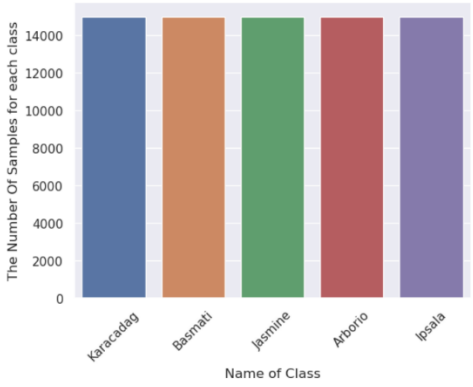
Data Collection and Preprocessing Phase

Date	18 July 2024
Team ID	SWTID1720277644
Project Title	Rice Classification using CNN
Maximum Marks	6 Marks

Preprocessing Template

The images will be preprocessed by resizing, normalizing, augmenting, denoising, adjusting contrast, detecting edges, converting color space, cropping, batch normalizing, and whitening data. These steps will enhance data quality, promote model generalization, and improve convergence during neural network training, ensuring robust and efficient performance across various computer vision tasks.

Section	**Description**
Data Overview	

Resizing	`sizes = list(classes_counts.values())`
	`labels = list(classes_counts.keys())`
	
	`fig = go.Figure(data=[go.Pie(labels=labels,`
	`values=sizes,`
	`hole=0.3,`
	`marker_colors=px.colors.sequential.Greens,`
	`textinfo='label+percent',`
	`insidetextorientation='radial')])`
	
	`fig.update_layout(title='Rice Classes Distribution')`
	`fig.show()`

Data Preprocessing Code Screenshots	

Loading Data	`dataset_path = '/kaggle/input/rice-image-dataset/Rice_Image_Dataset'`
Resizing	`image_size = (50, 50)` `batch_size = 32`

Data Augmentation	`datagen = ImageDataGenerator(`
	`rescale=1./255,`
	`rotation_range=45,`
	`width_shift_range=0.2,`
	`height_shift_range=0.2,`
	`shear_range=0.2,`
	`zoom_range=0.2,`
	`horizontal_flip=True,`
	`fill_mode='nearest'`
	`)`

Color Space Conversion	-
Image Cropping	-
Batch Normalization	-