```python
1  import random
2  import json
3  import pickle
4  import numpy as np
5  import nltk
6
7  from nltk.stem import WordNetLemmatizer
8  from keras.models import load_model
9
10 lemmatizer = WordNetLemmatizer()
11 intents = json.loads(open('C:\\Users\\Adi\\Desktop.
   json').read())
12
13 words = pickle.load(open('words.pkl', 'rb'))
14 classes = pickle.load(open('classes.pkl', 'rb'))
15 model = load_model('chatbot_model.h5')
16
17
18 def clean_up_sentence(sentence):
19     sentence_words = nltk.word_tokenize(sentence)
20     sentence_words = [lemmatizer.lemmatize(word) for
   word in sentence_words]
21     return sentence_words
22
23
24 def bag_of_words(sentence):
25     sentence_words = clean_up_sentence(sentence)
26     bag = [0] * len(words)
27     for w in sentence_words:
28         for i, word in enumerate(words):
29             if word == w:
30                 bag[i] = 1
31     return np.array(bag)
32
33
34 def predict_class(sentence):
35     bow = bag_of_words(sentence)
36     res = model.predict(np.array([bow]))[0]
37     ERROR_THRESHOLD = 0.25
38     results = [[i, r] for i, r in enumerate(res) if r
   > ERROR_THRESHOLD]
```

```python
39
40      results.sort(key=lambda x: x[1], reverse=True)
41      return_list = []
42      for r in results:
43          return_list.append({'intent': classes[r[0]],
    'probability': str(r[1])})
44      return return_list
45
46
47  def get_response(intents_list, intents_json):
48      tag = intents_list[0]['intent']
49      list_of_intents = intents_json['intents']
50      for i in list_of_intents:
51          if i['tag'] == tag:
52              result = random.choice(i['responses'])
53              break
54      return result
55
56
57  print("GO! Bot is running!")
58
59  while True:
60      message = input("")
61      ints = predict_class(message)
62      res = get_response(ints, intents)
63      print(res)
64
```