

```
[46]: import math  
import matplotlib.pyplot as plt  
import keras  
import pandas as pd
```

```
[103... def predict_next_word(model, tokenizer, seed_text, max_se  
token_list = tokenizer.texts_to_sequences([seed_text])  
token_list = pad_sequences([token_list], maxlen=max_se  
predicted = np.argmax(model.predict(token_list), verbose=0)  
  
for word, index in tokenizer.word_index.items():
```

```
In [104]:  
    if index == predicted:  
        return word  
    return ""  
  
In [104...]  
import numpy as np  
seed_text = "alice was beginning to"  
print(seed_text, end=" ")  
for i in range(20):  
    next_word = predict_next_word(model, tokenizer, seed_text, max_seq_len)  
    seed_text = seed_text + " " + next_word  
    print(next_word, end=" ")  
  
alice was beginning to her thing and it was be much two it again its wonder from the other school of a voice will
```

## Task: Fine-tune an LSTM on poems

```
In [105]:  
data = pd.read_csv(r"E:\BFCAI\2025 first term\BNU 2025\deep learning\my labs\lab 6\task\all.csv")  
data.head()
```

	author	content	poem name	age	type
0	WILLIAM SHAKESPEARE	Let the bird of loudest lay\r\nOn the sole Ara...	The Phoenix and the Turtle	Renaissance	Mythology & Folklore
1	DUCHESS OF NEWCASTLE MARGARET CAVENDISH	Sir Charles into my chamber coming in,\r\nWhen...	An Epilogue to the Above	Renaissance	Mythology & Folklore
2	THOMAS BASTARD	Our vice runs beyond all that old men saw,\r\n...	Book 7, Epigram 42	Renaissance	Mythology & Folklore
3	EDMUND SPENSER	Lo I the man, whose Muse whilome did maske,\r\n... from The Faerie Queene: Book I, Canto I	Book I, Canto I	Renaissance	Mythology & Folklore
4	RICHARD BARNFIELD	Long have I longd to see my love againe,\r\nSt...	Sonnet 16	Renaissance	Mythology & Folklore

example output from the model

- "Love is a thing that"
- will generate a poetic continuation such as

Thanks for attention