Prerequisites

- Python 3.8 or higher
- Virtual environment (recommended)

Installation

1. Create a Virtual Environment

Open your terminal and run the following command to create a new virtual environment named `venv`:

```
python -m venv venv
```

2. Activate the Virtual Environment

Activate the virtual environment using the command that corresponds to your operating system:

- **On Windows:**

  ```
  venv\Scripts\activate
  ```

- **On macOS/Linux:**

  ```
  source venv/bin/activate
  ```

Your command prompt should now indicate that you are operating within the virtual environment.

3. Install Dependencies

With the virtual environment activated, install the required libraries and dependencies specified in `requirements.txt`:

```
pip install -r requirements.txt
```

Running the Program

To start the component detection program, run:

```
python main.py
```

This command will scan the room plan and generate the counts of components.

Troubleshooting

If you encounter any issues during installation or when running the program:

- Ensure you have the latest version of Python and pip installed.
- If you experience issues with the virtual environment, try deleting and recreating it.

Example Output

After running the program, you should see output like this in the **`match_counts.txt`** file:

```
Component Detection Program
---------------------------
* Component A: X, Count: X
* Component B: X, Count: X
* Component C: X, Count: X
```

Note that the actual output will depend on the specific room plan and components being detected.