

Natural Language Processing in Engineering Education

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ABSTRACT- Natural language processing (NLP) techniques are used in this research project to investigate peer support and faculty support students reported in over 1000 surveys. Students from 19 junior and sophomore level electrical and mechanical engineering courses at a large public research university reported existing and preferred levels of peer support and faculty support in in-person and remote learning contexts. The survey data consists of one short answer question for peer support and one for faculty support. In the case of peer support, short answer questions were deductively coded using a cooperative learning framework, whereas responses in faculty support were not coded. In peer support, I seek to solve the multi-label classification problem by predicting four peer support categories. In the case of faculty support, I broke down the problem into two parts. First, to identify the topics that have emerged from the students' responses, and then to conduct sentiment analysis on the students' responses based on demographics.

The findings of this study will aid in identifying the obstacles that students have encountered in terms of the peer and faculty support they require in engineering education, allowing them to receive any necessary assistance in having a pleasant learning experience.

I. INTRODUCTION

Peer and faculty support are critical components of promoting student involvement and academic achievement. Both play a key role in shaping students' learning and providing the best possible college experience.

Peer support

For many college students, the undergraduate years are the first time that they have spent significant time away from their families. Not surprisingly, students begin to spend most of their social time with their peers and draw much of their social and emotional support from their peer groups [1]. The existing knowledge base repeatedly validates the importance of peer support in both social and academic systems in college. Studies of engineering undergraduates have demonstrated that the degree to which students perceive respect from peers in their classes is positively and significantly correlated to satisfaction. Students are better able to cope in college

with peer support [2] [3], which in turn results in improved academic outcomes [4].

Faculty Support

Support from faculty is an important element of student engagement in higher education institutions. Existing literature demonstrates the important role that faculty interactions, both formal and informal, can play regarding students' social and academic integration—known elements of students' successful degree completion [5]. Social engagement and feelings of connectedness at higher education institutions are heavily influenced by faculty support. Faculty support also has the potential to exceed the influence of overall student culture with regard to students' social engagement [6]. The care and respect that faculty members express has been associated with positive experiences and an emotional commitment to an institution [7].

Students, whether in a physical or virtual learning environment, should ideally have access to all of the resources they require to communicate with peers and instructors. However, we feel that there may be some gaps in meeting those needs with rapidly evolving teaching methodologies, whether in-person or online. This study will forecast what current students will experience in terms of peer support and faculty support. The findings will help in providing resources to academicians in order to address those needs and deliver the best learning experience possible in the future.

II. PROBLEM DESCRIPTION

The aim of this project is to solve two problems as mentioned below.

Problem #1: Peer Support

The goal is to categorize/classify student responses to the following question:

"What one action can students in your lab groups take to improve your educational experience at a large public research institution?"

This study employs the cooperative learning framework developed by Johnson and Johnson [8] [9]. Cooperative learning is defined by researchers as a method that can be applied to a variety of situations, such as teaching

specific content (formal cooperative learning groups), ensuring effective cognitive review of information during a lecture or presentation (informal cooperative learning groups), and providing long-term support for academic achievement (cooperative base groups) [10]. The cooperative model is described by five key categories:

- Category 1: Individual Accountability (IA)
- Category 2: Positive Interdependence (POSI)
- Category 3: Promotive Interactions (PI)
- Category 4: Interpersonal and Social Skills (ISS)
- Category 5: Group Processing (GP)

Note: no student responses were classified as Category 5.

Two research assistants coded the short answer responses from all the students in the survey population using the cooperative learning framework previously described.

The purpose of this section of the NLP project is to classify student responses into the four categories above for maximum accuracy, where accuracy is defined as a classification that is identical to what the researcher determined in initial coding and analysis.

Problem #2: Faculty Support

The goal is to identify the best number of clusters that responses to the following question organize into using NLP methods:

"What one action can faculty take to improve your educational experience at a large public research institution?"

No assumptions are made about how many clusters (groups) these responses will fall into. The goal of this portion of the NLP project is to identify the optimal number of clusters to support future coding of these responses. This will be accomplished by applying 3 NLP techniques to represent the students' responses as follows:

- 1) Topic Modelling
- 2) Sentiment analysis

III. DATA INFORMATION

This study is part of a larger, single-institution research project that evaluated the connections between various forms of support (from faculty, TAs, and peers) and multiple forms of course-level engagement (attention, participation, effort, positive and negative emotional engagement) both in person and in remote learning settings.

Participants

The study includes a student population of 1328 undergraduate students recruited across four engineering

majors and 19 separate classes at the sophomore and junior levels in both traditional and remote learning settings from a large public research institution located in an urban area. Self-reported ethnicity was Asian (43.3%), Black (2.9%), Hispanic (3.1%), White (40.7%), Pacific-Islander (less than 1%), Native American (less than 1%), and Other (2.6%). A number of students were mixed race (6.7%) among which White-Asian was most common (73%). Approximately 25.7% of the original sample was female, with 73.8% male and less than 1% reporting as non-binary. Students also reported their status as U.S. citizens (78.4%), Permanent Residents (5.1%), or International (16.3%) with the most common countries of origin being China (16.2%) or India (4.2%). Preliminary data analyses for all the scales indicated no emerging differences between permanent residents and citizens, so these groups were combined in the final analyses, accounting for 83.5% of the sample population. Similarly, all international students were combined into a single group (16.3% of the sample population) as supported by the preliminary analyses of all the measurement scales. The final demographic characteristics of the student population are summarized in Table 1.

12 courses were surveyed during remote learning (post pandemic) in Spring of 2020 and 7 courses were surveyed during in-person learning between 2016 and 2018. As a result, 45.7% of survey respondents reported their experiences in remote learning while 54.3% reported their experiences in traditional college classrooms. Of the 19 courses studied, 7 were taught in both in-person and remote learning and three (ME1, ME2, EE4) were taught by the same instructor in both settings.

Procedures

IRB (Internal Review Board) approval (STUDY00000378) was obtained to recruit and survey undergraduate students for this study. Researchers interacted with faculty teaching the courses relevant to this study, but the researchers did not engage directly with the students. Since the vast majority of the students in this study began their academic careers at four-year colleges, it was unlikely that they had any direct experience of online learning prior to spring 2020. All participation was voluntary in this study, and students were informed that their survey responses would remain confidential. In several courses, students were incentivized with a nominal amount of extra credit for the course in which they were recruited. In one traditional learning course (EE1), students completed a paper-and-pencil copy of the survey, while in all remaining courses, students completed an electronic survey online and outside of class. Some students were present in more than one class; since survey questions

Table 1: Courses Studied

Course	Level	Setting	Topic	Enrolled	Participants (N)
ME1	Sophomore	Traditional	Visualization & CAD	179	140
	Junior			155	73
	Senior	Remote			
ME2	Sophomore	Traditional	Engineering Statics	69	20
		Remote		92	6
ME3	Sophomore	Traditional	Kinematics and Dynamics	263	218
		Remote		184	143
EE1	Sophomore	Traditional	Introduction to Electrical Engineering	223	175
		Remote		105	73
EE2	Sophomore	Traditional	Circuit Theory	91	70
		Remote		69	57
EE3	Sophomore	Traditional	Continuous Time Linear Systems	84	63
		Remote		86	70
EE4	Sophomore	Traditional	Digital Circuits and Systems	41	35
		Remote		37	27
EE5	Junior	Remote	Devices and Circuits I	56	49
EE6	Junior	Remote	Devices and Circuits II	36	25
EE7	Junior	Remote	Discrete Time Linear Systems	47	37
EE8	Junior	Remote	Energy Systems	71	37
EE9	Junior	Remote	Applied Electromagnetics	15	10

referred to a specific class ("this class"), duplicate surveys were retained for analysis. All results were cross-sectional.

IV. METHOD USED AND EXPERIMENTAL RESULTS

This section of the research study will describe the technique used to tackle problems #1 and #2, as well as the results. Jupyter Notebook was used to implement the model for this project using python language.

Problem #1: Peer Support

This is a multi-label classification problem that requires two critical pieces of information to predict the labels associated with students' comments. The first piece of information required is the students' responses to the peer support question, followed by the labels (PI, IA, ISS, POSI) associated with the students' responses. The frequency of responses in each category is summarized in Table 2.

In the analysis, we removed the responses that were categorized under other, off-topic and none. The data is further preprocessed by removing all the students' responses where any row contain a null value or empty string. Next step was to convert the string values of the labels into numerical values as shown below in the Table 3.

A function is created to clean the text data by eliminating punctuation, numbers, and spaces, as well as single characters. We then divided our data into training (80%) and test (20%) sets. To transform text input to numeric

equivalents, the text is turned into embedded vectors using Glove word embeddings (6B tokens, 400k vocab, 50d).

Table 2: Student Expectations of Peer Support

Primary Category	Frequency of Response (%)	
	In-person	Remote
Other	14 (2.93%)	7(1.10%)
Off-Topic	60(12.6%)	77(12.2%)
None	48(10.0%)	60(9.50%)
Promotive Interaction (PI)	130(27.3%)	216(34.2%)
Individual Accountability (IA)	135(28.3%)	105(16.6%)
Interpersonal/Social Skills (ISS)	52(10.9%)	76(12.4%)
Positive Interdependence (POSI)	38(7.96%)	93(14.7%)
Total	477	631

Furthermore, a multi-label classification model is created in a neural network using the dense layer, which is a deep-connected neural network layer, meaning is that each neuron in the dense layer gets input from all neurons in the preceding layer. For problem #1, we used two dense layer output models to predict the labels as mentioned below:

1) Multi-label text classification with single dense output layer Model: This is our baseline model which has a single dense layer with four outputs with sigmoid activation and binary cross entropy loss functions. In the

output dense layer, each neuron will represent one of the four output labels. For each neuron, the sigmoid activation function will yield a value between 0 and 1. If the output value of any neuron is larger than 0.5, it is presumed that the comment belongs to the class represented by that neuron [11].

Table 3: Numerical labeled data

PI	POSI	ISS	IA
0	1	0	0 0
1	0	1	0 0
2	1	0	0 0
3	1	0	0 0
4	1	0	0 0
...
707	0	0	1 1
708	1	0	0 0
709	1	0	0 0
710	1	0	0 0
711	0	0	0 1

The model script used creates one input layer, one embedding layer, one LSTM layer with 128 neurons and one output layer with 4 neurons since we have 4 labels in the output. I trained the model with 5 epochs and with adam as an optimizer after that the model is evaluated on the test set. Model summary has been given below in table 4.

Table 4: Single dense output layer model summary

Layer (type)	Output Shape	Param #
input_3 (Input Layer)	[(None, 200)]	0
embedding_2 (Embedding)	(None, 200, 50)	72100
lstm_2 (LSTM)	(None, 128)	91648
dense_5 (Dense)	(None, 4)	516
Total params:	164,264	
Trainable params:	92,164	
Non-trainable params:	72,100	

Our model achieved an accuracy of 47%. Finally, the plot of accuracy values for training and test sets is created to see if our model is overfitting.

2) Multi-label text classification with multiple dense output layer model: In the multiple dense output layer, for each label, one dense output layer is created. The output will contain a total of four dense layers. The sigmoid function will be different for each layer [11].

The data is cleaned and divided in this model in the same way as it was done in the previous model. In this model, however, we want to build a separate output layer for each label. As a result, we generate four variables to store individual labels from the data. The text data input is then converted into the embedded vectors using glove word embedding (6B tokens, 400k vocab, 50d). The model architecture is built with one input layer, one embedding layer, and one LSTM layer of 128 neurons. The LSTM layer's output will be utilized as the input to the four dense output layers. One neuron with sigmoid activation function will be present in each output layer. For the appropriate label, each output will predict an integer value between 1 and 0. Model summary has been given below in table 5.

After assessing the model's performance, an accuracy of 69% is achieved on the test set via multiple output layers.

Problem #2: Faculty Support

The faculty support problem is broken into two parts: A) Topic modeling, B) Sentiment Analysis. Each approach employed has been explained in detail below, along with the findings.

A) Topic Modelling: Topic modeling is an unsupervised methodology for analyzing vast amounts of text data by grouping texts together. The text data in topic modeling does not have any labels linked to it. Topic modeling, group the documents into clusters based on common characteristics. In this research study we have used two approaches for topic modeling: Latent Dirichlet Allocation and Non-Negative Matrix factorization.

Table 5: Multiple dense output layer model summary

Layer (type)	Output Shape	Param #	Connected to
input_2 (Input Layer)	[(None, 200)]	0	
embedding_1 (Embedding)	(None, 200, 50)	72100	input_2[0][0]
lstm_1 (LSTM)	(None, 128)	91648	embedding_1[0][0]
dense_1 (Dense)	(None, 1)	129	lstm_1[0][0]
dense_2 (Dense)	(None, 1)	129	lstm_1[0][0]
dense_3 (Dense)	(None, 1)	129	lstm_1[0][0]
dense_4 (Dense)	(None, 1)	129	lstm_1[0][0]
Total params:	164,264		
Trainable params:	92,164		
Non-trainable params:	72,100		

1) *Latent Dirichlet Allocation (LDA)*: It is a generative statistical model that allows unobserved groups to explain why some sections of the data are similar. Mathematically, in LDA, documents represent a probability distribution over latent topics, whereas topics represent a probability distribution over words [12].

