Task 1: Git & Environment Setup

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Objective:

Get everyone comfortable with version control before touching data.

Step 1: Initialize Repository

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1. Create a GitHub repository named `solar-challenge-week1`.

2. Clone it locally:

   git clone https://github.com/YOUR_USERNAME/solar-challenge-week1.git

   cd solar-challenge-week1

3. Set up a virtual environment:

Using venv:

   python -m venv venv

   source venv/bin/activate # macOS/Linux

   venv\Scripts\activate   # Windows

Or using conda:

   conda create -n solar-week1 python=3.11

   conda activate solar-week1

Step 2: Branching & Commits

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1. Create a new branch:

    git checkout -b setup-task

2. Commit 1: Add .gitignore

.gitignore:

    venv/

    __pycache__/

    *.pyc

    .ipynb_checkpoints/

    data/

    *.csv

    git add .gitignore

    git commit -m "init: add .gitignore"

3. Commit 2: Set up venv and requirements.txt

    pip freeze > requirements.txt

    git add requirements.txt

    git commit -m "chore: venv setup"

4. Commit 3: Add GitHub Actions workflow

Create `.github/workflows/ci.yml`:

name: CI

on: [push, pull_request]

```yaml
jobs:

  setup:

    runs-on: ubuntu-latest

    steps:

      - uses: actions/checkout@v3

      - name: Set up Python

        uses: actions/setup-python@v4

        with:

          python-version: '3.11'

      - name: Install dependencies

        run: pip install -r requirements.txt
```

```bash
git add .github/workflows/ci.yml

git commit -m "ci: add GitHub Actions workflow"
```

Step 3: README.md

README.md content:

Solar Challenge Week 1

Setup Instructions

```bash
git clone https://github.com/YOUR_USERNAME/solar-challenge-week1.git

cd solar-challenge-week1

python -m venv venv
```

```
source venv/bin/activate

pip install -r requirements.txt
```

Step 4: Folder Structure

```
├── .vscode/
│   └── settings.json
├── .github/
│   └── workflows/
│       └── ci.yml
├── .gitignore
├── requirements.txt
├── README.md
├── src/
├── notebooks/
│   ├── __init__.py
│   └── README.md
├── tests/
│   └── __init__.py
└── scripts/
    ├── __init__.py
    └── README.md
```

Step 5: Merge Pull Request

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1. Push branch: git push origin setup-task

2. Create PR from `setup-task` to `main` and merge.

Key Performance Indicators (KPIs)

- Dev Environment Setup Completed

- GitHub Actions CI working

- Folder structure standardized

- Clear README.md for reproduction