

# CAPTCHA Maker Program

## Description

*The CAPTCHA Maker program is a utility designed to generate CAPTCHA images, which are used to prevent automated bots from accessing online services. This program creates images with random characters that users must enter to prove they are human. The generated CAPTCHAs can be customized in terms of character set, length, and image properties.*

### Key Features:

- **Random CAPTCHA Generation:** Creates CAPTCHA images with random characters.
- **Customizable Character Set:** Allows users to define the set of characters used in the CAPTCHA.
- **Adjustable Length:** Supports customization of the number of characters in the CAPTCHA.
- **Image Customization:** Provides options to adjust the font size, colors, and image dimensions.
- **Noise and Distortion:** Adds noise and distortion to the image to make it difficult for bots to decipher.

### How to Use:

1. **Run the Application:** Start the application using your Python environment.
2. **Set Configuration:**
  - **Character Set:** Define the characters to be used in the CAPTCHA (e.g., letters and numbers).
  - **Length:** Specify the number of characters in each CAPTCHA.
  - **Image Properties:** Set the font size, image width, and height.
3. **Generate CAPTCHA:**
  - **Random String:** The program generates a random string of the specified length from the character set.
  - **Create Image:** The string is rendered onto an image with specified properties.
  - **Add Noise and Distortion:** Noise and distortion are added to the image to increase security.
4. **Save CAPTCHA:** The generated CAPTCHA image is saved to a specified directory.
5. **Display CAPTCHA:** The program can display the CAPTCHA image for verification.