Assignment -4

SMS SPAM Classification

Assignment Date	19 November 2022
Student Name	N.Arullakshmi
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Maximum Marks	2 Marks

Question-1:

Download the dataset

Question-2:

Import required library

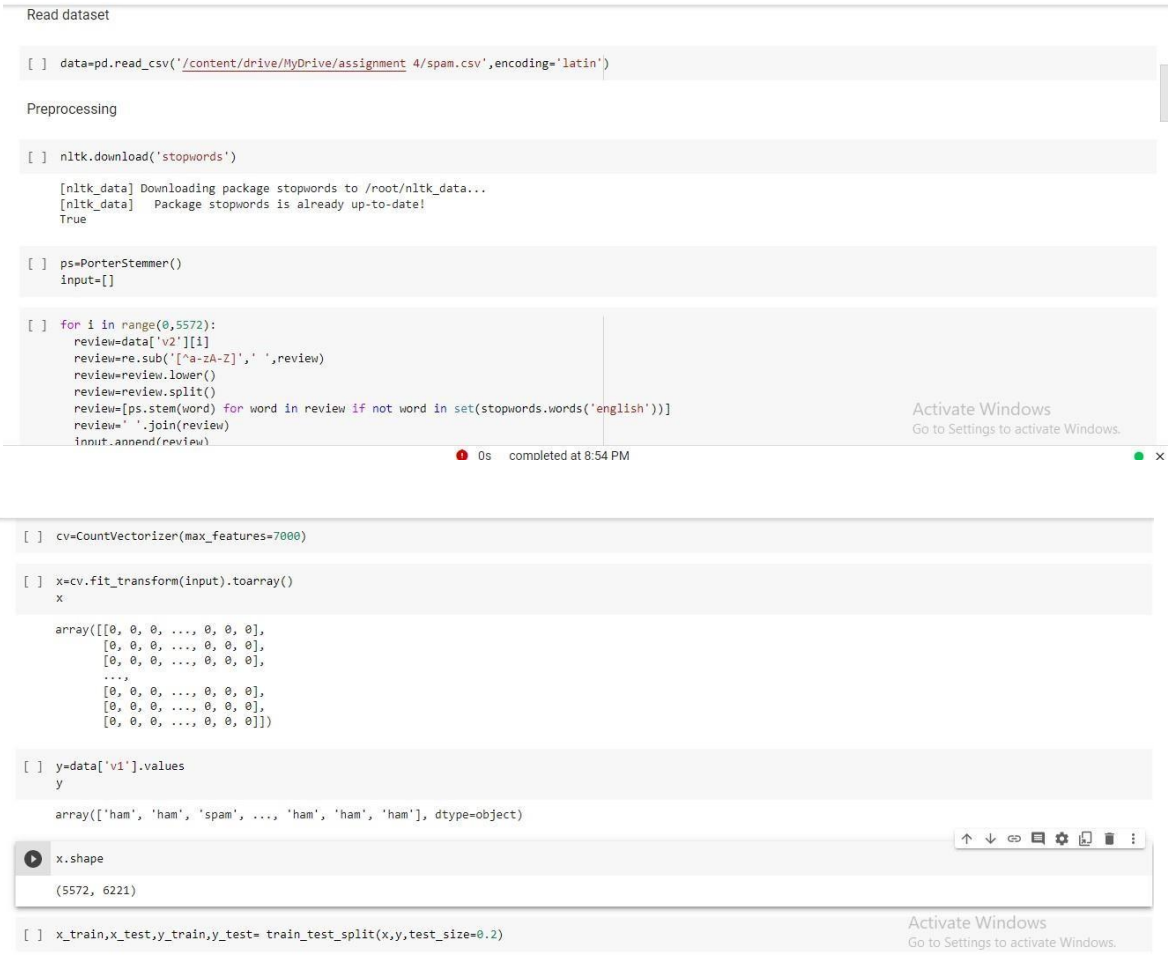
Solution import
nltk import pandas
as pd import re
from nltk.corpus import stopwords from nltk.stem.porter
import PorterStemmer from sklearn.feature_extraction.text
import CountVectorizer from sklearn.model_selection
import train_test_split from tensorflow.keras.models import
Sequential from tensorflow.keras.layers import Dense

Question-3:

Read dataset and do pre-processing

Solution

```
data=pd.read_csv('/content/drive/MyDrive/assignment 4/spam.csv',encoding='latin')
nltk.download('stopwords') ps=PorterStemmer() input=[] for i in range(0,5572):
review=data['v2'][i]  review=re.sub('[^a-zA-Z]',' ',review)
 review=review.lower()  review=review.split()  review=[ps.stem(word) for word in review
if not word in set(stopwords.words('english'))] review=' '.join(review)
input.append(review) cv=CountVectorizer(max_features=7000)
x=cv.fit_transform(input).toarray() y=data['v1'].values x_train,x_test,y_train,y_test=
train_test_split(x,y,test_size=0.2)
```



Question-4:

Create Model

Solution

```
model=Sequential()
```

Question-5:

Add Layers (LSTM, Dense-(Hidden Layers), Output)

Solution

```
model.add(Dense(units=6221,activation='relu'))
model.add(Dense(units=7000,activation='relu'))
model.add(Dense(units=1,activation='sigmoid'))
```

Question-6:

Compile The Model

Solution

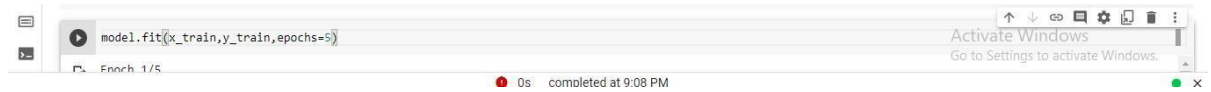
model.compile(optimizer='adam',loss='binary_crossentropy',metrics=['accuracy'])

Question-7:

Fit The Model

Solution

model.fit(x_train,y_train,epochs=5)



Question-7:

Save The Model

Solution

model.save("Flowers.h5")