AI project sentiment analysis chatbot:  
Data preprocessing:

First we have cleaned our orginal text and from regex we have removed we have removed all the white spaces and all the html tags and xml tags and then we have tokenized our text from ntlk libreary and then we have removed all the stop words then we have lematized our textual data by WordNetLemmatizer and then usind train test split method we have separated train data and text data and then we have used NLP to convert our textual data to numerical data so we can easily fit that in our algorithms. We have used vectorizer method from which we have converted all our textual data into vectors and for data preprocessing we have used labelencoder which will normalize our data.

Model that we have used for our chatbot:

We have used neural networks as a model for our chatbot and from from keras liberary we have imported to\_categorical which will convert the data into classes then we have built our neural network by using dense and sequential parameters and by using some activation functions like lu an dsigmoid we have built our neural network are configuring the model for training by using optimizer adam and loss function binary\_crossentropy which we will use for targeting classes and then we have used metrices metrics specifies a list of metrics to evaluate the performance of the model **Metrics**: Tracks the performance of the model (e.g., accuracy) during training and evaluation. And then we finally we are training the neural network by giving our data.

Prediction of sentiment:  
 Here for any input text if we are getting the value>0.6 then the statement is positive or else it will be a negative statement.