sedatives
Azithromycin	Treats respiratory infections	Diarrhea, nausea, abdominal pain	Not effective for viral infections
Doxycycline	Treats acne and bacterial infections	Photosensitivity, upset stomach	Avoid sun exposure during use
Losartan	Lowers blood pressure	Dizziness, fatigue	Monitor kidney function
Levothyroxine	Treats hypothyroidism	Hair loss, insomnia, nervousness	Take on empty stomach in morning
Pantoprazole	Treats acid reflux, ulcers	Nausea, vomiting, flatulence	Do not crush or chew tablets
Clopidogrel	Prevents strokes and heart attacks	Bleeding, bruising	Increases bleeding risk
Hydrochlorothiazide	Treats high blood pressure	Frequent urination, electrolyte imbal	Monitor electrolytes & kidney function
Prednisolone	Anti-inflammatory steroid	Increased appetite, mood swings	Do not stop suddenly; taper dose
Salbutamol	Relieves asthma and bronchospasm	Tremor, headache, palpitations	May increase heart rate or jitteriness
Furosemide	Reduces excess fluid in body	Dehydration, low potassium	Monitor kidney function and electrolytes
Gabapentin	Treats nerve pain and seizures	Drowsiness, dizziness, fatigue	May cause suicidal thoughts
Fluoxetine	Treats depression and OCD	Nausea, insomnia, sexual dysfunctio	May increase suicidal thoughts in youth
Diazepam	Relieves anxiety, muscle spasms	Drowsiness, confusion, fatigue	Risk of dependence; avoid alcohol
Sertraline	Treats depression, panic attacks	Sweating, dry mouth, insomnia	Takes weeks to show full effect
Tramadol	Pain relief (opioid analgesic)	Dizziness, constipation, nausea	Use with caution in elderly

TECHNOLOGY STACK :

- 🐍 Python (backend logic & parsing)
- 📦 Pandas (CSV processing)
- 🔤 EasyOCR (text extraction from images)
- 🔗 openFDA API (live drug label info)
- 🖥️ Streamlit (web interface)

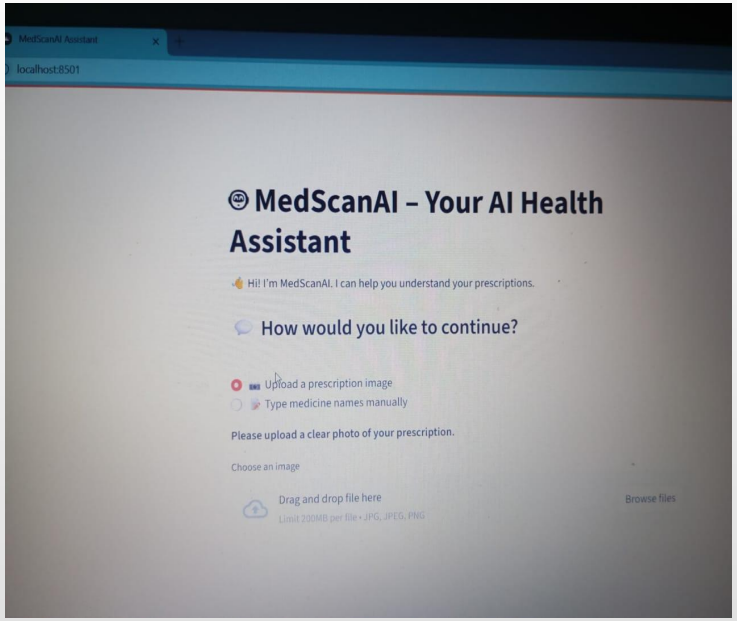


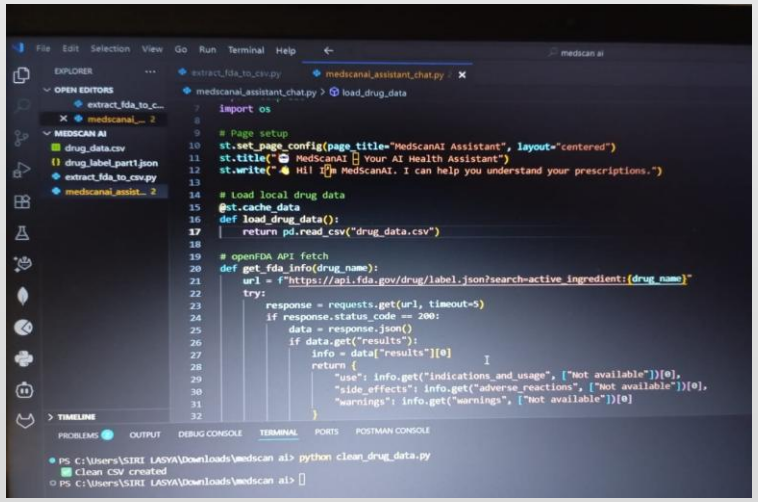
Streamlit



CODE SNAPSSHOT :