Before applying the LDA, we first pre-process the data and use the count vectorizer to construct a vocabulary of all the terms in our data. We specify that only terms that appear in less than 80% of the responses and in at least two responses are included. We also delete all stop words because they contribute nothing to topic modeling. Then, for each topic, we have used LDA to generate topics as well as the probability distribution for each word in our vocabulary.

To pick the 10 words with the highest likelihood for the first topic, we use the components_ attribute and a 0 index as the value. The argsort() method is used to sort the indexes according to their probability values. Following sorting, the 10 words with the highest probability are given to the array's last 10 indexes. Then we retrieve the words with the highest probability. After that, we discovered ten words with the highest probability for each of the three topics as shown in table 6. Finally, the probability of each topic will be assigned to each student's response using LDA.transform() function.

2) *Non-negative matrix factorization (NMF)*: Non-negative matrix factorization is a supervised learning approach that also conducts clustering and dimensionality reduction. To do topic modeling, it may be utilized in conjunction with the TF-IDF (term frequency-inverse document frequency) method [12].

Table 6: Topics emerged from Latent Dirichlet Allocation

Topics	Top 10 words									
	#1	[‘like’, ‘material’, ‘make’, ‘classes’, ‘professors’, ‘questions’, ‘time’, ‘lectures’, ‘class’, ‘students’]								
#2	[‘exam’, ‘provide’, ‘extra’, ‘help’, ‘exams’, ‘problems’, ‘practice’, ‘office’, ‘hours’, ‘nan’]									
#3	[‘material’, ‘professor’, ‘online’, ‘helpful’, ‘clear’, ‘slides’, ‘class’, ‘lectures’, ‘notes’, ‘lecture’]									

In NMF, the document term matrix is created using TF-IDF, and then the probability matrix is constructed, which comprises the probabilities of all the words in the lexicon for all topics. The next stages in the NMF are similar to those in the LDA in that we identify the top ten words, and then we discover the top ten words with the highest probability for the top five topics. Table 6 shows topics that are similar to those obtained through the NMF. After reviewing all of the topics from both techniques, three themes seemed to have emerged: Assessment, Supporting Materials, and Faculty Interaction

B) Sentiment Analysis: In this research study, sentiment analysis is performed to determine the students' feelings towards faculty support. Pretrained sentiment analysis tools are used to do sentiment analysis, as listed below:

1) NLTK: The Vader sentiment analysis tool from NLTK uses a bag of words technique (a lookup table of positive and negative phrases) in conjunction with some simple heuristics [13].

2) Textblob: Sentiment Analysis in textblob uses a bag of words classifier in the same manner as NLTK does, but it also incorporates Subjectivity Analysis [13].

3) Flair: Flair's sentiment classifier is built on a character-level LSTM neural network that predicts based on letter and word sequences [13].

Table 7 displays the results of all three pre-trained sentiment analyses. In the table, SA1 column represents the student's responses to faculty support, and the columns to the left of SA1 indicate the student's information, such as social class, father's education, gender, age, major, and so on. Using NLTK, we discovered negative, neutral, positive, and compound parameters on the right side of SA1. Textblob provided polarity and subjectivity, while flair provided positive/negative sentiments.

Figure 1 illustrates the gender differences in student sentiments toward faculty support.

Table 7: Sentiment Analysis for faculty support

I2_Major	A4.2	A5.2	B1_Age	B2_Gender	...	B8_FatherEd	B9_SocioClass	SA1	Negative	Neutral	Positive	Compound	polarity	subjectivity	Sentiments
6 2015 2020	21	2	...	2		3	In class problems	0.574	0.426	0.000	-0.4019	0.000000	0.000000	NEGATIVE	
6 2016 2020	19	2	...	3		4	Taking the time to make sure that the class un...	0.000	0.919	0.081	0.5574	0.158333	0.439352	POSITIVE	

Figure 1 illustrates the gender differences in student sentiments toward faculty support. We observed that female students had around 2% higher positive faculty support experience than male students.

Table 7 shows students' sentiments towards faculty support by demographics. We discovered that white students and Asian students received more than 70% of faculty support, whereas

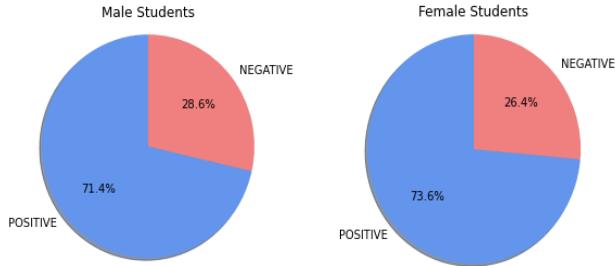


Fig 1: Sentiment Analysis by gender (Faculty support)

Pacific Islander and black students received more than 40% of negative faculty support.

Table 7: Sentiment Analysis by demographic (faculty support)

Students Demographic	Positive faculty support	Negative faculty support
White	75.9%	24.1%
Asian	70.1%	29.9%
Black	59.3%	40.7%
Hispanic	67.6%	32.4%
Pacific Islander	50%	50%
Other	67.7%	32.3%

V. CONCLUSION

This paper summarizes the findings from NLP applications in engineering education. This study predicted different labels of peer support based on student survey responses. Deep neural network approaches were used to achieve a maximum accuracy of 69 percent in multi-label classification. Using LDA and NFM techniques, we observed that the topics - assessment, supporting material, and faculty interaction evolved from students' responses with regards to faculty support. Additionally, we revealed students' attitudes regarding faculty support by gender and demography using pre-trained sentiment analysis methods. There were no significant differences in positive and negative emotions across genders, although there were notable differences in perceived faculty support across demographic groups. This study may be expanded in the future to see whether there are any biases in the findings obtained for multi-label classification when the labels were coded deductively. Additionally, the repercussions of faculty support may be examined in

detail in order to ascertain the underlying reasons for students receiving varied degrees of perceived support from instructors, as well as ways for closing those gaps. Semantic similarity may also be used and investigated in detail to discover groups of students with comparable faculty support depending on their demographics.

VI. LIMITATION

This study focused on the student experience at a single institution and in a limited number of majors (primarily electrical and mechanical engineering), therefore the generalizability to other academic settings may be limited. Despite the fact that no survey questions asked if students had prior online survey experience, the vast majority of students in this study began their college education at the traditional, in-person institution participating in this study. As a result, it is fair to say that most students have little or no exposure to online classes prior to Spring 2020. Further, the remote learning data were collected in the first full term of remote learning and do not reflect longer term adjustments that students may have made as remote learning extended into the 2020-2021 academic year. Another drawback is that the data obtained from the courses in this study was taught by different professors, and the survey was conducted outside of the control of the researchers. The qualitative analysis of responses to short answer questions provides important insight as to what kinds of behaviors and contributions students expect from their peers and what they believe to be the most important contributions from their peers and faculties. Therefore, despite the limitations, the results of this study offer a rich perspective regarding what students perceive as necessary support from their peers and instructors.

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Problem #1: The goal is to categorize/classify student responses to the following question:

"What one action can students in your lab groups take to improve your educational experience at UW?"

Categories have already been established within a community of learners of framework as:

Category 1: Individual Accountability(IA), Category 2: Positive Interdependence(POSI), Category 3: Promotive Interactions(PI), Category 4: Interpersonal and Social Skills(ISS), Category 5: Group Processing(GP)

Note: no student responses were classified as Category 5

The purpose of this section of the NLP project is to classify student responses into the five categories above for maximum accuracy, where accuracy is defined as a classification that is identical to what the researcher determined in initial coding and analysis.

In [50]:

```
from numpy import array
from keras.preprocessing.text import one_hot
from keras.preprocessing.sequence import pad_sequences
from keras.models import Sequential
from keras.layers.core import Activation, Dropout, Dense
from keras.layers import Flatten, LSTM
from keras.layers import GlobalMaxPooling1D
from keras.models import Model
from keras.layers.embeddings import Embedding
from sklearn.model_selection import train_test_split
from keras.preprocessing.text import Tokenizer
from keras.layers import Input
from keras.layers.merge import Concatenate

import pandas as pd
import numpy as np
import re

import matplotlib.pyplot as plt
```

In [51]:

```
input_data = pd.read_csv('/Users/nehakardam/Documents/UWclasses /EE517 NLP/Proje
```

In [52]:

```
input_data
```

Out[52]:

		SA3	CL.1	CL.2
0	It would help if more students were active par...	PI	NaN	
1	I feel the way my lab section works is both en...	POSI	NaN	
2	Be more engaging	PI	NaN	
3	When the course is online, having meaningful i...	PI	NaN	
4	Try to engage more in the lab sections. It is ...	PI	NaN	

		SA3	CL.1	CL.2
...
707	If people actually show up and want to interact...	IA	ISS	
708	Ask more questions	PI	NaN	
709	Collectively ensure that material is relevant ...	PI	NaN	
710	Ask more questions.	PI	NaN	
711	Be willing to help others.	IA	NaN	

712 rows × 3 columns

```
In [53]: input_data['CL.1'].unique()
```

```
Out[53]: array(['PI', 'POSI', 'ISS', 'IA', ' POSI '], dtype=object)
```

```
In [54]: type(input_data)
```

```
Out[54]: pandas.core.frame.DataFrame
```

```
In [55]: # # replace all the missing values for numerical features with zeros
new_table = []

for row in range(input_data.shape[0]):
    # columns are ['PI', 'POSI', 'ISS', 'IA']
    new_row = [0,0,0,0]

    if(input_data['CL.1'][row] == 'PI'):
        new_row[0] = 1
    elif(input_data['CL.1'][row] == 'POSI' or input_data['CL.1'][row] == ' POSI '):
        new_row[1] = 1
    elif(input_data['CL.1'][row] == 'ISS'):
        new_row[2] = 1
    elif(input_data['CL.1'][row] == 'IA'):
        new_row[3] = 1

    if(input_data['CL.2'][row] == 'PI'):
        new_row[0] = 1
    elif(input_data['CL.2'][row] == 'POSI' or input_data['CL.2'][row] == ' POSI '):
        new_row[1] = 1
    elif(input_data['CL.2'][row] == 'ISS'):
        new_row[2] = 1
    elif(input_data['CL.2'][row] == 'IA'):
        new_row[3] = 1

    new_table.append(new_row)

new_df = pd.DataFrame(new_table, columns=['PI', 'POSI', 'ISS', 'IA'])
```

```
In [56]: new_df
```

	PI	POSI	ISS	IA
0	1	0	0	0
1	0	1	0	0

	PI	POSI	ISS	IA
2	1	0	0	0
3	1	0	0	0
4	1	0	0	0
...
707	0	0	1	1
708	1	0	0	0
709	1	0	0	0
710	1	0	0	0
711	0	0	0	1

712 rows × 4 columns

```
In [57]: result = pd.concat([input_data, new_df], axis=1)
result
```

	SA3	CL.1	CL.2	PI	POSI	ISS	IA
0	It would help if more students were active par...	PI	NaN	1	0	0	0
1	I feel the way my lab section works is both en...	POSI	NaN	0	1	0	0
2	Be more engaging	PI	NaN	1	0	0	0
3	When the course is online, having meaningful i...	PI	NaN	1	0	0	0
4	Try to engage more in the lab sections. It is ...	PI	NaN	1	0	0	0
...
707	If people actually show up and want to interac...	IA	ISS	0	0	1	1
708	Ask more questions	PI	NaN	1	0	0	0
709	Collectively ensure that material is relevant ...	PI	NaN	1	0	0	0
710	Ask more questions.	PI	NaN	1	0	0	0
711	Be willing to help others.	IA	NaN	0	0	0	1

712 rows × 7 columns

```
In [58]: # filter = result["SA3"] != ""
# result = result[filter]
# result = result.dropna()
```

```
In [59]: print(result["SA3"][420])
```

In the writing of a lab report, they can contribute where they have strengths and ask for assistance where they are not confident.

```
In [60]: print("PI:" + str(result["PI"][420]))
print("POSI:" + str(result["POSI"][420]))
print("ISS:" + str(result["ISS"][420]))
print("IA:" + str(result["IA"][420]))
```

```
PI:1  
POSI:0  
ISS:0  
IA:0
```

