Explanation of the Deployment Code Components

This script sets up a web application that allows users to upload images and receive predictions directly through a webpage.

1. Setting Up the Web Server

- A program called Flask is used to set up a web server. This server hosts the web application and waits for users to interact with it.

2. Web Page Design

- The script configures a simple webpage that includes an upload button. Users can visit this page, select an image from their device, and upload it to get a prediction.

3. Handling Image Uploads

- When a user uploads an image, the script saves it temporarily, then processes it to match the model's input requirements, similar to how the prediction script prepares images.

4. Predicting and Displaying on Webpage

- After preparing the image, the model makes a prediction on what it shows. The result (fire, no fire, or smoke) is then displayed on the webpage for the user.

5. Running the Server

- Finally, the web server runs continuously, waiting for users to upload images and request predictions. This allows the model to be used in a practical, user-friendly manner.