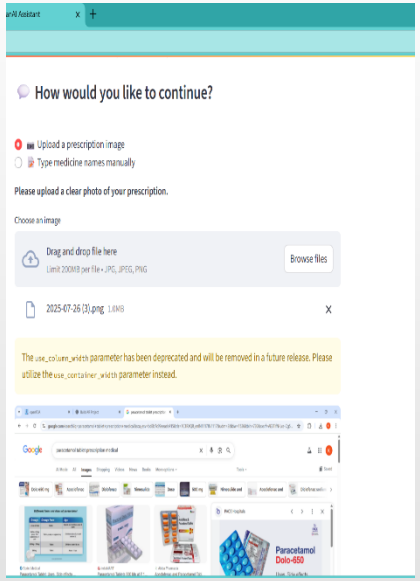
- EasyOCR reads drug names from images
- openFDA returns JSON with Use / Side Effects / Warnings
- Code detects missing data and uses CSV fallback

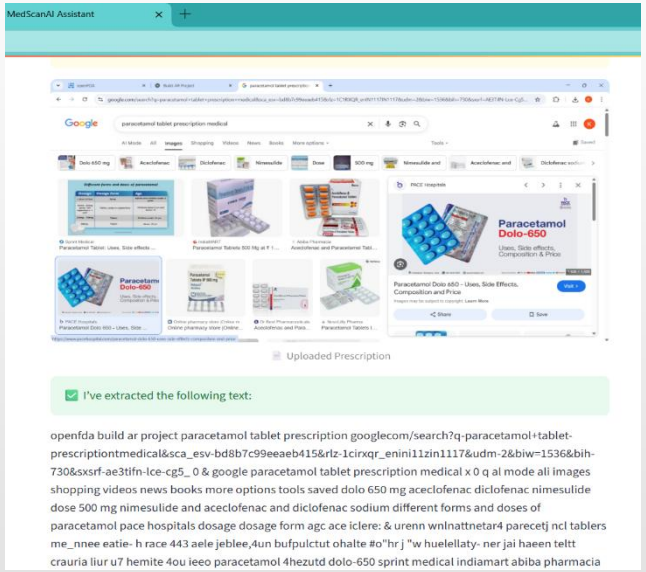




DEMO (WORKING PROTOTYPE) :

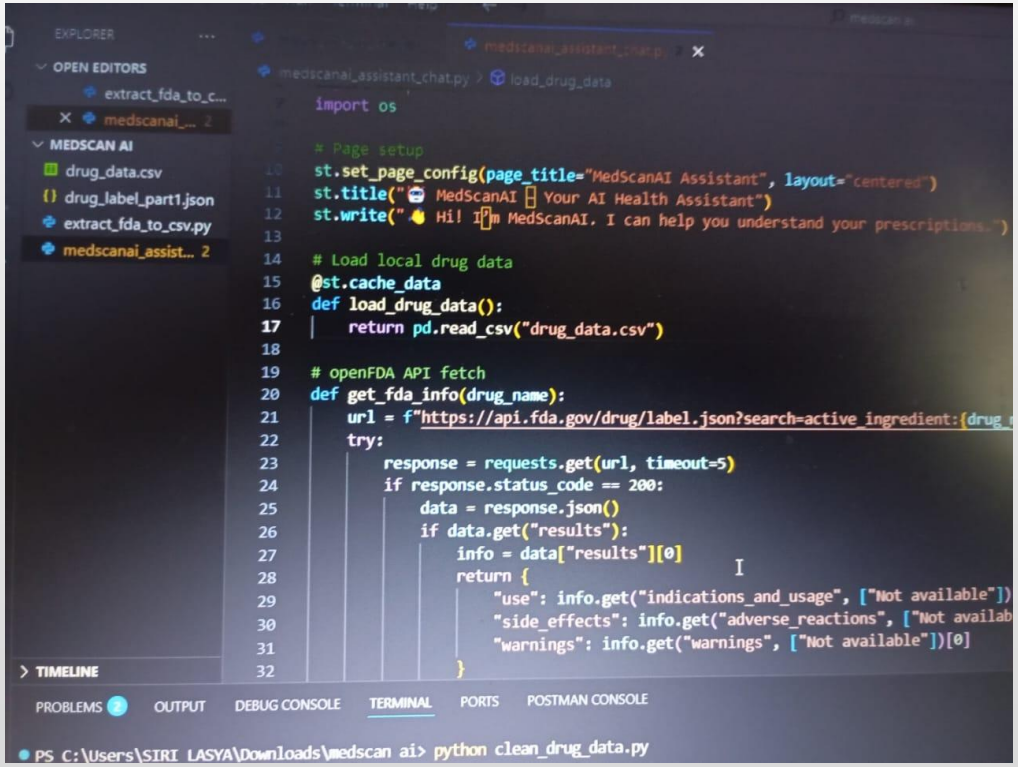
- Assistant shows usage, side effects, and warnings
- Works with poor network too (uses local file fallback)