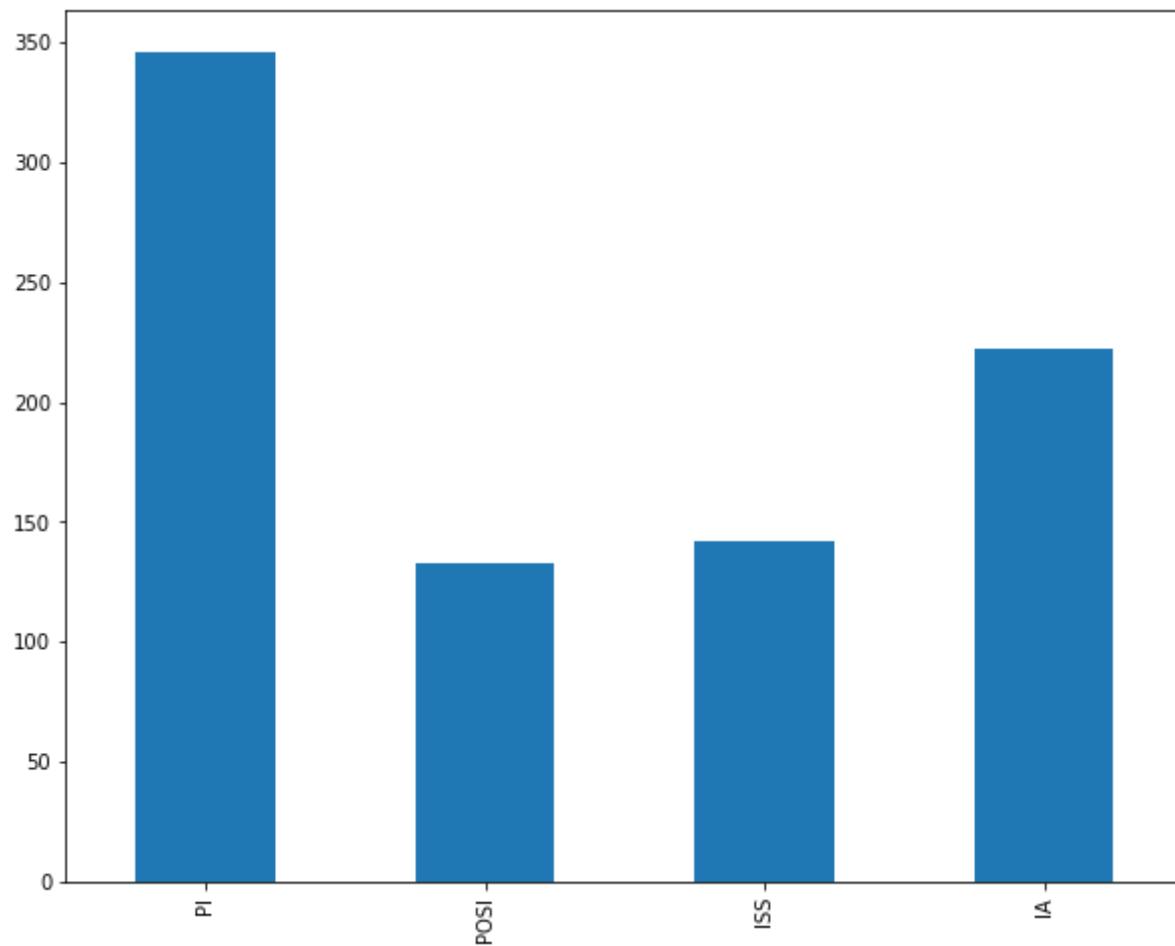
Let's now plot the comment count for each label. To do so, we will first filter all the label or output columns.

```
In [61]: result_labels = result[['PI', 'POSI', 'ISS', 'IA']]  
result_labels.head()
```

```
Out[61]:   PI  POSI  ISS  IA  
0    1     0    0    0  
1    0     1    0    0  
2    1     0    0    0  
3    1     0    0    0  
4    1     0    0    0
```

```
In [62]: fig_size = plt.rcParams["figure.figsize"]  
fig_size[0] = 10  
fig_size[1] = 8  
plt.rcParams["figure.figsize"] = fig_size  
  
result_labels.sum(axis=0).plot.bar()
```

```
Out[62]: <AxesSubplot:>
```



Creating Multi-label Text Classification Models

There are two ways to create multi-label classification models: Using single dense output layer and using multiple dense output layers.

Multi-label text classification model with single output layer In the first approach, we can use a single dense layer with 4 outputs with a sigmoid activation functions and binary cross entropy loss functions. Each neuron in the output dense layer will represent one of the 4 output labels. The sigmoid activation function will return a value between 0 and 1 for each neuron. If any neuron's output value is greater than 0.5, it is assumed that the comment belongs to the class represented by that particular neuron.

```
In [63]: def preprocess_text(sen):
    # Remove punctuations and numbers
    sentence = re.sub('[^a-zA-Z]', ' ', sen)

    # Single character removal
    sentence = re.sub(r"\s+[a-zA-Z]\s+", ' ', sentence)

    # Removing multiple spaces
    sentence = re.sub(r'\s+', ' ', sentence)

    return sentence
```

```
In [64]: X = []
sentences = list(result["SA3"])
```

```

for sen in sentences:
    X.append(preprocess_text(sen))

y = result_labels.values

```

```
In [65]: X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.20, random
```

```

In [66]: tokenizer = Tokenizer(num_words=5000)
tokenizer.fit_on_texts(X_train)

X_train = tokenizer.texts_to_sequences(X_train)
X_test = tokenizer.texts_to_sequences(X_test)

vocab_size = len(tokenizer.word_index) + 1

maxlen = 200

X_train = pad_sequences(X_train, padding='post', maxlen=maxlen)
X_test = pad_sequences(X_test, padding='post', maxlen=maxlen)

```

```

In [67]: from numpy import array
from numpy import asarray
from numpy import zeros

embeddings_dictionary = dict()

glove_file = open('/Users/nehakardam/Documents/UWclasses /EE517 NLP/Lab 1/glove.

for line in glove_file:
    records = line.split()
    word = records[0]
    vector_dimensions = asarray(records[1:], dtype='float32')
    embeddings_dictionary[word] = vector_dimensions
glove_file.close()

embedding_matrix = zeros((vocab_size, 50))
for word, index in tokenizer.word_index.items():
    embedding_vector = embeddings_dictionary.get(word)
    if embedding_vector is not None:
        embedding_matrix[index] = embedding_vector

```

The following script creates the model. Our model will have one input layer, one embedding layer, one LSTM layer with 128 neurons and one output layer with 4 neurons since we have 4 labels in the output.

```

In [68]: deep_inputs = Input(shape=(maxlen,))
embedding_layer = Embedding(vocab_size, 50, weights=[embedding_matrix], trainable=False)
LSTM_Layer_1 = LSTM(128)(embedding_layer)
dense_layer_1 = Dense(4, activation='sigmoid')(LSTM_Layer_1)
model = Model(inputs=deep_inputs, outputs=dense_layer_1)

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

```

```
In [69]: print(model.summary())
```

```
Model: "model_2"
```

Layer (type)	Output Shape	Param #
--------------	--------------	---------

```
=====
input_3 (InputLayer)          [(None, 200)]          0
embedding_2 (Embedding)      (None, 200, 50)        72100
lstm_2 (LSTM)                (None, 128)           91648
dense_5 (Dense)              (None, 4)             516
=====
Total params: 164,264
Trainable params: 92,164
Non-trainable params: 72,100
=====
None
```

In [70]: # !pip install pydot

```
Requirement already satisfied: pydot in /opt/anaconda3/lib/python3.8/site-packages (1.4.2)
Requirement already satisfied: pyparsing>=2.1.4 in /opt/anaconda3/lib/python3.8/site-packages (from pydot) (2.4.7)
```

In [71]: # !install graphviz

```
usage: install [-bCcpSsv] [-B suffix] [-f flags] [-g group] [-m mode]
               [-o owner] file1 file2
               install [-bCcpSsv] [-B suffix] [-f flags] [-g group] [-m mode]
                        [-o owner] file1 ... fileN directory
               install -d [-v] [-g group] [-m mode] [-o owner] directory ...
```

In [72]: from keras.utils import plot_model
plot_model(model, to_file='model_plot4a.png', show_shapes=True, show_layer_names

```
('Failed to import pydot. You must `pip install pydot` and install graphviz (https://graphviz.gitlab.io/download/), ', 'for `pydotprint` to work.')
```

In [75]: # from keras.utils import plot_model
from graphviz import Digraph
plot_model(model, to_file='model_plot4a.png', show_shapes=True, show_layer_names

We will train our model for 5 epochs.

In [90]: history = model.fit(X_train, y_train, batch_size=128, epochs=6, verbose=1, valid

```
Epoch 1/6
4/4 [=====] - 1s 147ms/step - loss: 0.5674 - acc: 0.503
3 - val_loss: 0.5980 - val_acc: 0.4298
Epoch 2/6
4/4 [=====] - 1s 140ms/step - loss: 0.5673 - acc: 0.503
3 - val_loss: 0.5989 - val_acc: 0.4298
Epoch 3/6
4/4 [=====] - 1s 140ms/step - loss: 0.5673 - acc: 0.503
3 - val_loss: 0.5976 - val_acc: 0.4298
Epoch 4/6
4/4 [=====] - 1s 142ms/step - loss: 0.5673 - acc: 0.503
3 - val_loss: 0.5960 - val_acc: 0.4298
Epoch 5/6
4/4 [=====] - 1s 139ms/step - loss: 0.5673 - acc: 0.503
3 - val_loss: 0.5968 - val_acc: 0.4298
Epoch 6/6
4/4 [=====] - 1s 140ms/step - loss: 0.5673 - acc: 0.503
3 - val_loss: 0.5970 - val_acc: 0.4298
```

In [94]: score = model.evaluate(X_test, y_test, verbose=1)

```
print("Test Score:", score[0])
print("Test Accuracy:", score[1])

5/5 [=====] - 0s 21ms/step - loss: 0.5771 - acc: 0.4755
Test Score: 0.5770677924156189
Test Accuracy: 0.4755244851112366
```

