Requirements

- Encode Messages in Image Files:
    - Select an image file to upload from their computer and enter a secret message that they would like to hide within the image file.
    - Display the new image with the secret message to the user.
    - Allow the user to save the new image file.
- Decode Messages from Image Files:
    - Select an image file to upload from their computer to decode a message.
    - Display the message to the user.
- At least 7 routes.
    - Index
    - encode_menu
    - encode_message
    - Download_encoded_image
    - decode_menu
    - decode_message
    - image_too_small
- At least 5 pages.
    - Index
    - encode_menu
    - encode_message
    - decode_menu
    - decode_message
    - image_too_small
- The implementation of the State dataclass must have at least 4 fields.
- At least 4 state fields must be meaningfully modified in at least one route; those 4 state fields cannot be constants.
    - Current Image: PIL_Image
    - Secret Message: str
    - Channel_values: list[int]
    - Channel_index: int
- At least 3 input fields (TextBox, CheckBox, SelectBox, TextArea). They don't have to be the same type.
    - Image Input -> Image to operate on
        - decode_menu
        - encode_menu
    - TextArea -> Secret Message
        - encode_menu

- At least 3 meaningful if statements. (This requirement will be met in the Decoding and Encoding Functionality parts of the assignment.)
    - if image_too_small:
        - Return a page that displays the error.
    - even_or_odd_bit -> checks if channel value % 2 == 0.
    - Decode_chars -> checks if the list is the appropriate size.
- At least 1 loop that iterates over an attribute of the list of class instances or dictionary of class instances in a meaningful way. (This requirement will be met in the Decoding and Encoding Functionality parts of the assignment.)
    - for row in (2D array)
    - for pixel in row
- The site should have a legitimate purpose or functionality.
    - Cryptography
- No global variables.
- Only use drafter, bakery, and built-in Python libraries. E.g., you can use random, math, but you can not use matplotlib, designer.