OUTPUT :

Code using python :



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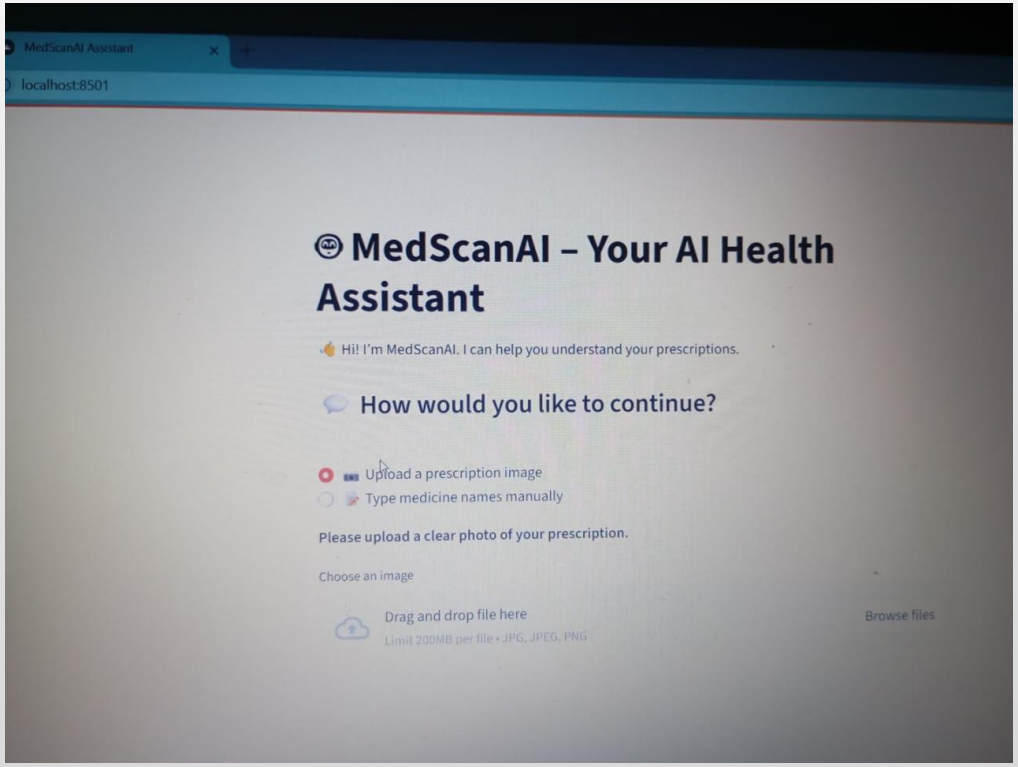

FUTURE ENHANCEMENT :

- 🔍 Add drug interaction checker
- 🎙️ Add voice-based input (for elders)
- 🌍 Support multi-language prescriptions
- 📱 Deploy as Android/iOS app
- 🏥 Use in pharmacies and hospitals

THANK YOU

- Project: Med Scan AI
- Built with for Hack-Life
- Team:
  - K. Siri Lasya Reddy
  - M. Chandana
  - V. Divya

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