Plans for experiments. Describe the experimental setup you will follow. Describe the datasets you plan to use, what code you will implement yourself, what existing code you will borrow (if any), and what you would define as a success for the project. If you intend to collect your data, provide a description of the procedure that you will follow. **Provide a list of experiments that you will perform. Describe what you expect the experiments to reveal, or what is uncertain about the potential outcomes.**

**List of experiments:**

1. Collect a variety of waste items
2. Real-time image capturing of waste
3. Image Labelling using LabelImg
4. Object detection using YOLOv8

**What the experiment is expected to reveal:**

That out of all the real-time images provided identify which one is waste and further classification amongst recyclable waste, non-recyclable waste, and hazardous waste to help further in the segregation process in various environments.

**What is uncertain about the potential outcomes:**

Many factors like an image being blurred, grainy, or has more or less than usual brightness can affect the potential outcomes. Additionally, instances like when the item is packed in such a way that the item cannot be recognized precisely can give a bad result. One prevailing case can be when the image is not well captured, concerning the angle can give us only a part of the object, making it difficult to detect and classify.