# README — How to Run This Jupyter Notebook (No Coding Needed)

## 1) Install Jupyter (one-time)

* If you don't already have Jupyter Notebook or JupyterLab installed, you must do this first. Jupyter is the interface that lets you open and run .ipynb (notebook) files interactively.
* Option 1 — Anaconda (easiest): Download and install Anaconda from its official site. This comes with Python, Jupyter, and many common data science libraries pre-installed.
* Option 2 — Plain Python: Install Python 3.10 or newer from python.org, then open a terminal or command prompt and run 'pip install jupyterlab' to install the Jupyter interface.

## 2) Set up your environment

* An environment is like a workspace for your project — it keeps the right Python version and packages together without interfering with other projects.
* We recommend creating a clean environment to avoid version conflicts.
* For Anaconda/Miniconda users: Use 'conda create' and 'conda activate' to set up a Python 3.11 environment, then install needed packages.
* For plain Python users: Use 'python -m venv' to create a virtual environment, activate it, then install packages with pip.
* The packages you need for this project are: matplotlib, numpy, pandas, scikit-learn.

## 3) Launch Jupyter

* Once your environment is activated, start Jupyter by running 'jupyter lab' or 'jupyter notebook' in your terminal.
* This will open a browser window showing your files — click on 'main.ipynb' to open the notebook.

## 4) Run the notebook

* Inside Jupyter, you can run the entire notebook by clicking Kernel → Restart & Run All, or run cells one-by-one using the Run button.
* Wait for each cell to finish before moving on — you'll see the asterisk (\*) change to a number when done.
* This notebook requires the files 'bags.csv', 'bags\_example.csv', and 'box.csv'. Place them in the same folder as the notebook.

## 5) What gets installed

* The notebook uses these Python libraries: matplotlib (for plotting), numpy (for numeric operations), pandas (for tables), and scikit-learn (for machine learning).
* If you see an error saying a package is missing, install it in your active environment with 'pip install <package-name>'.

## 6) Saving your results

* Jupyter saves changes automatically, but you can also save manually using File → Save.
* Some notebook steps create new files (like .csv or .png outputs) in the same folder — check your Jupyter file browser to find them.

## 7) Troubleshooting

* If Jupyter won't open: Close it and try again, making sure your environment is activated.
* If a package is missing: Install it with pip, then restart the kernel.
* If the notebook is stuck: Use Kernel → Restart and try again.
* If a file is not found: Check that the file is in the correct folder or update the file path in the code.
* On macOS, if you get a 'Permission Denied' message, allow the app in System Settings → Privacy & Security.

## 8) Need help?

* If you get stuck, take a screenshot of the error and note which step you were on — this makes it much easier for someone to help you.