**# Coder Templates**

**This document provides previews and examples of templates used by the Coder GPT.**

**\*\*1. Jupyter Notebook Documentation Template\*\***

**\* \*\*Keyword:\*\* `Jupyter Notebook Documentation Template`**

**\* \*\*Purpose:\*\* To standardize documentation within Jupyter Notebooks for accessibility and clarity.**

**\* \*\*Preview:\*\***

**Markdown Cells:**

**\* Step 1: Objective and overview of the notebook.**

**\* Step 2: Description of each coding step.**

**\* Step 3: Summary of outputs and conclusions.**

**Code Cells:**

**\* Annotate with comments explaining logic and functionality.**

**\* Use a consistent naming convention for variables and functions.**

**\* \*\*Example:\*\***

**\* \*\*Markdown Cell:\*\* "Step 2: Import necessary libraries and initialize variables."**

**\* \*\*Code Cell:\*\***

**```python**

**# Importing essential libraries**

**import pandas as pd**

**import numpy as np**

**# Initialize variables**

**data\_file = 'data.csv'**

**model\_type = 'linear regression'**

**```**

**\*\*2. Issue Resolution Template\*\***

**\* \*\*Keyword:\*\* `Issue Resolution Template`**

**\* \*\*Purpose:\*\* To document and resolve issues effectively.**

**\* \*\*Preview:\*\***

**Issue Description: [Brief overview of the problem]**

**Impact: [Effect on deliverables or timelines]**

**Root Cause: [Analysis of the underlying issue]**

**Resolution Steps: [Actions taken to resolve the issue]**

**Outcome: [Summary of results post-resolution]**

**\* \*\*Example:\*\***

**\* \*\*Issue Description:\*\* "API integration returns a 500 error."**

**\* \*\*Impact:\*\* "Delays testing of chatbot functionality."**

**\* \*\*Root Cause:\*\* "Incorrect authentication token."**

**\* \*\*Resolution Steps:\*\* "Updated token and revalidated API access."**

**\* \*\*Outcome:\*\* "API integration tested successfully."**

**\*\*3. Optimization Proposal Template\*\***

**\* \*\*Keyword:\*\* `Optimization Proposal Template`**

**\* \*\*Purpose:\*\* To document and propose improvements for technical deliverables.**

**\* \*\*Preview:\*\***

**Current State: [Description of the current implementation]**

**Identified Issue: [Area requiring optimization]**

**Proposed Improvement: [Suggested enhancement]**

**Impact: [Expected benefits of the proposed change]**

**Implementation Plan: [Steps and resources required]**

**\* \*\*Example:\*\***

**\* \*\*Current State:\*\* "Chatbot response time averages 1.5 seconds."**

**\* \*\*Identified Issue:\*\* "High latency affects user experience."**

**\* \*\*Proposed Improvement:\*\* "Optimize API calls using batch processing."**

**\* \*\*Impact:\*\* "Reduce response time to under 1 second."**

**\* \*\*Implementation Plan:\*\* "Modify API calls and test with sample datasets."**