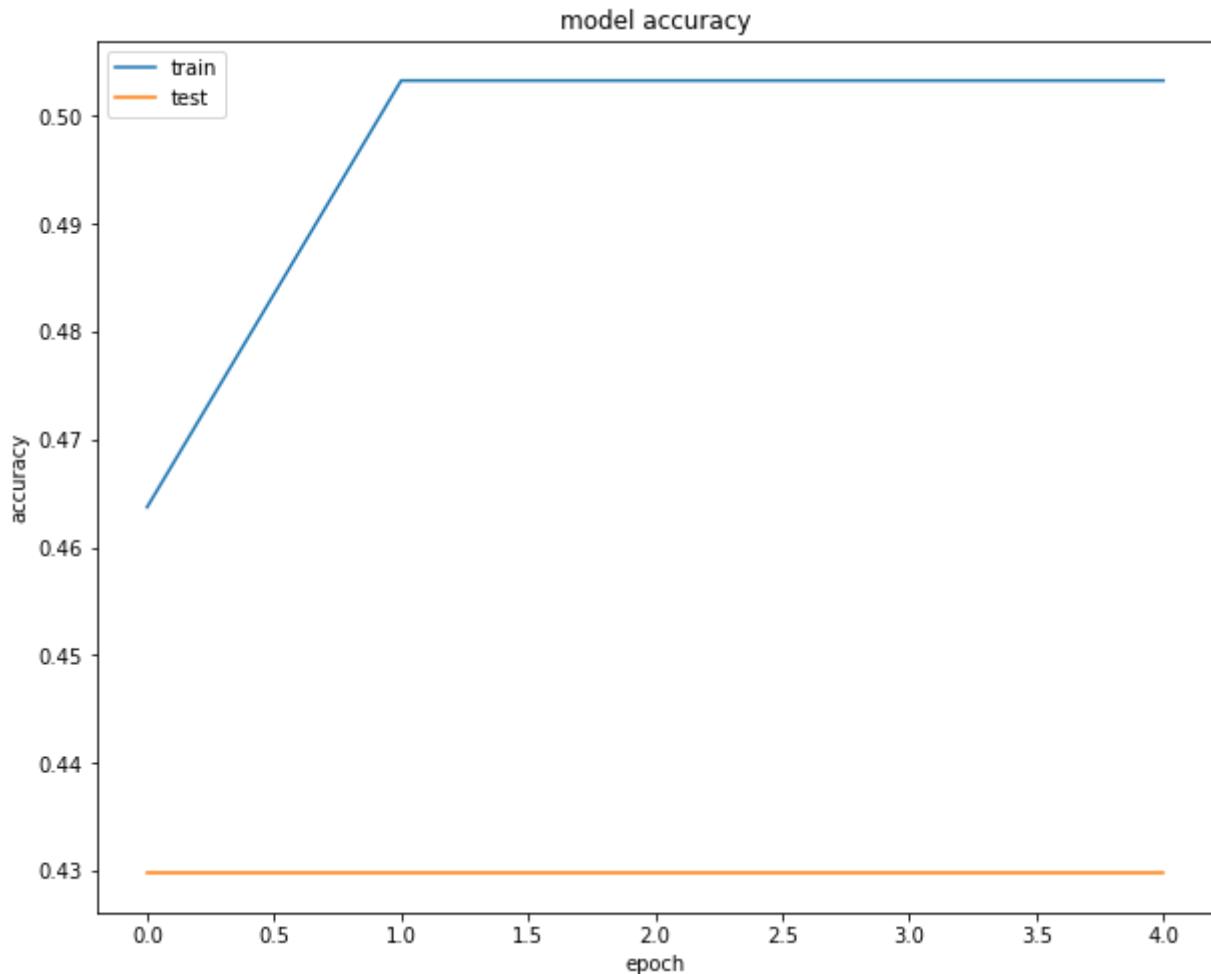
```
In [27]: import matplotlib.pyplot as plt

plt.plot(history.history['acc'])
plt.plot(history.history['val_acc'])

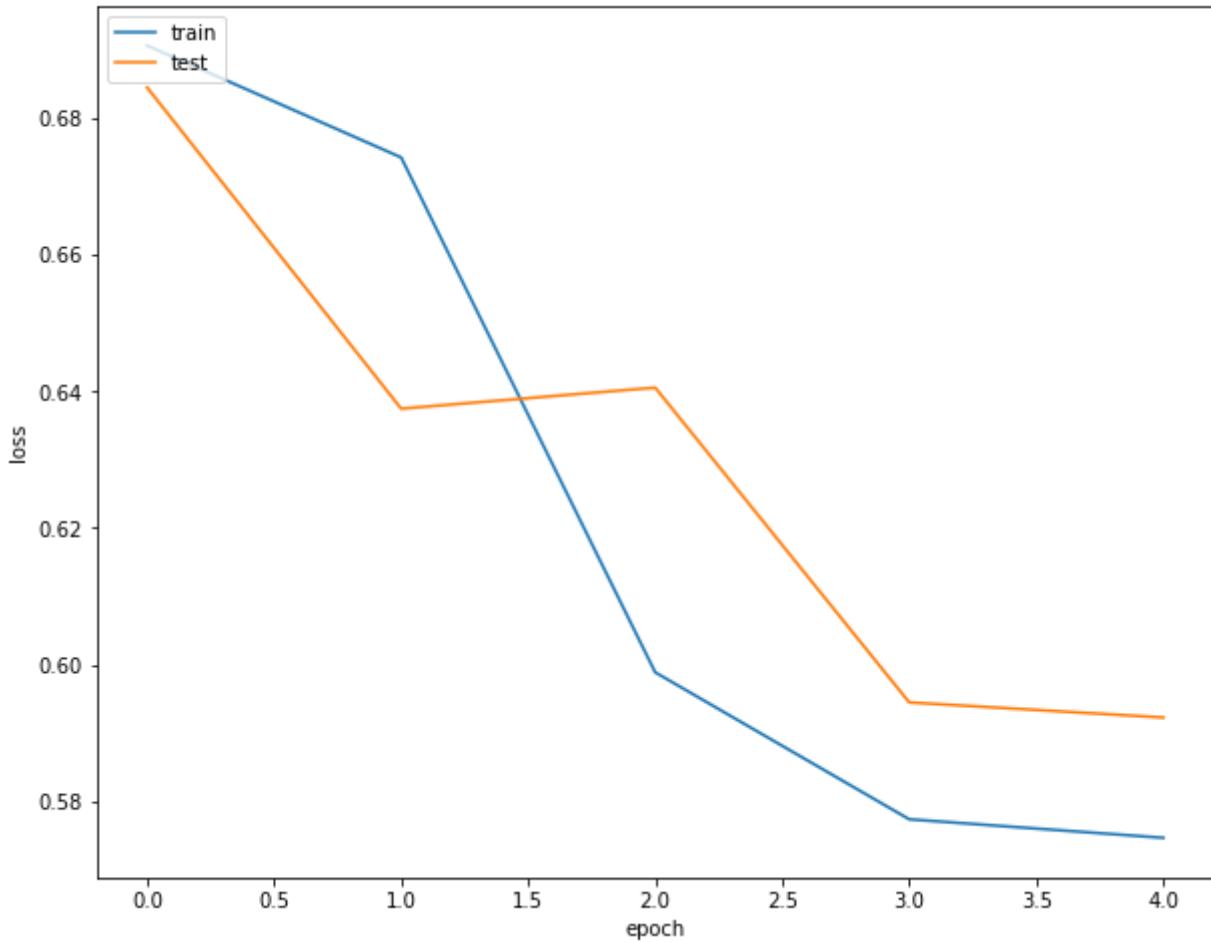
plt.title('model accuracy')
plt.ylabel('accuracy')
plt.xlabel('epoch')
plt.legend(['train', 'test'], loc='upper left')
plt.show()

plt.plot(history.history['loss'])
plt.plot(history.history['val_loss'])

plt.title('model loss')
plt.ylabel('loss')
plt.xlabel('epoch')
plt.legend(['train', 'test'], loc='upper left')
plt.show()
```



model loss



Multi-lable Text Classification Model with Multiple Output Layers

In the second approach we will create one dense output layer for each label. We will have a total of 4 dense layers in the output. Each layer will have its own sigmoid function.

```
In [28]: def preprocess_text(sen):
    # Remove punctuations and numbers
    sentence = re.sub('[^a-zA-Z]', ' ', sen)

    # Single character removal
    sentence = re.sub(r"\s+[a-zA-Z]\s+", ' ', sentence)

    # Removing multiple spaces
    sentence = re.sub(r'\s+', ' ', sentence)

    return sentence
```

```
In [29]: X = []
sentences = list(result["SA3"])
for sen in sentences:
    X.append(preprocess_text(sen))

y = result[['PI', 'POSI', 'ISS', 'IA']]
```

```
In [30]: X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.20, random
```

```
In [31]:
# First output
y1_train = y_train[["PI"]].values
y1_test = y_test[["PI"]].values

# Second output
y2_train = y_train[["POSI"]].values
y2_test = y_test[["POSI"]].values

# Third output
y3_train = y_train[["ISS"]].values
y3_test = y_test[["ISS"]].values

# Fourth output
y4_train = y_train[["IA"]].values
y4_test = y_test[["IA"]].values
```

```
In [32]:
tokenizer = Tokenizer(num_words=5000)
tokenizer.fit_on_texts(X_train)

X_train = tokenizer.texts_to_sequences(X_train)
X_test = tokenizer.texts_to_sequences(X_test)

vocab_size = len(tokenizer.word_index) + 1

maxlen = 200

X_train = pad_sequences(X_train, padding='post', maxlen=maxlen)
X_test = pad_sequences(X_test, padding='post', maxlen=maxlen)
```

```
In [33]:
glove_file = open("/Users/nehakardam/Documents/UWclasses /EE517 NLP/Lab 1/glove.

for line in glove_file:
    records = line.split()
    word = records[0]
    vector_dimensions = asarray(records[1:], dtype='float32')
    embeddings_dictionary[word] = vector_dimensions
glove_file.close()

embedding_matrix = zeros((vocab_size, 50))
for word, index in tokenizer.word_index.items():
    embedding_vector = embeddings_dictionary.get(word)
    if embedding_vector is not None:
        embedding_matrix[index] = embedding_vector
```

```
In [34]:
input_1 = Input(shape=(maxlen,))
embedding_layer = Embedding(vocab_size, 50, weights=[embedding_matrix], trainable=False)
LSTM_Layer1 = LSTM(128)(embedding_layer)

output1 = Dense(1, activation='sigmoid')(LSTM_Layer1)
output2 = Dense(1, activation='sigmoid')(LSTM_Layer1)
output3 = Dense(1, activation='sigmoid')(LSTM_Layer1)
output4 = Dense(1, activation='sigmoid')(LSTM_Layer1)

model = Model(inputs=input_1, outputs=[output1, output2, output3, output4])
model.compile(loss='binary_crossentropy', optimizer='adam', metrics=['acc'])
```

```
In [35]: print(model.summary())
```

Model: "model_1"

Layer (type)	Output Shape	Param #	Connected to
input_2 (InputLayer)	[None, 200]	0	
embedding_1 (Embedding)	(None, 200, 50)	72100	input_2[0][0]
lstm_1 (LSTM) [0]	(None, 128)	91648	embedding_1[0]
dense_1 (Dense)	(None, 1)	129	lstm_1[0][0]
dense_2 (Dense)	(None, 1)	129	lstm_1[0][0]
dense_3 (Dense)	(None, 1)	129	lstm_1[0][0]
dense_4 (Dense)	(None, 1)	129	lstm_1[0][0]
Total params: 164,264			
Trainable params: 92,164			
Non-trainable params: 72,100			
None			

```
In [36]: # from keras.utils import plot_model
# plot_model(model, to_file='model_plot4b.png', show_shapes=True, show_layer_name
```

```
In [37]: history = model.fit(x=X_train, y=[y1_train, y2_train, y3_train, y4_train], batch
```

```
Epoch 1/5
1/1 [=====] - 3s 3s/step - loss: 2.7726 - dense_1_loss: 0.6931 - dense_2_loss: 0.6931 - dense_3_loss: 0.6931 - dense_4_loss: 0.6931 - dense_1_acc: 0.4967 - dense_2_acc: 0.8176 - dense_3_acc: 0.8110 - dense_4_acc: 0.6945 - val_loss: 2.7660 - val_dense_1_loss: 0.6932 - val_dense_2_loss: 0.6898 - val_dense_3_loss: 0.6905 - val_dense_4_loss: 0.6926 - val_dense_1_acc: 0.4298 - val_dense_2_acc: 0.8246 - val_dense_3_acc: 0.7456 - val_dense_4_acc: 0.6491
Epoch 2/5
1/1 [=====] - 0s 481ms/step - loss: 2.7651 - dense_1_loss: 0.6931 - dense_2_loss: 0.6898 - dense_3_loss: 0.6898 - dense_4_loss: 0.6924 - dense_1_acc: 0.5033 - dense_2_acc: 0.8220 - dense_3_acc: 0.8066 - dense_4_acc: 0.6945 - val_loss: 2.7580 - val_dense_1_loss: 0.6933 - val_dense_2_loss: 0.6856 - val_dense_3_loss: 0.6872 - val_dense_4_loss: 0.6919 - val_dense_1_acc: 0.4298 - val_dense_2_acc: 0.8246 - val_dense_3_acc: 0.7456 - val_dense_4_acc: 0.6491
Epoch 3/5
1/1 [=====] - 0s 416ms/step - loss: 2.7560 - dense_1_loss: 0.6931 - dense_2_loss: 0.6857 - dense_3_loss: 0.6857 - dense_4_loss: 0.6915 - dense_1_acc: 0.5033 - dense_2_acc: 0.8220 - dense_3_acc: 0.8066 - dense_4_acc: 0.6945 - val_loss: 2.7477 - val_dense_1_loss: 0.6933 - val_dense_2_loss: 0.6805 - val_dense_3_loss: 0.6829 - val_dense_4_loss: 0.6910 - val_dense_1_acc: 0.4298 - val_dense_2_acc: 0.8246 - val_dense_3_acc: 0.7456 - val_dense_4_acc: 0.6491
Epoch 4/5
1/1 [=====] - 0s 419ms/step - loss: 2.7444 - dense_1_lo
```

```
ss: 0.6931 - dense_2_loss: 0.6806 - dense_3_loss: 0.6803 - dense_4_loss: 0.6903
- dense_1_acc: 0.5033 - dense_2_acc: 0.8220 - dense_3_acc: 0.8066 - dense_4_acc:
0.6945 - val_loss: 2.7339 - val_dense_1_loss: 0.6934 - val_dense_2_loss: 0.6736
- val_dense_3_loss: 0.6772 - val_dense_4_loss: 0.6897 - val_dense_1_acc: 0.4298
- val_dense_2_acc: 0.8246 - val_dense_3_acc: 0.7456 - val_dense_4_acc: 0.6491
Epoch 5/5
1/1 [=====] - 0s 431ms/step - loss: 2.7287 - dense_1_lo
ss: 0.6931 - dense_2_loss: 0.6738 - dense_3_loss: 0.6731 - dense_4_loss: 0.6886
- dense_1_acc: 0.5033 - dense_2_acc: 0.8220 - dense_3_acc: 0.8066 - dense_4_acc:
0.6945 - val_loss: 2.7144 - val_dense_1_loss: 0.6935 - val_dense_2_loss: 0.6639
- val_dense_3_loss: 0.6692 - val_dense_4_loss: 0.6879 - val_dense_1_acc: 0.4298
- val_dense_2_acc: 0.8246 - val_dense_3_acc: 0.7456 - val_dense_4_acc: 0.6491
```

In [38]:

```
score = model.evaluate(x=X_test, y=[y1_test, y2_test, y3_test, y4_test], verbose=1)

print("Test Score:", score[0])
print("Test Accuracy:", score[1])
```

```
5/5 [=====] - 0s 22ms/step - loss: 2.7087 - dense_1_lo
ss: 0.6933 - dense_2_loss: 0.6684 - dense_3_loss: 0.6610 - dense_4_loss: 0.6861 -
dense_1_acc: 0.4755 - dense_2_acc: 0.7762 - dense_3_acc: 0.8252 - dense_4_acc:
0.6993
Test Score: 2.708740711212158
Test Accuracy: 0.693268895149231
```

In [39]:

