

Email Matcher with Regex (20 pts)

Implement a single Python **function** that validates an email address and extracts its domain using a **regular expression**.

Requirements

- Define the function:

```
def is_valid_email(email):
```

- Use the Python `re` module for regex matching.
- The regex should support:
 - One or more characters from: **letters, digits, . _ -** before @
 - **Any non-empty domain name** after @ .
 - A domain **extension that includes at least one .**, and ends with **2–6 alphabetic characters** (which means there should be 2-6 letters after the last .)
- The function should:
 - i. Return `False, None` if the email is invalid.
 - ii. Return `True, domain` if the email is valid, where `domain` is the part after @ .

Example

```
print(is_valid_email("alice@cs.ucla.edu"))
# Expected output: (True, "cs.ucla.edu")

# NO `.` 
print(is_valid_email("bad-email@test"))
# Expected output: (False, None)

# NOT end with 2–6 characters
print(is_valid_email("user@domaincom.a.a"))
# Expected output: (False, None)
```

Product Sales Visualization (30 pts)

You are given a CSV file named `sales.csv` containing sales information of different products over 5 months. The content of the file goes as the following:

```
Product,Jan,Feb,Mar,Apr,May  
Laptop,10,12,11,15,14  
Smartphone,20,22,21,25,23  
Tablet,15,14,16,17,18  
Headphones,12,15,14,16,15  
Smartwatch,8,10,9,11,12
```

Write a Python **program** to visualize the sales data using **Matplotlib**.

Requirements

1. Line Graph (single image):

- Plot **Units Sold** for all products in **one figure**, with **one line per product**.
- X-axis: Month names (Jan to May)
- Y-axis: Units sold
- Each product should have a distinct line with a label.
- Include a title, axis labels, and a legend.
- Use `plt.show()` to display the graph.

2. Pie Chart:

- Show the **total units sold over all 5 months** for each product as a proportion of overall sales.
- Include labels and percentages.
- Use `plt.show()` to display the chart.

3. Bar Graph:

- Plot the **total units sold over all 5 months** for each product.
- X-axis: Product names
- Y-axis: Total units sold
- Include a title and axis labels.
- Use `plt.show()` to display the chart.