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PLSC 597  
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## Assignment #4

1. [https://www.gilderlehrman.org/sites/default/files/inline-pdfs/king\\_dreamspeech.excerpts.pdf](https://www.gilderlehrman.org/sites/default/files/inline-pdfs/king_dreamspeech.excerpts.pdf)

For this assignment, I took excerpts of Martin Luther King Jr's "I Have a Dream" speech.

2.

I have created two models trained to the text. The first has a batch size of 16, a block size of 32, 5000 max iterations, 4 heads, and 4 transformer layers

The second model has a batch size of 32, a block size of 64, 5000 max iterations, 4 heads, and 4 transformers.

To evaluate the models, my code reports the train and validation loss for each 100 steps in the training process.

The first model had a train loss that went from 4.28 to .24. And a val loss from 4.3 to 3.66. The second model had a train loss that went from 4.22 to .11. And a val loss from 4.20 to 4.35.

3.

Using both models, I performed text prediction using "I Have a Dream" as the training data. The second model, that included a larger batch and block size performed significantly better. The second model provided readable and understandable text, where as the first model did not. Furthermore, there are fewer spelling errors in the second model. Below are the texts generated.

Model 1:

```
join with you today in what will go down in history as the greatest demonstration for
freedom ring from the snowners was lons of Neee'vel, come come tour nation's capital to cash a check. When the architects of our Republic wrote
the magnificent words votels of civil rights, "Whiten will you be
satisfied?" We can nation sigull, bert thate areatele ons of the highways and the hotels of the cities.
We cannot be satisfied as long as the Negro's basic mobility is cripline. Only This note was a promise that all men-yes, thatens weltel wo ring injustice.
long night of their captivity. But 100 years later the Negro is the videncotence. . . . The marvely come richteat of American
society and finds himself in exile ily is tied up
ll all men are created equalittle in exile ily is tied up
with our destiny.
. . . We cannot walk alone. And as we walk we must make the ple, cannot gur beack. Then are those who are. Let freedom ring from the snowcapped Rockies of C
California.
But not only that. Let freedom ring from the heire is a great stizelf in exile ily is tied up
with our destiny.
. . . We cannot walk alone. And as we walk we must make the ple, for ever condulther of their character. I have a dream that one
day in Alabama, is the will bew boys and whitere promity. But 10101014 Thave dream dream that my four little children will one. We must not allow our
creative protests to degenerate into physical viole. Let freedom ring from the snowcapped Rockies of Colorado. Let freedom ring from the heightening Alleghen
freedom ring from the snowcapped Rockies of Colorado. Let freedom ring from the unspeakable horrors of
police brutality.
We can never be satisfied until justice rolls do. Let freedom ring from the mighty stream. . . .
I signy this mobent tous decree is a great beacon light of hope to millions of Negro
slaves who had been seared in the flames of will beri
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## Model 2:

California.

But not only that. Let freedom ring from Stone Mountain of Georgia. Let freedom ring from the mighty mountains of New York. Let freedom ring from the heightening Alleghenies of Pennsylvania. Let freedom ring from the snowcapped Rockies of Coloramath ahersorad the

lamen-ons alletenie. We can never be satisfied as long as the Negro is the victim of the unspeakable horrors of police brutality.

We can never be satisfied as long as our bodies, heavy with the fatigue of travel, cannot gain lodging in the motels of the highways and the hotels of the cities.

We cannot be satisfied as long as the Negro is the victim of the unspeakable horrors of police brutality.

We can never be satisfied as long as the Negro in Mississippi cannot vote and the Negro in New York believes he has nothing for which to vote.

No, no, we are not satisfied, and we will not be satisfied until justice rolls down like waters and righteousness like a mighty stream. . . .

I say to you today, my friends, thze hear that one day on the pursuition and the Negro in New York believes he has nothing for which to vote.

No, no, we are not satisfied, and of the pilgrim's promise thanan. "Mye country, 'tis of thee, sweet land of liberty, of thee I sing. Land where my fathers died, land of the pilgrim's pride, from every mountain side, let freedom ring." And if America is to be a great nation, this must become true. So let freedom ring from the prodigious hilltops of New Hampshiheese that ablle of ve creesting ghirrlls is note freedom and justice. It have a dream that my four little children will one day live in a nation where they will not be judged by the color of their skin butt by the content of their character. I have a dream . . . I have a dream that one day in Alabama, with its vicious racists, with its governor having his lips dripping with the words of interposition and nullificentinor the whords our day in Alabama, with its vicious racists, with its governor having his lips dripping with the word