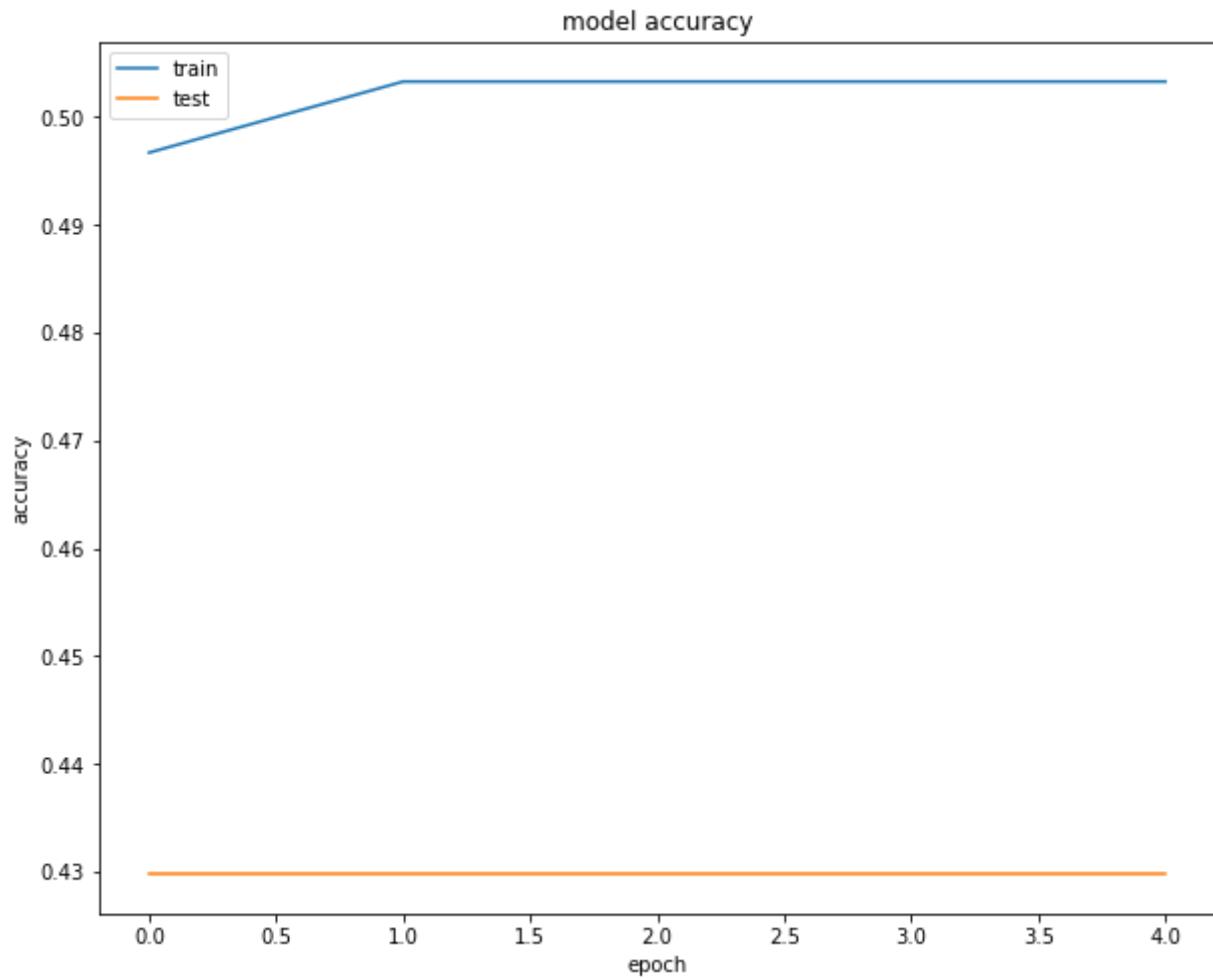
```
import matplotlib.pyplot as plt

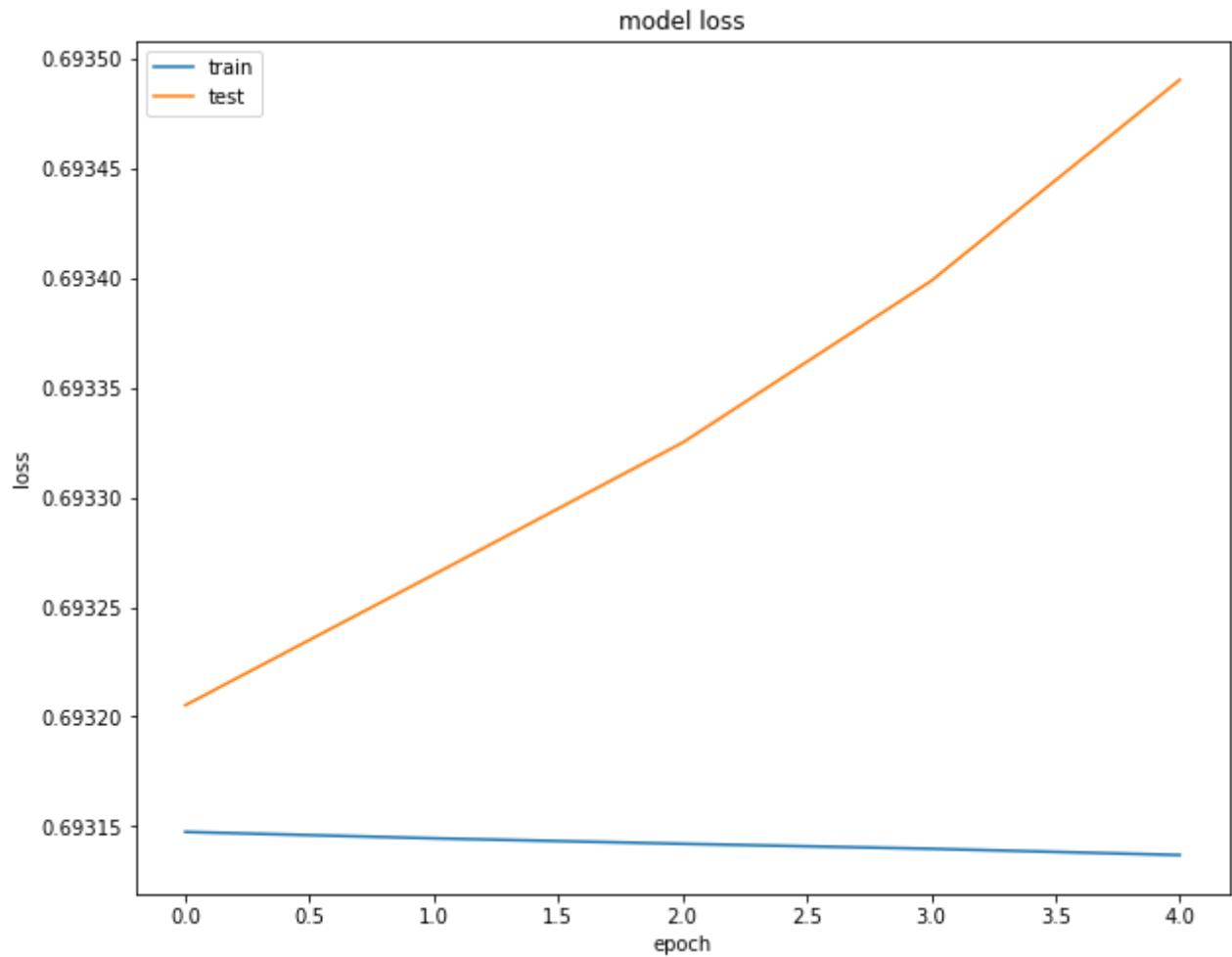
plt.plot(history.history['dense_1_acc'])
plt.plot(history.history['val_dense_1_acc'])

plt.title('model accuracy')
plt.ylabel('accuracy')
plt.xlabel('epoch')
plt.legend(['train', 'test'], loc='upper left')
plt.show()

plt.plot(history.history['dense_1_loss'])
plt.plot(history.history['val_dense_1_loss'])

plt.title('model loss')
plt.ylabel('loss')
plt.xlabel('epoch')
plt.legend(['train', 'test'], loc='upper left')
plt.show()
```





<https://stackabuse.com/python-for-nlp-multi-label-text-classification-with-keras/>

In []:

Problem #2A: The goal is to identify the best number of clusters that responses to the following question organize into using NLP methods:

"What one action can faculty take to improve your educational experience at UW?"

No assumptions are made about how many clusters (groups) these responses will fall into. The goal of this portion of the NLP project is to identify the optimal number of clusters to support future coding of these responses.

This will be accomplished by representing the students' responses into three categories:: part A: topic, part B: sentiment analysis, and part C: semantic similarity.

This code solves part A: Topic Modelling

```
In [68]: from numpy import array
from keras.preprocessing.text import one_hot
from keras.preprocessing.sequence import pad_sequences
from keras.models import Sequential
from keras.layers.core import Activation, Dropout, Dense
from keras.layers import Flatten, LSTM
from keras.layers import GlobalMaxPooling1D
from keras.models import Model
from keras.layers.embeddings import Embedding
from sklearn.model_selection import train_test_split
from keras.preprocessing.text import Tokenizer
from keras.layers import Input
from keras.layers.merge import Concatenate

import pandas as pd
import numpy as np
import re

import matplotlib.pyplot as plt
```

```
In [100...]: df = pd.read_csv('/Users/nehakardam/Documents/UWclasses /EE517 NLP/Project/Facul
```

```
In [101...]: df.shape
```

```
Out[101...]: (1624, 60)
```

```
In [102...]: df.head()
```

	Join Code	RemoteTrad	Subject Code	Class	Quarter	Year	Section	A1_Status
0	48.0	2.0	EE233_SP20_AC_48	EE233_Spring2020	Spring	2020.0	AC	2
1	49.0	2.0	EE233_SP20_AA_49	EE233_Spring2020	Spring	2020.0	AA	4
2	63.0	2.0	EE235_SP20_AD_63	EE235_Spring2020	Spring	2020.0	AD	2

Join Code	RemoteTrad	Subject Code		Class	Quarter	Year	Section	A1_Status
3	11.0	2.0	EE331_SP20_AA_11	EE331_Spring2020	Spring	2020.0	AA	3
4	3.0	2.0	EE233_SP20_AB_3	EE233_Spring2020	Spring	2020.0	AB	2

5 rows × 60 columns

```
In [103... df["SA1"][350]
Out[103... 'Use breakout rooms in lectures to allow students to still have interaction with one another.'

In [104... from sklearn.feature_extraction.text import CountVectorizer
count_vect = CountVectorizer(max_df=0.8, min_df=2, stop_words='english')
doc_term_matrix = count_vect.fit_transform(df['SA1'].values.astype('U'))
In [105... doc_term_matrix
Out[105... <1624x1138 sparse matrix of type '<class 'numpy.int64'>' with 12089 stored elements in Compressed Sparse Row format>
```

Method 1: LDA for Topic Modeling

LDA is used to create topics along with the probability distribution for each word in our vocabulary for each topic.

```
In [106... from sklearn.decomposition import LatentDirichletAllocation
LDA = LatentDirichletAllocation(n_components=5, random_state=42)
LDA.fit(doc_term_matrix)
Out[106... LatentDirichletAllocation(n_components=5, random_state=42)

In [107... first_topic = LDA.components_[0]
In [108... top_topic_words = first_topic.argsort()[-10:]
In [109... for i in top_topic_words:
    print(count_vect.get_feature_names()[i])
classes
assignments
online
questions
work
exam
professors
time
class
students
In [110... for i,topic in enumerate(LDA.components_):
    print(f'Top 10 words for topic #{i}:')
```

```

print([count_vect.get_feature_names()[i] for i in topic.argsort()[-10:]])
print('\n')

Top 10 words for topic #0:
['classes', 'assignments', 'online', 'questions', 'work', 'exam', 'professors',
'time', 'class', 'students']

Top 10 words for topic #1:
['giving', 'practice', 'real', 'solve', 'assignments', 'example', 'problems', 'p
rofessors', 'exams', 'nan']

Top 10 words for topic #2:
['online', 'provide', 'recordings', 'professor', 'post', 'lectures', 'class', 's
lides', 'notes', 'lecture']

Top 10 words for topic #3:
['help', 'having', 'problems', 'homework', 'online', 'class', 'time', 'question
s', 'office', 'hours']

Top 10 words for topic #4:
['students', 'make', 'provide', 'problems', 'material', 'practice', 'professor
s', 'examples', 'class', 'lectures']

```

```

In [111... topic_values = LDA.transform(doc_term_matrix)
topic_values.shape

Out[111... (1624, 5)

In [112... df['Topic'] = topic_values.argmax(axis=1)

In [113... df.head()

Out[113...

|   | Join<br>Code | RemoteTrad | Subject Code     | Class            | Quarter | Year   | Section | A1_Status |
|---|--------------|------------|------------------|------------------|---------|--------|---------|-----------|
| 0 | 48.0         | 2.0        | EE233_SP20_AC_48 | EE233_Spring2020 | Spring  | 2020.0 | AC      | 2         |
| 1 | 49.0         | 2.0        | EE233_SP20_AA_49 | EE233_Spring2020 | Spring  | 2020.0 | AA      | 2         |
| 2 | 63.0         | 2.0        | EE235_SP20_AD_63 | EE235_Spring2020 | Spring  | 2020.0 | AD      | 2         |
| 3 | 11.0         | 2.0        | EE331_SP20_AA_11 | EE331_Spring2020 | Spring  | 2020.0 | AA      | 3         |
| 4 | 3.0          | 2.0        | EE233_SP20_AB_3  | EE233_Spring2020 | Spring  | 2020.0 | AB      | 2         |


5 rows × 61 columns

```

```
In [114... df.to_csv('/Users/nehakardam/Documents/UWclasses /EE517 NLP/Project/FS_Topic_LDA
```

