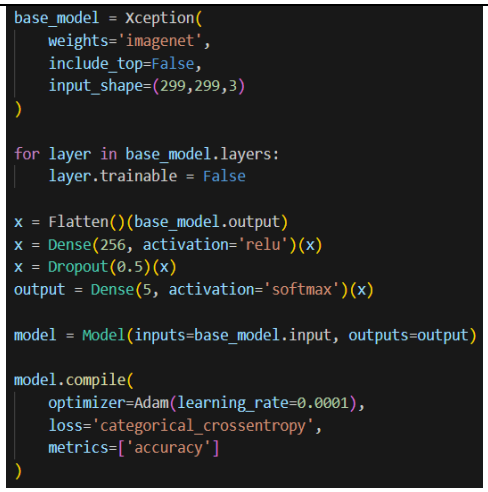
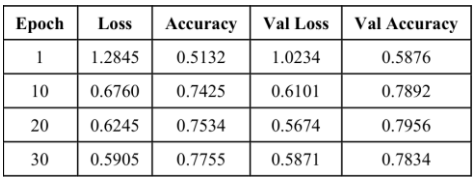
Project Development Phase

Model Performance Test

Date	16 February 2026
Team ID	LTVIP2026TMIDS88398
Project Name	Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy
Maximum Marks	10 marks

Model Performance Testing:

S.No.	Parameter	Values	Screenshot
1.	Model Summary	Base Model: Xception (Pre-trained on ImageNet) Include_top = False Input Shape = (299, 299, 3) Added Layers: Global Average Pooling + Dense + Dropout Output Layer: Dense(5, activation='softmax') Optimizer: Adam Loss Function: Categorical Crossentropy Metrics: Accuracy	
2.	Training Performance	Final Training Accuracy ≈ 77% Final Validation Accuracy ≈ 78% Training Performance Summary: Epoch 1 → Acc: 0.5132, Val Acc: 0.5876 Epoch 10 → Acc: 0.7425, Val Acc: 0.7892 Epoch 20 → Acc: 0.7534, Val Acc: 0.7956 Epoch 30 → Acc: 0.7755, Val Acc: 0.7834	

Epoch	Loss	Accuracy	Val Loss	Val Accuracy
1	1.2845	0.5132	1.0234	0.5876
10	0.6760	0.7425	0.6101	0.7892
20	0.6245	0.7534	0.5674	0.7956
30	0.5905	0.7755	0.5871	0.7834

3.	Model Saving	Model saved as: updated_xception_diabetic_retinopathy.h5 Stored in model directory for Flask integration.