TASK NO 3:

```
import nltk
from nltk.stem.lancaster import LancasterStemmer
stemmer = LancasterStemmer()

# Training data
training_data = [
    {"class":"greeting", "sentence":"Hi"},
    {"class":"greeting", "sentence":"Hey"},
    {"class":"goodbye", "sentence":"Bye"},
    {"class":"goodbye", "sentence":"See you later"},
    {"class":"thanks", "sentence":"Thanks"},
    {"class":"thanks", "sentence":"Thank you"},
]

# Organize training data
words = []
classes = []
documents = []
ignore_words = ['?']

for pattern in training_data:
    for word in nltk.word_tokenize(pattern['sentence']):
        if word not in ignore_words:
            words.append(stemmer.stem(word.lower()))
            documents.append((stemmer.stem(word.lower()),
pattern['class']))

words = sorted(list(set(words)))
classes = sorted(list([pattren["class"]for pattern in
training_data]))
```