**import** random  
**import** json  
  
**import** torch  
  
**from** model **import** NeuralNet  
**from** nltk\_utils **import** bag\_of\_words, tokenize  
  
device = torch.device(**'cuda' if** torch.cuda.is\_available() **else 'cpu'**)  
  
**with** open(**'intents.json'**, **'r'**) **as** json\_data:  
 intents = json.load(json\_data)  
  
FILE = **"data.pth"**data = torch.load(FILE)  
  
input\_size = data[**"input\_size"**]  
hidden\_size = data[**"hidden\_size"**]  
output\_size = data[**"output\_size"**]  
all\_words = data[**'all\_words'**]  
tags = data[**'tags'**]  
model\_state = data[**"model\_state"**]  
  
model = NeuralNet(input\_size, hidden\_size, output\_size).to(device)  
model.load\_state\_dict(model\_state)  
model.eval()  
  
  
*#make flask ready***from** flask **import** Flask, render\_template, request, url\_for  
  
app = Flask(\_\_name\_\_)  
@app.route(**'/'**)  
**def** index():  
 **return** render\_template(**'index.html'**)  
  
@app.route(**'/process'**,methods=[**'GET'**, **'POST'**])  
**def** process():  
 sentence = input(**"You: "**)  
 sentence = tokenize(sentence)  
 X = bag\_of\_words(sentence, all\_words)  
 X = X.reshape(1, X.shape[0])  
 X = torch.from\_numpy(X).to(device)  
   
bot\_name = **"Sam"**print(**"Let's chat! (type 'quit' to exit)"**)  
**while True**:  
 *# sentence = "do you use credit cards?"* sentence = input(**"You: "**)  
 **if** sentence == **"quit"**:  
 **break** sentence = tokenize(sentence)  
 X = bag\_of\_words(sentence, all\_words)  
 X = X.reshape(1, X.shape[0])  
 X = torch.from\_numpy(X).to(device)  
  
 output = model(X)  
 \_, predicted = torch.max(output, dim=1)  
  
 tag = tags[predicted.item()]  
  
 probs = torch.softmax(output, dim=1)  
 prob = probs[0][predicted.item()]  
 **if** prob.item() > 0.75:  
 **for** intent **in** intents[**'intents'**]:  
 **if** tag == intent[**"tag"**]:  
 print(**f"{bot\_name}: {random.choice(intent['responses'])}"**)  
 **else**:  
 print(**f"{bot\_name}: I do not understand..."**)