### Model Context:

MSE Loss

LSTM Model

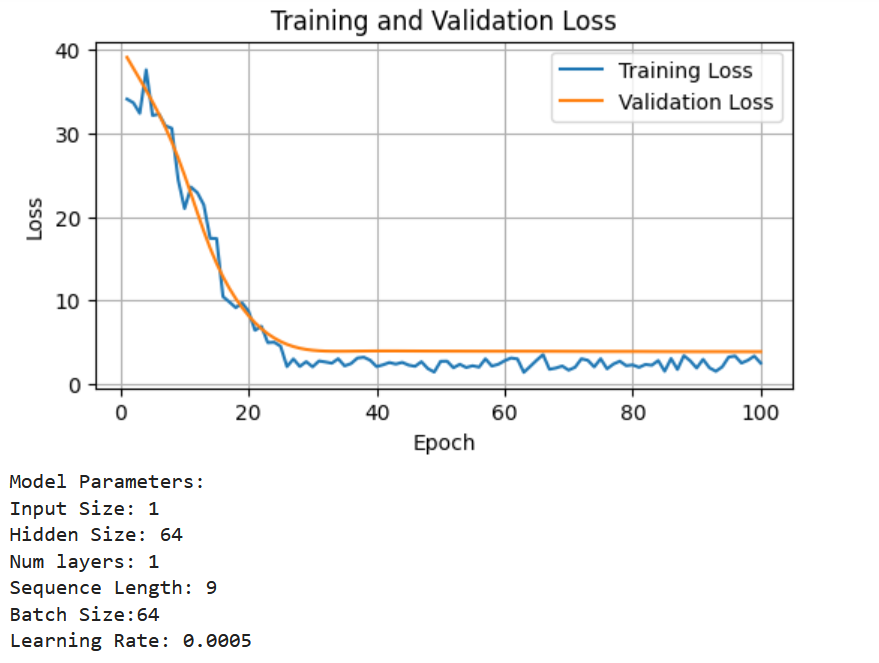
Univariate Data (‘unrate’)

Split Training/Validation/Test from Start-2000/2001 to 2020/2021 respectively

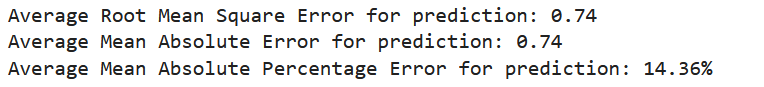
### Scenario 1:

Hyperparameters:

| hidden\_size | num\_layers | Learning rate | sequence\_length | num\_epochs |
| --- | --- | --- | --- | --- |
| 64 | 1 | 0.0005 | 9 | 100 |

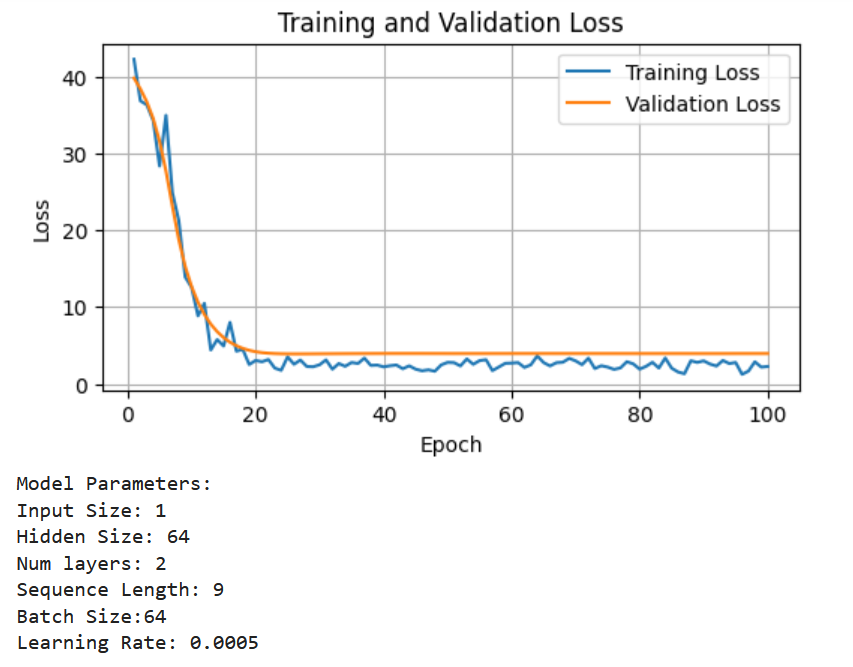


Evaluation:

