

# Project Title

PDF Manager and Console Calculator Application

## □ Objective

Develop a Python-based application with two core features:

1. **PDF Manager** – Merge multiple PDFs and split a PDF into single-page files.
2. **Console Calculator** – Perform basic arithmetic operations with error handling.

Optional enhancements:

- GUI using Tkinter.
- Store operation history using SQLite.
- Generate reports/logs using logging or pandas.

## Technologies Used

component	Technology
Programming Language	Python
PDF Management	PyPDF2
GUI (Optional)	Tkinter
Database (Optional)	SQLite3
Reporting (Optional)	Pandas
Logging	Python logging module

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## □ Project Structure

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pdf\_calculator\_project/

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└─ calculator.py	# Console calculator
└─ calculator_gui.py	# Optional: GUI version
└─ pdf_tool.py	# Merge/split PDF script
└─ database.py	# Optional: SQLite functions
└─ logger.py	# Optional: Logging utilities
└─ requirements.txt	# Python dependencies
└─ README.md	# Setup and usage instructions
└─ report.txt	# Optional: Report of operations
└─ logs/	
└─ operations.log	# Optional: Log file

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## Features

### PDF Tool

- Merge multiple PDF files into one
- Split a PDF into single-page PDFs

### Calculator

- Perform: Addition, Subtraction, Multiplication, Division
- Error handling (e.g., division by zero, invalid inputs)
- Console-based input
- Optional: GUI interface using Tkinter

- Optional: History logging in SQLite or .txt files
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## Installation & Usage

### ◆ Prerequisites

- Python 3.x installed
- Install dependencies:

```
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```

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

### ◆ PDF Tool Commands

```
bash
```

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```
# Merge PDFs
```

```
python pdf_tool.py --merge file1.pdf file2.pdf -o merged.pdf
```

```
# Split a PDF
```

```
python pdf_tool.py --split input.pdf -o output_folder/
```

### ◆ Run Calculator

```
bash
```

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```
# Console-based
```

```
python calculator.py
```

# GUI version (Optional)

python calculator\_gui.py

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## Testing & Edge Cases

### Scenario Expected Behavior

Division  
by zero      Displays error message







Non-  
numeric      Rejects input with warning  
input

Merge  
with no      Displays error message  
files

Splitting  
large      Successfully creates pages  
PDF

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## Deliverables

-  Source Code (.py files)
  -  README.md file
  -  requirements.txt file
  -  Sample logs / reports (optional)
  -  Executable script or instructions to run
  -  This documentation
-

## Checklist

Task	Done
Basic calculator with operations and error handling	<input checked="" type="checkbox"/>
PDF merge and split functions	<input checked="" type="checkbox"/>
Console-based interface	<input checked="" type="checkbox"/>
GUI with Tkinter (Optional)	<input checked="" type="checkbox"/>
SQLite logging for history (Optional)	<input checked="" type="checkbox"/>
Logging and report generation (Optional)	<input checked="" type="checkbox"/>
README and setup instructions	<input checked="" type="checkbox"/>
Code testing and validation	<input checked="" type="checkbox"/>

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## Author Information

- **Name:** [Yarramalla Manasa]
- **Email:** [223h1a3016@gmail.com]
- **Institution:** [Kandhula lakshumma memorial college of enginnering / VirtuNexa]
- **GitHub:**[ <https://github.com/Manasa23456315> ]