## **17.System Resource Monitor**

*Description*

A Python desktop tool that shows \*\*real-time CPU, RAM, Disk, and Network usage\*\* using `psutil` and `matplotlib`. It provides visual insights into system performance through live plots, making it useful for debugging, learning, or general monitoring.

*Features*

- Real-time CPU, memory, disk, and network monitoring

- Live graphical display using `matplotlib`

- Auto-refreshes system usage stats

- Lightweight and easy to use

*Technologies*

- Python 3.x

- psutil

- matplotlib

Getting Started

#Create and activate a virtual environment

```bash

python -m venv .venv

#Windows

.\.venv\Scripts\activate

#macOS/Linux

source .venv/bin/activate

### ***I****nstall dependencies*

pip install -r requirements.txt

### *Run the app*

python system\_monitor.py

## *Requirements*

psutil

matplotlib

**18. `Automated Backup Script with Logging**

*Description*

A Python script that automates the process of backing up files/folders by compressing them into timestamped ZIP archives. It also logs each backup with file names and backup time for reference or audits.

*Features*

- Automatic ZIP backups of files or folders

- Timestamps added to filenames

- Log file (`backup.log`) with detailed info

- Simple and customizable script

*Technologie*s

- Python 3.x (standard library only)

*Getting Started*

#Create and activate a virtual environment

```bash

python -m venv .venv

# Windows

.\.venv\Scripts\activate

# macOS/Linux

source .venv/bin/activate

### *No external dependencies required*

### *Run the app*

python backup\_script.py

### *Requirements*

Uses only built-in Python modules:

os, shutil, zipfile, datetime, logging

**19.** **News Aggregator CLI App**

*Description*

A Python CLI app that pulls the latest headlines from [NewsAPI](https://newsapi.org). Users can view top headlines, filter by news category, or search by keywords directly from the terminal.

*Features*

- View top news headlines

- Filter by categories: business, entertainment, sports, etc.

- Search by custom keyword

- Real-time updates from NewsAPI

*Technologies*

- Python 3.x

- requests

- NewsAPI

*Getting Started*

# Create and activate a virtual environment

```bash

python -m venv .venv

# Windows

.\.venv\Scripts\activate

# macOS/Linux

source .venv/bin/activate

### *Install dependencies*

pip install -r requirements.txt

### *Run the app*

python news\_aggregator.py

## *Requirements*

requests

✅ Also requires a **free API key** from [https://newsapi.org](https://newsapi.org/).  
 Replace your\_api\_key\_here in the code with your actual API key.

## **20. Bug Tracker Web App**

*Description*

A web-based bug/issue tracking application built with Python and Flask. Users can create, view, update, and delete bugs with assigned priorities, statuses, and assignees. It helps small teams track and manage software bugs efficiently.

*Features*

- Add, update, and delete bugs

- Assign status (Open, In Progress, Resolved)

- Set priority (High, Medium, Low)

- Assign to specific users

- View all bugs in a table layout

*Technologies*

- Python 3.x

- Flask

- SQLite (built-in)

- HTML, CSS (for UI)

*Getting Started*

# Create and activate a virtual environment

```bash

python -m venv .venv

# Windows

.\.venv\Scripts\activate

# macOS/Linux

source .venv/bin/activate

### *Install dependencies*

pip install flask

### *Run the app*

python app.py

Then open:

http://127.0.0.1:5000

### *Requirements*

flask

SQLite will be auto-initialized (bug\_tracker.db) on first run.