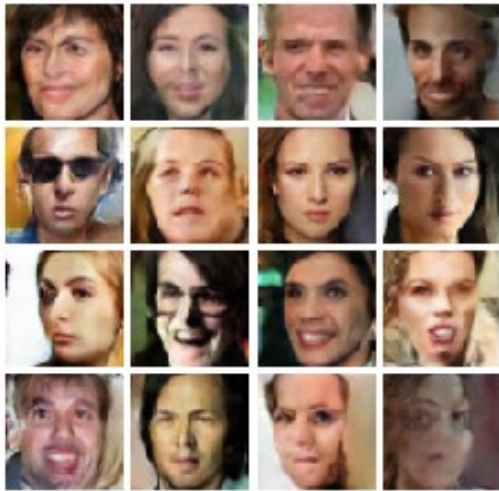


Part 1:

Answer the following questions briefly (no more than a few sentences), and provide output images where requested.

Show final results from training both your GAN and LSGAN (give the final 4x4 grid of images for both):

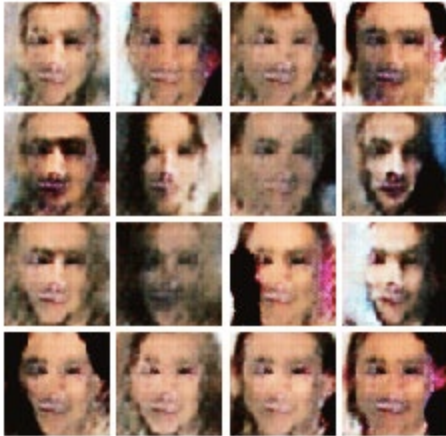


Discuss any differences you observed in quality of output or behavior during training of the two GAN models.

The outputs from the two GANs look pretty close. There are not many different behaviors for the two GANs.

Do you notice any instances of mode collapse in your GAN training (especially early in training)? Show some instances of mode collapse (if any) from your training output.

Yes. In the early stage of the training, majority of the faces are looking at the screen and smiling. There are not many modes in the images.



Extra credit: If you completed the extra credit for this portion, explain what you did (describing all model changes and hyperparameter settings) and provide output images.

Part 2 (generation):

Give the hyperparameters for your best network on classification task below. Note any other changes you made to the base network in addition to the hyperparameters listed in the table below.

Hyperparameter	Value
RNN type:	GRU
Number of layers:	2
Hidden layer size:	150

Learning rate:	0.001
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Give an example 1000 character output from your network:

Thy deposed the fields are so think as sooner
The pexamently men,
And love I am fresh delicatorancy.

CLEOPATRA:

Why, the Pichus? My lord; she's not here,
To 'twence many wond, and shall speaks and stain'd seats;
And now a maid in wind: which
Who shall have doubt shall be the mine like
A talk, as fair, the next to the world
Before none at all: the warron good weak of this war
As but deeds of deputation and a considerved
The affortune with villain: nor hour, does are
letter and her kill'd be assemble fest's a war
his master of revenge and the father!
O, be proclaim us now with enterto, is the hands.

NENROS:

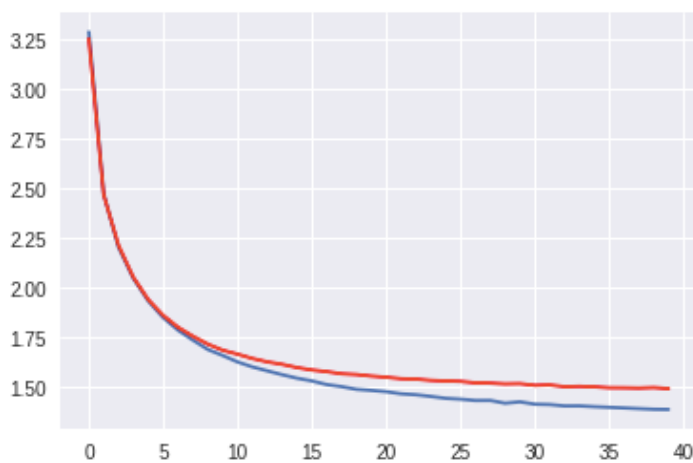
What, noble face, and had not slain, a brother:
In decaus of this advance
The adminess and prove your word crown and provoin,
That stay with her in rather gods but suffer
Will not true of place in love, Aumeration
The many with thee in these arrains are his answer,
From the sword, with all attance, most lives.

GLOUCESTER:

Stand all the vile a ground will be strong reason;
I part on a

Your best model should reach a test loss value of approximately 1.50-1.51. Insert the training & test loss plot from your RNN generation notebook below:

[<matplotlib.lines.Line2D at 0x7f4aa3f13710>]



Extra credit: If you completed the extra credit for this portion, describe where your dataset came from, give an example from your training dataset (1000 characters), give an example output from your model trained on the dataset (1000 characters), and detail the hyperparameters you used to train a model on the dataset.

Dataset: Pride and Prejudice

Training set:

It is a truth universally acknowledged, that a single man in possession of a good fortune, must be in want of a wife.

However little known the feelings or views of such a man may be on his first entering a neighbourhood, this truth is so well fixed in the minds of the surrounding families, that he is considered the rightful property of some one or other of their daughters.

"My dear Mr. Bennet," said his lady to him one day, "have you heard that Netherfield Park is let at last?"

Mr. Bennet replied that he had not.

"But it is," returned she; "for Mrs. Long has just been here, and she told me all about it."

Mr. Bennet made no answer.

"Do you not want to know who has taken it?" cried his wife impatiently.

"You want to tell me, and I have no objection to hearing it."

This was invitation enough.

"Why, my dear, you must know, Mrs. Long says that Netherfield is taken by a young man of large fortune from the north of England; that he came down on Monday in a chaise and four to see the place, and was so much delighted with it, that he agreed with Mr. Morris immediately; that he is to take possession before Michaelmas, and some of his servants are to be in the house by the end of next week."

Output:

Th," said Elizabeth with a little of their happiness that she seemed blance he had ever doubt as to be an expression. Mr. Darcy, after refusal. A great poured so much love, she could now even the most account of thosely reason to invited till she assured the door was recovered in any court of easy, she said on in the greater pleasure to her attended to design of seeing her thankful whom he had defends. She must be a servants dear Colonel Fitzwilliam, and the first disgust to be in his reflections of her sister." "I know no more, to distress of the brother," said Mrs. Younge was in Hertfordshire he a minute in the character was sure. Ahe had followed her friend to her happiness she could have the time for him; but without see you to be nothing of love you for the evening but them to have a brother, because that you will be as to Mrs. Collins was alarm, and against this moment, which I saw him that she had gone to come to be the lady was forcivance at his friend in it a next day before m

Hyperparameters: (Same as the above)

Hyperparameter	Value
RNN type:	GRU
Number of layers:	2
Hidden layer size:	150
Learning rate:	0.001

Part 2 (classification):

Give the hyperparameters for your best network on classification task below. Note any other changes you made to the base network in addition to the hyperparameters listed in the table below.

Hyperparameter	Value
RNN type:	GRU
Number of layers:	2
Hidden layer size:	150

Learning rate:	0.001
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You should reach the Kaggle accuracy benchmark with your Kaggle submission. Your notebook evaluation results should be similar to your performance on Kaggle. Insert the confusion matrix image outputted from your best model, and report the corresponding accuracy:

Test accuracy: 0.876