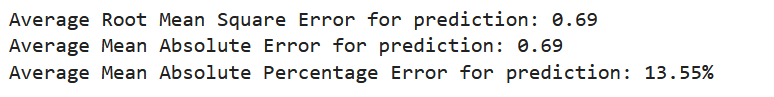


### Scenario 2:

| hidden\_size | num\_layers | Learning rate | sequence\_length | num\_epochs |
| --- | --- | --- | --- | --- |
| 64 | 2 | 0.0005 | 9 | 100 |



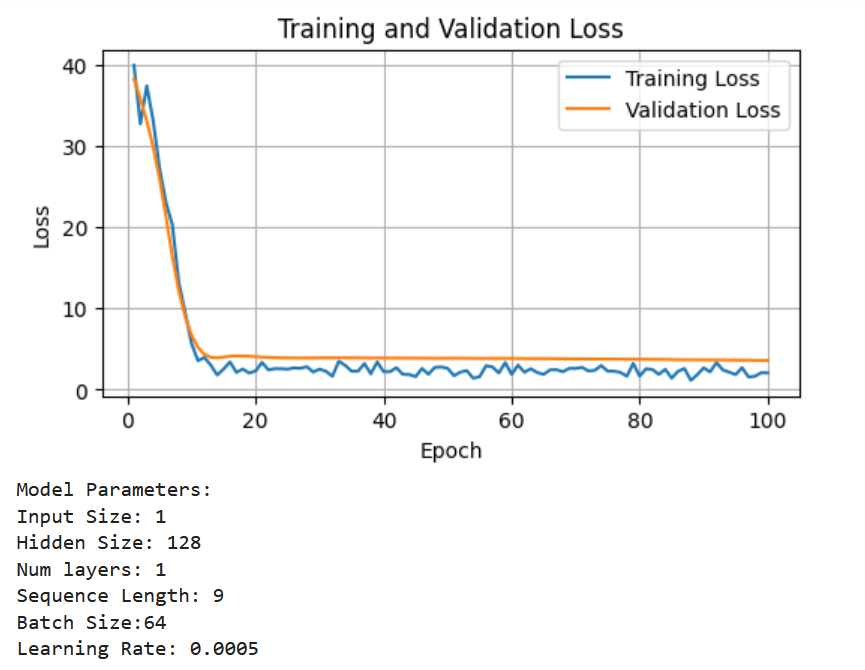
Evaluation:



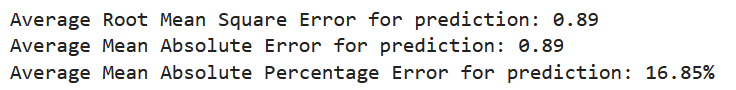
### 

### Scenario 3:

| hidden\_size | num\_layers | Learning rate | sequence\_length | num\_epochs |
| --- | --- | --- | --- | --- |
| 128 | 1 | 0.0005 | 9 | 100 |



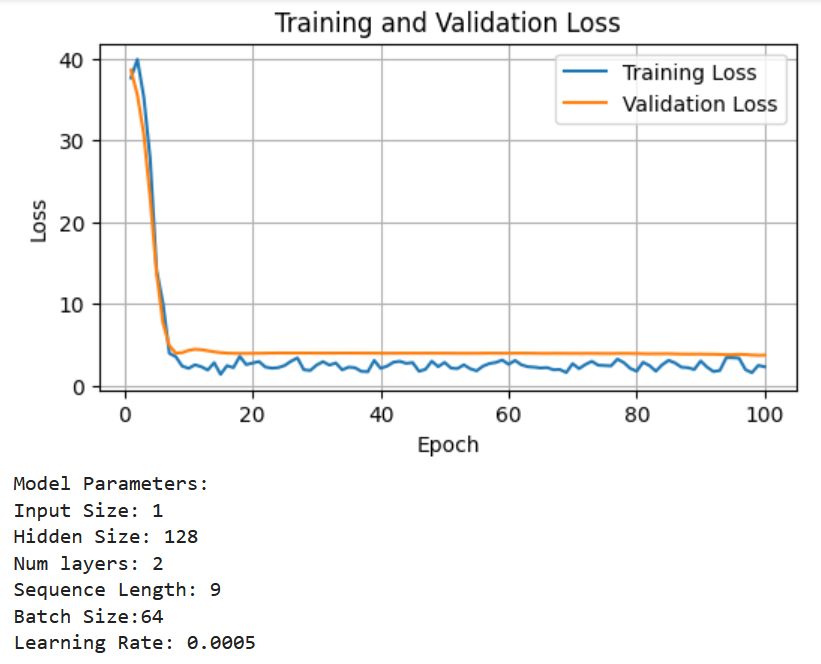
Evaluation:



