

Chat history

ChatGPT●

Sure! Here's a breakdown of the code step-by-step:

1. Imports:

python

```
import os
import sys
import daily_event_monitor
import bs4
import requests
import loguru
```

- `os` and `sys`: Used for file system operations and system-related tasks.
 - `daily_event_monitor`: A custom module (not shown here) that likely handles tracking and saving headlines to a JSON file.
 - `bs4` (BeautifulSoup): Used for parsing HTML content from web pages.
 - `requests`: Facilitates HTTP requests to websites.
 - `loguru`: A robust logging library that helps track events and errors.
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2. Scraping Function:

python

```
def scrape_data_point():
    """
    Scrapes the main headline from The Daily Pennsylvanian home page.
    Returns:
        str: The headline text if found, otherwise an empty string.
    """
    headers = {
        "User-Agent": "cis3500-scraper"
    }
    req = requests.get("https://www.thedp.com", headers=headers)
    loguru.logger.info(f"Request URL: {req.url}")
    loguru.logger.info(f"Request status code: {req.status_code}")

    if req.ok:
        soup = bs4.BeautifulSoup(req.text, "html.parser")
        target_element = soup.find("a", class_="frontpage-link")
        data_point = "" if target_element is None else target_element.text
        loguru.logger.info(f>Data point: {data_point}")
        return data_point
```

- **Request to Website:**

The `requests.get()` method fetches the HTML content of The Daily Pennsylvanian's homepage.

- **Logging:**

The `loguru.logger.info` calls log the request URL and status code.

- **HTML Parsing:**

`BeautifulSoup` parses the page using the `html.parser`.

- **Extracting Headline:**

It looks for an `<a>` tag with the class `"frontpage-link"`.

If found, it extracts the headline text. Otherwise, it returns an empty string.

3. Main Execution:

python

```
if __name__ == "__main__":
```

This ensures the code runs only when executed directly, not when imported as a module.

Logger Setup:

python

```
loguru.logger.add("scrape.log", rotation="1 day")
```

- Sets up logging to save output to `scrape.log`, rotating the file daily.

Create Data Directory:

python

```
loguru.logger.info("Creating data directory if it does not exist")
try:
    os.makedirs("data", exist_ok=True)
except Exception as e:
    loguru.logger.error(f"Failed to create data directory: {e}")
    sys.exit(1)
```

- Creates a data directory for storing the JSON file.
- If directory creation fails, logs the error and exits the script.

Load Daily Event Monitor:

python

```
loguru.logger.info("Loading daily event monitor")
dem = daily_event_monitor.DailyEventMonitor(
    "data/daily_pennsylvanian_headlines.json"
)
```

- Initializes the `DailyEventMonitor` with the JSON file path where headlines are stored.

4. Run Scrape:

python

```
loguru.logger.info("Starting scrape")
try:
    data_point = scrape_data_point()
except Exception as e:
    loguru.logger.error(f"Failed to scrape data point: {e}")
    data_point = None
```

- Attempts to scrape the headline. If an error occurs, it logs the error and sets `data_point` to `None`.

5. Save Data:

python

```
if data_point is not None:
    dem.add_today(data_point)
    dem.save()
    loguru.logger.info("Saved daily event monitor")
```

- If a valid `data_point` exists, adds it to the `DailyEventMonitor` and saves it to the JSON file.
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6. Directory Structure Output:

python

```
def print_tree(directory, ignore_dirs=[".git", "__pycache__"]):
    loguru.logger.info(f"Printing tree of files/dirs at {directory}")
    for root, dirs, files in os.walk(directory):
        dirs[:] = [d for d in dirs if d not in ignore_dirs]
        level = root.replace(directory, "").count(os.sep)
        indent = " " * 4 * (level)
        loguru.logger.info(f"{indent}+--{os.path.basename(root)}/")
        sub_indent = " " * 4 * (level + 1)
        for file in files:
            loguru.logger.info(f"{sub_indent}+--{file}")

print_tree(os.getcwd())
```

- **Purpose:** Logs the current directory structure.
 - **How it Works:**
Uses `os.walk` to iterate through directories and files.
Indents output based on directory level, ignoring certain directories (`.git`, `__pycache__`).
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7. Display JSON Content:

python

```
loguru.logger.info("Printing contents of data file  
{0}".format(dem.file_path))
with open(dem.file_path, "r") as f:
    loguru.logger.info(f.read())
```

- Reads and logs the content of the JSON file storing headlines.
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8. Finish:

python

```
loguru.logger.info("Scrape complete")
loguru.logger.info("Exiting")
```

- Logs the completion of the scraping process.
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Overall Purpose:

- **Scrape** the main headline from The Daily Pennsylvanian website.
 - **Store** the headline in a JSON file (`daily_pennsylvanian_headlines.json`) to track historical headlines over time.
 - **Log** the entire process, including errors and runtime information.
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What's Missing:

- The `daily_event_monitor` module isn't provided. It likely contains:
 - `DailyEventMonitor` class.
 - Methods like `add_today(data_point)` and `save()` to handle JSON data storage.
 - There is no error handling for cases where the `requests.get()` might fail (e.g., network issues).
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If you need more details on specific sections or have questions about particular lines of code, let me know! 😊