ECE 361E: Homework 3

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Problem 1

Question 2

Model	Training Accuracy(%)	Test Accuracy (%)	Total time for training (s)	Number of Trainable Params	Floating Point Operations	GPU memory during training (mb)
VGG11	97.57	76.48	3011.79	9,750,922	306587648	1215
VGG16	97.86	78.89	3622.42	14,655,050	551954432	1425

Question 3

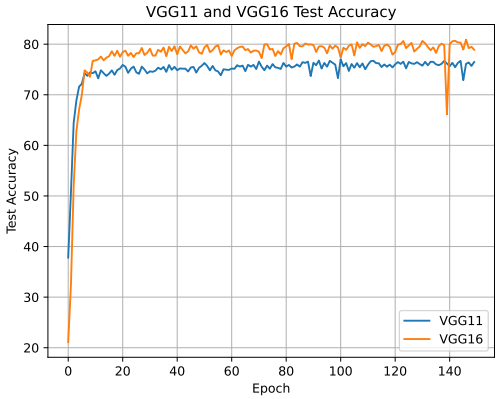

Figure 1: Test Accuracy of VGG11 and VGG16

VGG16 performs incrementally better than VGG11 on both train and test. However it has 1.5x the amount of trainable parameters and 1.8x the amount of floating point operations. The small accuracy boost is not worth the increase in computational complexity, and therefore we would choose VGG11 to train.

Problem 2

Question 2

	Total Inference Time [s]		RAM memory [MB]		Accuracy[%]	
	MC1	RaspberryPi	MC1	RaspberryPi	MC1	RaspberryPi
VGG11	658.23	680.61	380	146	76.48	76.48
VGG16	990.92	1172.01	338	174	78.89	78.89

Question 3

Problem 3