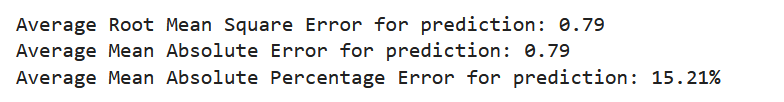
### 

### Scenario 4:

| hidden\_size | num\_layers | Learning rate | sequence\_length | num\_epochs |
| --- | --- | --- | --- | --- |
| 128 | 2 | 0.0005 | 9 | 100 |

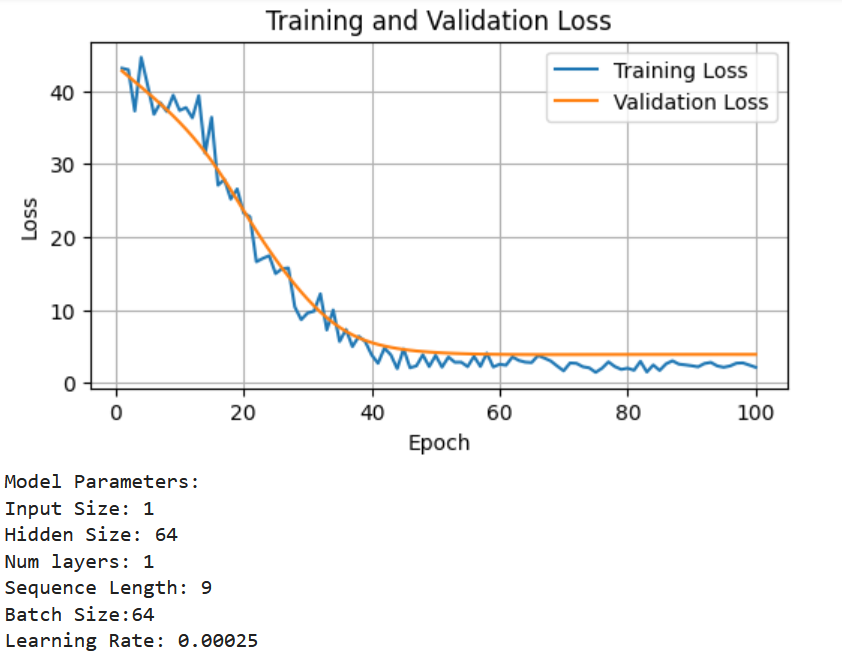


Evaluation:

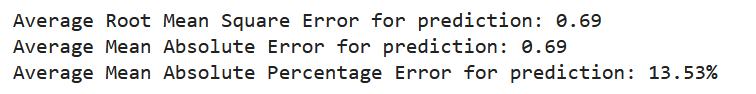


### Scenario 5:

| hidden\_size | num\_layers | Learning rate | sequence\_length | num\_epochs |
| --- | --- | --- | --- | --- |
| 64 | 1 | 0.00025 | 9 | 100 |