Method 2: Non-Negative Matrix Factorization (NMF)

Non-negative matrix factorization is also a supervised learning technique which performs clustering as well as dimensionality reduction. It can be used in combination with TF-IDF scheme to perform topic modeling. In this section, we will see how Python can be used to perform non-negative matrix factorization for topic modeling.

```
In [115... df = pd.read_csv('/Users/nehakardam/Documents/UWclasses /EE517 NLP/Project/Facul
df.head()
```

	Join Code	RemoteTrad	Subject Code	Class	Quarter	Year	Section	A1_Status
0	48.0	2.0	EE233_SP20_AC_48	EE233_Spring2020	Spring	2020.0	AC	2
1	49.0	2.0	EE233_SP20_AA_49	EE233_Spring2020	Spring	2020.0	AA	2
2	63.0	2.0	EE235_SP20_AD_63	EE235_Spring2020	Spring	2020.0	AD	2
3	11.0	2.0	EE331_SP20_AA_11	EE331_Spring2020	Spring	2020.0	AA	3
4	3.0	2.0	EE233_SP20_AB_3	EE233_Spring2020	Spring	2020.0	AB	2

5 rows × 60 columns

```
In [116... from sklearn.feature_extraction.text import TfidfVectorizer
tfidf_vect = TfidfVectorizer(max_df=0.8, min_df=2, stop_words='english')
doc_term_matrix1 = tfidf_vect.fit_transform(df['SA1'].values.astype('U'))
```

```
In [123... from sklearn.decomposition import NMF
nmf = NMF(n_components=5, init='random', random_state=0)
nmf.fit(doc_term_matrix1 )
```

```
Out[123... NMF(init='random', n_components=5, random_state=0)
```

```
In [124... import random
for i in range(10):
    random_id = random.randint(0,len(tfidf_vect.get_feature_names()))
    print(tfidf_vect.get_feature_names()[random_id])
```

```
web
early
reflect
understands
220
loud
single
discuss
accountable
similar
```

```
In [125... first_topic = nmf.components_[0]
top_topic_words = first_topic.argsort()[-10:]
```

```
In [126... for i in top_topic_words:
    print(tfidf_vect.get_feature_names()[i])
```

```
helps
learn
sessions
cover
provide
exam
understand
review
material
nan
```

```
In [127...]: for i,topic in enumerate(nmf.components_):
    print(f'Top 10 words for topic #{i}:')
    print([tfidf_vect.get_feature_names()[i] for i in topic.argsort()[-10:]])
    print('\n')
```

Top 10 words for topic #0:
['helps', 'learn', 'sessions', 'cover', 'provide', 'exam', 'understand', 'review', 'material', 'nan']

Top 10 words for topic #1:
['material', 'exam', 'extra', 'tests', 'homework', 'examples', 'exams', 'provide', 'problems', 'practice']

Top 10 words for topic #2:
['review', 'clear', 'online', 'canvas', 'provide', 'recordings', 'slides', 'post', 'notes', 'lecture']

Top 10 words for topic #3:
['sessions', 'online', 'lots', 'extra', 'holding', 'help', 'hold', 'available', 'office', 'hours']

Top 10 words for topic #4:
['online', 'ask', 'helpful', 'make', 'professors', 'time', 'questions', 'lectures', 'students', 'class']

```
In [128...]: topic_values1 = nmf.transform(doc_term_matrix1)
df['Topic1'] = topic_values1.argmax(axis=1)
df.head()
```

	Join Code	RemoteTrad	Subject Code	Class	Quarter	Year	Section	A1_Status
0	48.0	2.0	EE233_SP20_AC_48	EE233_Spring2020	Spring	2020.0	AC	2
1	49.0	2.0	EE233_SP20_AA_49	EE233_Spring2020	Spring	2020.0	AA	4
2	63.0	2.0	EE235_SP20_AD_63	EE235_Spring2020	Spring	2020.0	AD	2
3	11.0	2.0	EE331_SP20_AA_11	EE331_Spring2020	Spring	2020.0	AA	3
4	3.0	2.0	EE233_SP20_AB_3	EE233_Spring2020	Spring	2020.0	AB	2

5 rows × 61 columns

```
In [129...]: df.to_csv('/Users/nehakardam/Documents/UWclasses /EE517 NLP/Project/FS_Topic_NMF
```

Reference:<https://stackabuse.com/python-for-nlp-topic-modeling/>

In []:

Problem #2B : Sentiment Analysis

The goal is to identify the best number of clusters that responses to the following question organize into using NLP methods:

"What one action can faculty take to improve your educational experience at UW?"

No assumptions are made about how many clusters (groups) these responses will fall into. The goal of this portion of the NLP project is to identify the optimal number of clusters to support future coding of these responses.

This will be accomplished by representing the students' responses into three categories:: part A: topic, part B: sentiment analysis, and part C: semantic similarity.

```
In [1]: import numpy as np
import pandas as pd
import re
import nltk
import matplotlib.pyplot as plt
%matplotlib inline
```

The main idea behind unsupervised learning is that you don't give any previous assumptions and definitions to the model about the outcome of variables you feed into it — you simply insert the data (of course preprocessed before), and want the model to learn the structure of the data itself. It is extremely useful in cases when you don't have labeled data, or you are not sure about the structure of the data, and you want to learn more about the nature of process you are analyzing, without making any previous assumptions about its outcome.

```
In [2]: df = pd.read_csv('~/Users/nehakardam/Documents/UWclasses /EE517 NLP/Project/Facul
df
```

Out[2]:	RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
0	2	EE233_Spring2020	Spring	2020		2	1	2018	2022
1	2	EE233_Spring2020	Spring	2020		4	1	2018	2022
2	2	EE235_Spring2020	Spring	2020		2	1	2018	2022
3	2	EE331_Spring2020	Spring	2020		3	1	2018	2022

RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
4	2 EE233_Spring2020	Spring	2020	2	1	2018	2022	19
...
1148	1 EE271_Spring2018	Spring	2018	2	1	2016	2019	19
1149	1 EE271_Spring2018	Spring	2018	2	1	2016	2020	19
1150	1 EE271_Spring2018	Spring	2018	2	1	2016	NaN	20
1151	1 EE271_Spring2018	Spring	2018	3	1	2017	2020	18
1152	1 EE271_Spring2018	Spring	2018	4	1	2014	2018	22

1153 rows × 20 columns

NLTK

NLTK's Vader sentiment analysis tool uses a bag of words approach (a lookup table of positive and negative words) with some simple heuristics (e.g. increasing the intensity of the sentiment if some words like "really", "so" or "a bit" are present).

```
In [3]: import nltk
from nltk.sentiment.vader import SentimentIntensityAnalyzer
sid = SentimentIntensityAnalyzer()
for i in range(df.shape[0]):
    s = str(df.SA1[i])
    print(sid.polarity_scores(s))
```

```
{'neg': 0.0, 'neu': 0.899, 'pos': 0.101, 'compound': 0.4019}
{'neg': 0.0, 'neu': 0.844, 'pos': 0.156, 'compound': 0.6115}
{'neg': 0.15, 'neu': 0.734, 'pos': 0.116, 'compound': 0.031}
{'neg': 0.0, 'neu': 0.872, 'pos': 0.128, 'compound': 0.2263}
{'neg': 0.124, 'neu': 0.826, 'pos': 0.05, 'compound': -0.5267}
{'neg': 0.0, 'neu': 0.878, 'pos': 0.122, 'compound': 0.2023}
{'neg': 0.0, 'neu': 0.648, 'pos': 0.352, 'compound': 0.7717}
{'neg': 0.0, 'neu': 0.773, 'pos': 0.227, 'compound': 0.6486}
{'neg': 0.041, 'neu': 0.823, 'pos': 0.136, 'compound': 0.7083}
```

```
{
  'neg': 0.0, 'neu': 0.794, 'pos': 0.206, 'compound': 0.0772}
{
  'neg': 0.106, 'neu': 0.673, 'pos': 0.221, 'compound': 0.4432}
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  'neg': 0.0, 'neu': 0.882, 'pos': 0.118, 'compound': 0.4215}
{
  'neg': 0.0, 'neu': 0.735, 'pos': 0.265, 'compound': 0.6597}
{
  'neg': 0.073, 'neu': 0.927, 'pos': 0.0, 'compound': -0.3318}
{
  'neg': 0.068, 'neu': 0.815, 'pos': 0.117, 'compound': 0.2023}
{
  'neg': 0.031, 'neu': 0.88, 'pos': 0.09, 'compound': 0.4767}
{
  'neg': 0.057, 'neu': 0.943, 'pos': 0.0, 'compound': -0.34}
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  'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
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  'neg': 0.086, 'neu': 0.818, 'pos': 0.096, 'compound': 0.334}
{
  'neg': 0.023, 'neu': 0.851, 'pos': 0.126, 'compound': 0.9543}
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{
  'neg': 0.067, 'neu': 0.886, 'pos': 0.047, 'compound': -0.0552}
{
  'neg': 0.139, 'neu': 0.772, 'pos': 0.09, 'compound': -0.1531}
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{
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{
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{
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```

```
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{
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  'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
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{
  'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{
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```

```
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{
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{
  'neg': 0.153, 'neu': 0.847, 'pos': 0.0, 'compound': -0.4019}
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{'neg': 0.0, 'neu': 0.897, 'pos': 0.103, 'compound': 0.3182}
```

```
In [4]: new_table = []

for i in range(df.shape[0]):
    s = str(df.SA1[i])
    d = sid.polarity_scores(s)
    new_row = [d['neg'], d['neu'], d['pos'], d['compound']]
    new_table.append(new_row)
new_df = pd.DataFrame(new_table, columns=['Negative', 'Neutral', 'Positive', 'Co'])
```

```
In [5]: result = pd.concat([df, new_df], axis=1)
result
```

Out[5]:	RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
	0	2 EE233_Spring2020	Spring	2020		2	1	2018	2022

RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
1	2 EE233_Spring2020	Spring	2020	4	1	2018	2022	19
2	2 EE235_Spring2020	Spring	2020	2	1	2018	2022	19
3	2 EE331_Spring2020	Spring	2020	3	1	2018	2022	19
4	2 EE233_Spring2020	Spring	2020	2	1	2018	2022	19
...
1148	1 EE271_Spring2018	Spring	2018	2	1	2016	2019	19
1149	1 EE271_Spring2018	Spring	2018	2	1	2016	2020	19
1150	1 EE271_Spring2018	Spring	2018	2	1	2016	NaN	20
1151	1 EE271_Spring2018	Spring	2018	3	1	2017	2020	18
1152	1 EE271_Spring2018	Spring	2018	4	1	2014	2018	22

1153 rows × 24 columns

```
In [6]: result.to_csv(r'/Users/nehakardam/Documents/UWclasses /EE517 NLP/Project/FS_Sent
```

Textblob

Textblob's Sentiment Analysis works in a similar way to NLTK — using a bag of words classifier, but the advantage is that it includes Subjectivity Analysis too (how factual/opinionated a piece

of text is)! However, it doesn't contain the heuristics that NLTK has, and so it won't intensify or negate a sentence's sentiment.

```
In [7]: # !pip install -U textblob
# !python -m textblob.download_corpora
```



```
In [8]: from textblob import TextBlob

for i in range(df.shape[0]):
    s = str(df.SA1[i])
    print(TextBlob(s).sentiment)

Sentiment(polarity=0.0, subjectivity=1.0)
Sentiment(polarity=0.186, subjectivity=0.6300000000000001)
Sentiment(polarity=-0.29166666666667, subjectivity=0.541666666666666)
Sentiment(polarity=0.0, subjectivity=1.0)
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Sentiment(polarity=0.33999999999999997, subjectivity=0.54)
Sentiment(polarity=0.5, subjectivity=0.5)
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Sentiment(polarity=0.09375, subjectivity=0.514583333333334)
Sentiment(polarity=0.166666666666666, subjectivity=0.5666666666666668)
Sentiment(polarity=0.0, subjectivity=0.0)
Sentiment(polarity=0.12, subjectivity=0.72)
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Sentiment(polarity=0.183333333333332, subjectivity=0.4333333333333335)
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Sentiment(polarity=0.068181818181818, subjectivity=0.28846153846153844)

```

```
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Sentiment(polarity=0.0, subjectivity=0.75)
Sentiment(polarity=0.0, subjectivity=0.0)
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Sentiment(polarity=0.3, subjectivity=0.3666666666666667)
Sentiment(polarity=0.1722222222222222, subjectivity=0.3944444444444445)
Sentiment(polarity=0.225, subjectivity=0.558333333333333)
Sentiment(polarity=0.2159090909090909, subjectivity=0.4696969696969697)
Sentiment(polarity=0.0, subjectivity=0.5)
Sentiment(polarity=0.0, subjectivity=0.0)
Sentiment(polarity=0.4366666666666665, subjectivity=0.6166666666666667)
Sentiment(polarity=0.0, subjectivity=0.6)
Sentiment(polarity=-0.0333333333333333, subjectivity=0.375)
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Sentiment(polarity=-0.0625, subjectivity=0.38125)
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Sentiment(polarity=0.0, subjectivity=0.0)
Sentiment(polarity=1.0, subjectivity=0.3)
Sentiment(polarity=0.2277777777777777, subjectivity=0.3666666666666667)
Sentiment(polarity=0.2, subjectivity=0.6)
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Sentiment(polarity=0.5, subjectivity=0.5)
Sentiment(polarity=0.0, subjectivity=0.1)
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Sentiment(polarity=0.75, subjectivity=0.5944444444444444)
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Sentiment(polarity=0.2, subjectivity=0.3000000000000004)
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Sentiment(polarity=0.15, subjectivity=0.7)
Sentiment(polarity=0.5, subjectivity=0.625)
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Sentiment(polarity=0.4375, subjectivity=0.5)
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Sentiment(polarity=0.0, subjectivity=0.0)
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Sentiment(polarity=0.4, subjectivity=0.7)
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Sentiment(polarity=0.5, subjectivity=0.5)
Sentiment(polarity=0.1000000000000002, subjectivity=0.3833333333333333)
Sentiment(polarity=0.5, subjectivity=0.5)
Sentiment(polarity=0.2525, subjectivity=0.54)
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Sentiment(polarity=0.3333333333333333, subjectivity=0.3666666666666667)
Sentiment(polarity=0.2666666666666666, subjectivity=0.470833333333334)
Sentiment(polarity=0.375, subjectivity=0.493055555555556)
Sentiment(polarity=0.2555555555555556, subjectivity=0.5)
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Sentiment(polarity=0.175, subjectivity=0.55)
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Sentiment(polarity=0.0, subjectivity=0.0)
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Sentiment(polarity=0.2, subjectivity=0.3)
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Sentiment(polarity=0.3653174603174603, subjectivity=0.5546957671957672)
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Sentiment(polarity=0.533333333333333, subjectivity=0.666666666666666)
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Sentiment(polarity=-0.075, subjectivity=0.15064102564102563)
Sentiment(polarity=0.6, subjectivity=0.55)
Sentiment(polarity=0.33333333333333, subjectivity=0.375)
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Sentiment(polarity=0.1000000000000002, subjectivity=0.583333333333334)
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Sentiment(polarity=0.3, subjectivity=0.4416666666666665)
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Sentiment(polarity=0.3, subjectivity=0.35)
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Sentiment(polarity=0.5, subjectivity=0.5)
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Sentiment(polarity=0.5, subjectivity=0.5)
Sentiment(polarity=0.25, subjectivity=0.3)
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Sentiment(polarity=0.1999999999999998, subjectivity=0.566666666666667)
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Sentiment(polarity=0.4333333333333335, subjectivity=0.833333333333334)

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Sentiment(polarity=0.0, subjectivity=0.0)
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Sentiment(polarity=0.33333333333333, subjectivity=0.5)
Sentiment(polarity=0.5, subjectivity=0.5)
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```

```
In [9]: new_table1 = []
for i in range(df.shape[0]):
```

```
s1 = str(df.SA1[i])
d1 = TextBlob(s1).sentiment
new_row1 = [d1.polarity,d1.subjectivity]
new_table1.append(new_row1)
new_df1 = pd.DataFrame(new_table1, columns=[ 'polarity', 'subjectivity'])
```

```
In [10]: result1 = pd.concat([result, new_df1], axis=1)
result1
```

	RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
0	2	EE233_Spring2020	Spring	2020	2	1	2018	2022	20
1	2	EE233_Spring2020	Spring	2020	4	1	2018	2022	19
2	2	EE235_Spring2020	Spring	2020	2	1	2018	2022	19
3	2	EE331_Spring2020	Spring	2020	3	1	2018	2022	19
4	2	EE233_Spring2020	Spring	2020	2	1	2018	2022	19
...
1148	1	EE271_Spring2018	Spring	2018	2	1	2016	2019	19
1149	1	EE271_Spring2018	Spring	2018	2	1	2016	2020	19
1150	1	EE271_Spring2018	Spring	2018	2	1	2016	NaN	20
1151	1	EE271_Spring2018	Spring	2018	3	1	2017	2020	18
1152	1	EE271_Spring2018	Spring	2018	4	1	2014	2018	22

1153 rows × 26 columns

Flair

Flair's sentiment classifier is based on a character-level LSTM neural network which takes sequences of letters and words into account when predicting

```
In [11]: # !pip3 install flair
import flair
flair_sentiment = flair.models.TextClassifier.load('en-sentiment')

