Omdena Project: **AI [Computer Vision] for Sorting and Segregating Waste Materials** - Bengaluru Local Chapter

Task-3: Model Building

1. **Resources**
    a. **Papers**
        i. **Comparative Analysis of Multiple Deep CNN Models for Waste Classification:** (https://arxiv.org/pdf/2004.02168.pdf)
        ii. **Fine-Tuning Models Comparisons on Garbage Classification for Recyclability:** (https://arxiv.org/ftp/arxiv/papers/1908/1908.04393.pdf)

    b. **Sample Notebooks**
        i. **CNN model** - training accuracy 93% and uses Kaggle's Gabrage Dataset.
        (https://www.kaggle.com/code/kairess/garbage-classification)

        ii. **CNN model** - training accuracy 83% and uses Kaggle's Gabrage Dataset
        (https://www.kaggle.com/code/sanketmathur7/garbage-classification-cnn)

2. **Architecture**
    a. **Model Comparison Table**

No	Model	Training-accuracy	Testing-accuracy	No.of Epochs	Dataset
1	Custom CNN v1	55%	53%	20	Dataset 1
2	Custom CNN v2	81%	76%	20	Dataset 11
3	Custom CNN v3	73%	70%	10	Dataset 11
4	MobileNet V2	96%	91%	20	Dataset 11
5	Xception	97%	93%	20	Dataset 11
6	VGG19	94%	91%	100	Dataset 11
7	VGG16+SVM	97%	93%	20	Dataset 11