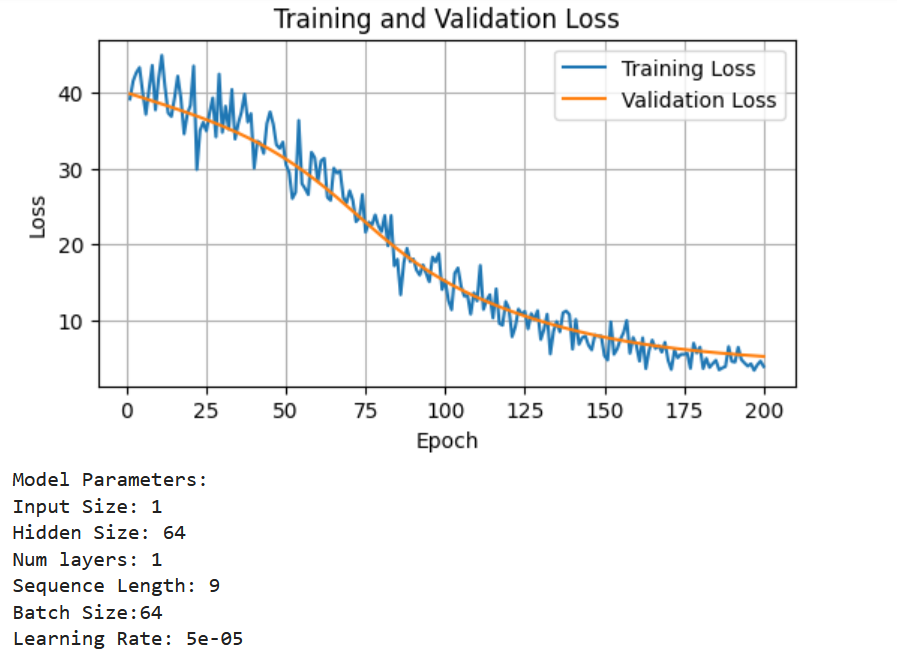


Test:

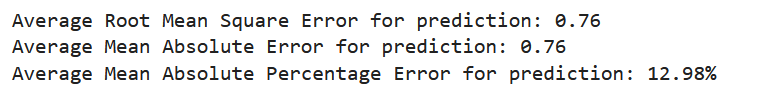


### Scenario 6:

| hidden\_size | num\_layers | Learning rate | sequence\_length | num\_epochs |
| --- | --- | --- | --- | --- |
| 64 | 1 | 0.00005 | 9 | 100 |

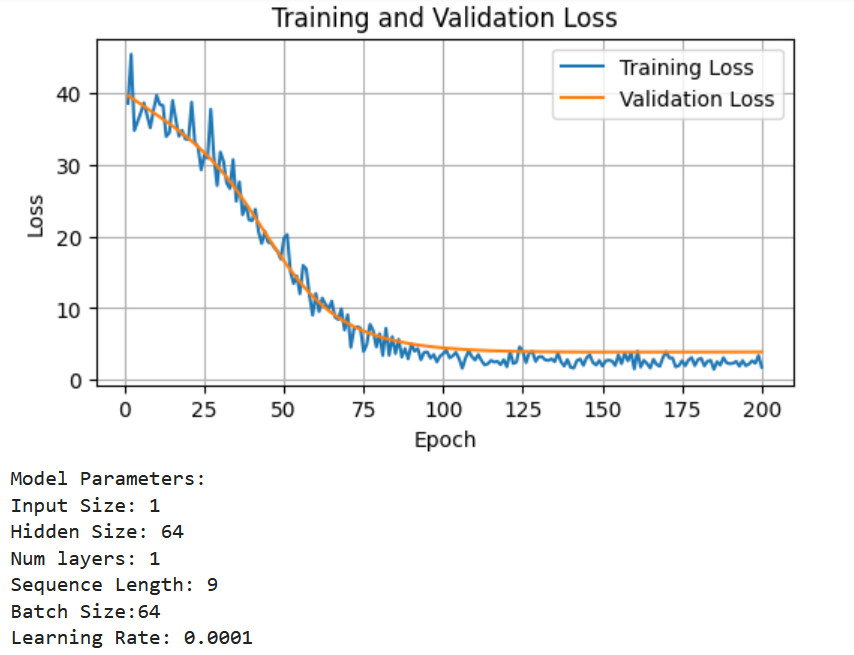


Test:



### Scenario 7:

| hidden\_size | num\_layers | Learning rate | sequence\_length | num\_epochs |
| --- | --- | --- | --- | --- |
| 64 | 1 | 0.00010 | 9 | 100 |



Test:

