# Sample text to test the regular expressions

sample\_text = """

Emails: john@example.com, alice@example.net

URLs: https://example.com, http://sub.domain.org

Phone numbers: 123-456-7890, 555-5555

Capital Words: Apple, Banana, Orange

Dates: 12/25/2022, 01/15/2023

Social media post: @user123 mentioned @friend456

Three-letter words: dog, cat, fox

CSS colors: #FF0000, #00aabb, #1234567

HTML tags: <div class="content">, <a href="https://example.com">

IPv4 addresses: 192.168.1.1, 10.0.0.255, 255.255.255.255

"""

1. Write a regular expression to validate email addresses. Email addresses should follow the standard format (e.g., "username@example.com").
2. Create a regular expression to match valid URLs. URLs should start with "http://" or "https://" and can contain alphanumeric characters, hyphens, and periods.
3. Write a regular expression to extract all phone numbers from a given text. Phone numbers should be in the format "xxx-xxx-xxxx."
4. Create a regular expression to find and extract all words that start with a capital letter in a text.
5. Write a regular expression to match dates in the format "MM/DD/YYYY" in a text.
6. Create a regular expression to extract all mentions (strings starting with "@") in a social media post.
7. Write a regular expression to find and extract all words that contain exactly three letters in a text.
8. Create a regular expression to match hexadecimal color codes (e.g., "#RRGGBB" where RR, GG, and BB are two-digit hexadecimal values) in a CSS file.
9. Write a regular expression to find and extract all HTML tags (including attributes) in an HTML document.
10. Create a regular expression to match valid IPv4 addresses (e.g., "192.168.1.1") in a text.