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**Pill Matplotlib**

Línea horizontal

FECHA

Introduction

In this case we are going to use a dataframe with the total amount of multiple products, the objective it’s to get a visual report of the different products and analyze them globally.

What are the main objectives in this project?

* Know how to create plots with Matplotlib
* Use different parameters to customize plots
* Know how to implement subplots
* Visualize the data with different types of charts.

1. General analysis

We have a database (company\_sales\_data.csv) that include information of total amounts about different products by month, the data contains summarized year of sales, the shape of data is 12x9, with the following columns:

* **month\_number**: Month number
* **facecream**: Sales of face cream products
* **facewash**: Sales of face wash products
* **toothpaste**: Sales of tooth paste products
* **bathingsoap**: Sales of bathing soaps products
* **shampoo**: Sales of shampoo
* **moisturizer**: Sales of moisturizer
* **total\_units**: Total units sold by month
* **total\_profit**: General profit by month

With the dataset information, do the following:

1. Read Total profit of all months and show it using a line plot
2. Get total profit of all months and show line plot with the following Style properties:
   1. Line Style dotted and Line-color should be red
   2. Show legend at the lower right location.
   3. X label name = Month Number
   4. Y label name = Sold units number
   5. Add a circle marker.
   6. Line marker color as read
   7. Line width should be 3
3. Read all product sales data and show it using a multiline plot
4. Repeat the same analysis as the previous chart but with subplots
5. Read toothpaste sales data of each month and show it using a scatter plot
6. Read face cream and facewash product sales data and show it using the bar chart. The bar chart should display the number of units sold per month for each product. Add a separate bar for each product in the same chart.
7. Read sales data of bathing soap of all months and show it using a bar chart
8. Read the total profit of each month and show it using the histogram to see the most common profit ranges
9. Calculate total sale data for last year for each product and show it using a Pie chart
10. Read Bathing soap facewash of all months and display it using the Subplot of type bar
11. Read all product sales data and show it using the stack plot

2. Project organization

You can use markdown or text comments to document the exercise.

3. Requirements

* You can do the exercise in whatever software that suppor notebook like VS code, jupyter notebook, jupyter lab, Databricks, google Colab, etc.

4. Development

All the development should be made plots done with matplotlib

5. Deliverables

* A jupyter notebook file with all charts requested

6. Resources

* Color palettes Matplotlib <https://matplotlib.org/stable/tutorials/colors/colormaps.html>
* Python Matplotlib plots gallery <https://www.python-graph-gallery.com/matplotlib/>