for i in range(df.shape[0]):
    s2 = str(df.SA1[i])
    sentence = flair.data.Sentence(s2)
    flair_sentiment.predict(sentence)
    total_sentiment = sentence.labels
    print(sentence)
    print(str(sentence.labels[0]).split()[0])
```

2021-06-08 09:50:35,805 loading file /Users/nehakardam/.flair/models/sentiment-en-mix-distillbert_4.pt
Sentence: "Restructure quizzes and stuff . In 235 we had a weekly quiz in lieu of midterms and a final , and that helped keep people engaged and paying attention ." [- Tokens: 30 - Sentence-Labels: {'label': [POSITIVE (0.9288)]}]
POSITIVE
Sentence: "Flexible late turn in policies , especially in my area my wifi is very inconsistent so it would be very nice if professors could be aware and understanding of that ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.9625)]}]
POSITIVE
Sentence: "Leniency on deadlines . It can be hard to stay motivated during these times without dedicated study spaces . Some have inconsistent internet connections ." [- Tokens: 25 - Sentence-Labels: {'label': [NEGATIVE (0.9995)]}]
NEGATIVE
Sentence: "be flexible to possible changes and take student feedback into account to change / adj0t assignments / pacing" [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.9922)]}]
POSITIVE
Sentence: "have some strict action to make sure every student will go to class . For example , count every student during each class and find if anyone is absent , give them punishment if they do not go to class j0t becaoe being lazy" [- Tokens: 44 - Sentence-Labels: {'label': [NEGATIVE (0.9409)]}]
NEGATIVE
Sentence: "Post some examples on the powerpoint . Offer some chances to make up quiz point ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.7099)]}]
POSITIVE
Sentence: "Bi-weekly or weekly quizzes would allow for some flexibility and still ensure that students stay on top of the material ." [- Tokens: 21 - Sentence-Labels: {'label': [POSITIVE (0.9562)]}]
POSITIVE
Sentence: "Even though classes are being held online , I feel professors should promote active participation during class , by requiring webcams and attendance ." [- Tokens: 24 - Sentence-Labels: {'label': [POSITIVE (0.968)]}]
POSITIVE
Sentence: "Provide options to earn back exam points ; the new system of test taking has proven incredibly challenging for me , and I 've seen my test scores plummet while other students seem to have higher averages than normal . I feel like a good way to balance students who may have not been following the test rules would be offering a way to earn some exam credit in a less stressful situation"

[– Tokens: 73 – Sentence-Labels: {'label': [NEGATIVE (0.686)]}]
 NEGATIVE
 Sentence: "mandatory quizzes associated with each lecture" [– Tokens: 6 – Sentence-Labels: {'label': [POSITIVE (0.979)]}]
 POSITIVE
 Sentence: "Asks the student to participate in the lecture . Online lectures are very easily distracted and student participation allows better foc0" [– Tokens: 21 – Sentence-Labels: {'label': [NEGATIVE (0.9998)]}]
 NEGATIVE
 Sentence: "Open-note tests or more emphasis on HW . Or give easier ways for students to form study groups . Enable student to student chat ." [– Tokens: 25 – Sentence-Labels: {'label': [POSITIVE (0.9296)]}]
 POSITIVE
 Sentence: "Go easy with the work load , and focus more on practice methods of measuring understanding and efficiency ." [– Tokens: 19 – Sentence-Labels: {'label': [NEGATIVE (0.9998)]}]
 NEGATIVE
 Sentence: "Assign a reasonable amount of coursework that aligns with what is actually being taught in class . For example , if lectures are behind in material , do n't assign homework that requires knowledge that has n't been taught yet . It 's not fair to students to pay tuition to teach themselves ." [– Tokens: 54 – Sentence-Labels: {'label': [NEGATIVE (0.668)]}]
 NEGATIVE
 Sentence: "Please be understanding that students are having difficult times . Some may be in different timezones , and I feel that some classes are taking advantage of the online format to offload MORE work onto students ." [– Tokens: 37 – Sentence-Labels: {'label': [NEGATIVE (0.7638)]}]
 NEGATIVE
 Sentence: "Being understanding of disability and related issues , and willing to work with students who may miss class time or assignments due to medical reasons . In general , understanding that every student experience is unique , and that ensuring equal opportunities for all students requires understanding the difference between equality and equity ." [– Tokens: 54 – Sentence-Labels: {'label': [POSITIVE (0.9973)]}]
 POSITIVE
 Sentence: "Possibly being more understanding about various students' experiences with the online learning environment and avoiding too much busy work . For example , adding more work to be completed during the class time rather than as homework , or offering more office hours , etc ." [– Tokens: 46 – Sentence-Labels: {'label': [NEGATIVE (0.9735)]}]
 NEGATIVE
 Sentence: "Recorded lectures , making classes asynchronous . More takehome finals / quizzes (obviously adjusted for difficulty)" [– Tokens: 18 – Sentence-Labels: {'label': [POSITIVE (0.9969)]}]
 POSITIVE
 Sentence: "No graded in class activity and recorded lectures . Since , I am an international student not currently living in the US , attending lectures as per time is extremely chaotic and difficult . It 's extremely difficult to get into the habit of staying up at night and sleeping during the day . Furthermore , it negatively impacts our social and mental well being . As I have heard from my friends in similar situations and from my own experience , I believe that the best thing that can be done is that all the lectures and discussion sections must be recorded (which is quite easy on zoom) and any graded assessment must not be bound to be held within the bounds of the lecture timings ." [– Tokens: 131 – Sentence-Labels: {'label': [NEGATIVE (1.0)]}]
 NEGATIVE
 Sentence: "I think it would be really helpful for professors to give a little more time when it comes to quizzes / tests . They do not give a lot of uploading time and that has resulted in me less time than designated to submit exams . I also have had issues with test anxiety at home that I never had before , and have been meaning to contact DRS about resources that can help me , but I think that an extra five minutes to upload tests / quizzes could be helpful for everyone . If professors cannot / will not record lectures , I think having more detailed slides will be useful . I think recordings are really helpful because it 's really easy to miss some things in lecture especially with unpredictable internet . I t

hink it 's also sometimes harder to ask questions when not in person , so record ed lectures compensate for that . If professors cannot / will not record , I thi nk having more detailed slides could help ." [- Tokens: 175 - Sentence-Label s: {'label': [NEGATIVE (0.9999)]}]

NEGATIVE

Sentence: "I think the biggest help from the professors are when they clearly st ate what is expected from you as a student for the quarter . It also helps when professors are a bit lenient when it comes to due dates in order to get Oed to t he online format ." [- Tokens: 50 - Sentence-Labels: {'label': [POSITIVE (0.9 907)]}]

POSITIVE

Sentence: "Provide Recordings . Maybe have pre-recorded lectures for people in d ifferent timezones . Better way to have exams for people in different timezones ." [- Tokens: 24 - Sentence-Labels: {'label': [NEGATIVE (0.9997)]}]

NEGATIVE

Sentence: "Be flexible about the amount of time given for assessments . Record l ectures and provide resources for students to reference ." [- Tokens: 21 - Se ntence-Labels: {'label': [POSITIVE (0.8707)]}]

POSITIVE

Sentence: "One thing that Professor Jia does that I like , is that she makes the lecture quizzes as low stress as possible and provides a solution key afterwards . Sometimes however , there are some jumps in reasoning that I do n't quite unde rstand , so it would be nice if there was a short video of our professors showin g 0 how the solution was derived ." [- Tokens: 67 - Sentence-Labels: {'labe l': [POSITIVE (0.9557)]}]

POSITIVE

Sentence: "provide additional resources , more than 0eful beca0e it is harder to understand and absorb information through this media . Provide looser deadlines and less harsh grading , more sympathy with requirements and graded material -- it is a hard time , we cannot be expected to do the same when in a different env ironment and one when we cannot necessarily choose ." [- Tokens: 63 - Sentenc e-Labels: {'label': [NEGATIVE (0.5147)]}]

NEGATIVE

Sentence: "Remove the low average gpa 's from classes . Beyond that having pract ice midterms and finals are good gauges to test our knowledge before tests to un derstand pacing and difficulty ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.7305)]}]

POSITIVE

Sentence: "Online resources are probably the most reasonable and beneficial thin g a professor can do for a big lecture . Multiple practice midterms and other th ings have been helpful to me in the past . Also , give credit for showing up to quiz section" [- Tokens: 44 - Sentence-Labels: {'label': [POSITIVE (0.984 6)]}]

POSITIVE

Sentence: "More office hours would be nice . Flexible with due dates , which he already does !" [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.995 7)]}]

POSITIVE

Sentence: "Lenient grading and a lot of opportunities to ask questions" [- Tok ens: 10 - Sentence-Labels: {'label': [NEGATIVE (0.8747)]}]

NEGATIVE

Sentence: "Dont make the class about the grade . That 's stupid and does n't fac ilitate learning . Also the competitive nature between peers is not actually wha t happens in the work place . So creating an environment where students work tog ether to succeed would be better instead of competition ." [- Tokens: 50 - Se ntence-Labels: {'label': [NEGATIVE (1.0)]}]

NEGATIVE

Sentence: "Provide additional help with homework , more review sessions before e xams , detailed study guide , more time to complete homework assignments ." [- Tokens: 23 - Sentence-Labels: {'label': [POSITIVE (0.891)]}]

POSITIVE

Sentence: "The average on our midterms has been really high . I do n't think a 9 0 % should be set to a 3.3 . Also , it is really unfortunate when the lectures a re at 360p with a bad microphone quality ." [- Tokens: 42 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]

NEGATIVE

Sentence: "Be flexible to unforeseen issues that come up regarding extensions on homework or changing sections" [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9061)]}]

POSITIVE

Sentence: "More lenient grading requirements ." [- Tokens: 5 - Sentence-Labels: {'label': [NEGATIVE (0.9925)]}]

NEGATIVE

Sentence: "Just be understanding with tech issues , the professors have been doing a good job so far where on tests they 're ok if you email your solutions ." [- Tokens: 29 - Sentence-Labels: {'label': [POSITIVE (0.7111)]}]

POSITIVE

Sentence: "Do n't overload us with work because we are sitting at our computer all day already watching lectures ." [- Tokens: 19 - Sentence-Labels: {'label': [NEGATIVE (0.9317)]}]

NEGATIVE

Sentence: "More lenient due dates for homework and labs ." [- Tokens: 9 - Sentence-Labels: {'label': [NEGATIVE (0.9913)]}]

NEGATIVE

Sentence: "Give us less homework" [- Tokens: 4 - Sentence-Labels: {'label': [NEGATIVE (0.9932)]}]

NEGATIVE

Sentence: "Remove midterms and other forms of testing that do n't translate well into online , and readjust the weight of each category for the course ." [- Tokens: 26 - Sentence-Labels: {'label': [NEGATIVE (0.9002)]}]

NEGATIVE

Sentence: "Maybe make exams lesser of our grade , as its much more difficult to focus and study at home ." [- Tokens: 20 - Sentence-Labels: {'label': [NEGATIVE (0.9991)]}]

NEGATIVE

Sentence: "Loose due dates" [- Tokens: 3 - Sentence-Labels: {'label': [NEGATIVE (0.9928)]}]

NEGATIVE

Sentence: "Being flexible with exam and grading structures has been helpful , and this continual action will be beneficial for future online courses ." [- Tokens: 23 - Sentence-Labels: {'label': [POSITIVE (0.9886)]}]

POSITIVE

Sentence: "My professor for EE 233 barely provided any feedback on our homework or exams beyond a points breakdown , so we know what problems we did 1ly on but not what we did wrong . One action professors can take is to give the same kind of feedback they would in-person in an online class ." [- Tokens: 56 - Sentence-Labels: {'label': [NEGATIVE (0.9992)]}]

NEGATIVE

Sentence: "Evaluate students holistically . Having regular quizzes over one or two midterms / final better evaluates progress ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.9791)]}]

POSITIVE

Sentence: "I think keeping us accountable . I think it is really easy to become demotivated when everyone is at home and it forces 0 to participate and stay involved . Though one could look at it the other way and say we should learn to develop the discipline ourselves to stay motivated and on track , but personally I think things like weekly quizzes forced me to actively make sure I was on top of material on a timely manner ." [- Tokens: 81 - Sentence-Labels: {'label': [POSITIVE (0.9807)]}]

POSITIVE

Sentence: "Reduce the amount of homework they give to students . Times like these are very stressful and some professors can unknowingly assign too much work for students especially when they do n't know what other classes they could be taking and how the student functions at home ." [- Tokens: 48 - Sentence-Labels: {'label': [NEGATIVE (0.975)]}]

NEGATIVE

Sentence: "Offer quizzes at different times to solve the problem of studying in different time zone ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.8604)]}]

POSITIVE

Sentence: "Ease expectations for quizzes and tests , its hard to guarantee internet connection for a period of time like that , and puts more pressure on students ." [- Tokens: 28 - Sentence-Labels: {'label': [NEGATIVE (0.8132)]}]
 NEGATIVE

Sentence: "Maybe Change the timing of the Exam to accommodate Students in other time zones" [- Tokens: 14 - Sentence-Labels: {'label': [NEGATIVE (0.752)]}]
 NEGATIVE

Sentence: "Adj0ting the grading scheme and course structure to best suit the online format (more frequent testing rather than large assessments , for example) , would be helpful on the part of the professors ." [- Tokens: 36 - Sentence-Labels: {'label': [NEGATIVE (0.618)]}]
 NEGATIVE

Sentence: "Taking quizzes and tests are more stressful when you add in the aspect of uploading the test . I think that making sure students have plenty of time to upload quizes and tests is important ." [- Tokens: 36 - Sentence-Labels: {'label': [POSITIVE (0.9683)]}]
 POSITIVE

Sentence: "A timely update for HW / test solutions , so that students can know about where they got the problems wrong and how to improve ." [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.9745)]}]
 POSITIVE

Sentence: "Maybe being flexible about deadlines if people are having technical problems ." [- Tokens: 12 - Sentence-Labels: {'label': [NEGATIVE (0.9802)]}]
 NEGATIVE

Sentence: "Force the class to participate to assure that everyone understands the topic most recently disc0sed before moving forward ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9976)]}]
 POSITIVE

Sentence: "Professors can proctor tests with students required to turn on their cameras to maintain academic integrity ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9927)]}]
 POSITIVE

Sentence: "With the online learning , it is especially harder to understand the material . Therefore , for the homework and labs , there is an overload on the problems and tasks with the respective time frames . There should be a more reasonable amount of homework and labs that can be assigned ." [- Tokens: 53 - Sentence-Labels: {'label': [NEGATIVE (0.9996)]}]
 NEGATIVE

Sentence: "Understand that many students will cheat and / or have access to resources many students do n't , which punishes students not based on merit" [- Tokens: 25 - Sentence-Labels: {'label': [NEGATIVE (0.9105)]}]
 NEGATIVE

Sentence: "I believe the professor should be more flexible and relaxed on assignments and grading . Due to the current state of things it is very stressful when a class is still as hard and stressful as when there is no pandemic / rioting going on . How it is taught as a online class is fine but due to the context of what is going on , it is too much added work and stress ." [- Tokens: 76 - Sentence-Labels: {'label': [NEGATIVE (0.9996)]}]
 NEGATIVE

Sentence: "be lenient with requirements for resources we do n't have access to on our own machines . EG having to 0e the ECE servers to run programs" [- Tokens: 27 - Sentence-Labels: {'label': [NEGATIVE (0.9983)]}]
 NEGATIVE

Sentence: "Change the grading structure . Currently we have 30 minute quizzes each week that determine 63 % of the grade . That ca0es a lot of anxiety and effectively negates the many hours we spend on other work in the class ." [- Tokens: 42 - Sentence-Labels: {'label': [POSITIVE (0.8213)]}]
 POSITIVE

Sentence: "Try not to give more work beca0e we are at home , ca0e we do not have the same sources we have in school ." [- Tokens: 25 - Sentence-Labels: {'label': [NEGATIVE (0.8889)]}]
 NEGATIVE

Sentence: "Make hw problem easier or less workload" [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9998)]}]
 POSITIVE

Sentence: "The professors can provide alternative options to in class exams such as take home exams ." [- Tokens: 16 - Sentence-Labels: {'label': [NEGATIVE (0.7303)]}]

NEGATIVE

Sentence: "be lenient with homework , projects , exams , due dates ." [- Token s: 12 - Sentence-Labels: {'label': [NEGATIVE (0.8767)]}]

NEGATIVE

Sentence: "Being more forgiving and lenient with deadlines where possible and wi thin reason . With everything shifting to online and being stuck at home , things get chaotic without much privacy and I am not 0ed to handling so many things f rom an online environment . Issues at home become large distractions that are no rmally not an issue when physically attending class ." [- Tokens: 62 - Sentence-Labels: {'label': [NEGATIVE (0.9971)]}]

NEGATIVE

Sentence: "Giving extra credits to students who attend the class lecture regular ly ." [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9958)]}]

POSITIVE

Sentence: "be flexible in structure (due dates , lecture style , labs) to stud ent feedback" [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.927 3)]}]

POSITIVE

Sentence: "Not providing traditional exams in online formats , or at least minim izing their effects on grades . It is extremely difficult for myself and many ot her students to concentrate and perform exams under these abnormal conditions , where the resources available to each student can vary and make the entire proc ess very unbalanced ." [- Tokens: 54 - Sentence-Labels: {'label': [NEGATIVE (0.9999)]}]

NEGATIVE

Sentence: "Decrease the work load and understand that students are struggling . Two of my classes has been manageable , but the other is extremely difficult . I spend way too much time on the class (20 + hrs / wk) , and the professor ha s not been responsive when students in the class have complained about the work load ." [- Tokens: 62 - Sentence-Labels: {'label': [NEGATIVE (0.9968)]}]

NEGATIVE

Sentence: "The structure of EE351 has been great . The lecture slides , lectures , course material , etc . My only gripe is the midterm and final being held duri ng a two-hour block (open everything j0t no communication) , it might be a lit tle easier on most students if it were a take-home style of test . The labs coul d be a little more fine-tuned but it was the first quarter of all simulation and I thought the instruction team as a whole did well and were very flexible ."

[- Tokens: 92 - Sentence-Labels: {'label': [POSITIVE (0.6915)]}]

POSITIVE

Sentence: "Do not overload the work beca0e learning in this environment is a lit tle harder , since we do n't have access to the same resources ." [- Tokens: 2 6 - Sentence-Labels: {'label': [NEGATIVE (0.9413)]}]

NEGATIVE

Sentence: "leniance of due dates beca0e of technology or personal issues ." [- Tokens: 11 - Sentence-Labels: {'label': [NEGATIVE (0.924)]}]

NEGATIVE

Sentence: "Be flexible with time and methods to turn in assignments , such as pd f or jpeg and assignments by a date instead of a single time slot ." [- Token s: 28 - Sentence-Labels: {'label': [POSITIVE (0.9935)]}]

POSITIVE

Sentence: "Take into consideration how different it is to learn from home and ad j0t the curriculum and grading ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.8846)]}]

POSITIVE

Sentence: "My only problem with online classes are that I do not feel motivated to attend lecture . If there were in class quizzes like poll everywhere or week ly canvas quizzes about the lectures that would give me the motivation to attend classes ." [- Tokens: 43 - Sentence-Labels: {'label': [NEGATIVE (0.5873)]}]

NEGATIVE

Sentence: "Professors should understand that the quality of education we receive online is worse than in person , and grading should be more lenient to reflect t his ." [- Tokens: 27 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]

NEGATIVE

Sentence: "Provide a reasonable amount of homework / lecture material ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.978)]}]

POSITIVE

Sentence: "Be mindful of timing , especially when it comes to exams . Even though there is no class bell to signal when class would normally have ended , designing a midterm to take up 90 minutes of time for a class which is supposed to last only 50 minutes can put undue stress on students . Please note that this is a general statement , and not aimed at ME 123 specifically ." [- Tokens: 73 - Sentence-Labels: {'label': [NEGATIVE (0.9995)]}]

NEGATIVE

Sentence: "Being understanding that technology is not always reliable and lenient when technological issues result in missing part of a class or turning in an assignment late ." [- Tokens: 27 - Sentence-Labels: {'label': [NEGATIVE (0.978)]}]

NEGATIVE

Sentence: "They can try to make the work seem less daunting and less like I 'm alone . Doing college in front of a laptop in my basement greatly impacts my ability to learn" [- Tokens: 33 - Sentence-Labels: {'label': [POSITIVE (0.6682)]}]

POSITIVE

Sentence: "Having quizzes and regular checks to my knowledge helps force me to keep up ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9953)]}]

POSITIVE

Sentence: "Give more smaller and easier assignments . So instead of 1 big one due make it 3 and have them be less time consuming but also more focused on one subject ." [- Tokens: 32 - Sentence-Labels: {'label': [POSITIVE (0.8198)]}]

POSITIVE

Sentence: "Be more lenient with deadlines , especially those for exams . Technical issues are prominent and students should not have to face a penalty , especially on an exam , if they submit their exam a few seconds or a minute or two after the exam ." [- Tokens: 47 - Sentence-Labels: {'label': [NEGATIVE (0.9818)]}]

NEGATIVE

Sentence: "I think curving the class is not beneficial because many students are able to cheat , tho putting those who are academically honest at a disadvantage . Instead , it is nice creating a fair grading system for the class in which we are not competing against our peers ." [- Tokens: 50 - Sentence-Labels: {'label': [NEGATIVE (0.9997)]}]

NEGATIVE

Sentence: "Give more reasonable exams that are realistically indicative of the homework ." [- Tokens: 12 - Sentence-Labels: {'label': [NEGATIVE (0.5792)]}]

NEGATIVE

Sentence: "Mandatory lecture attendance ! It 's very hard to stay motivated for a class and very easy to get behind when all the lectures are purely recorded ." [- Tokens: 28 - Sentence-Labels: {'label': [NEGATIVE (0.9565)]}]

NEGATIVE

Sentence: "Actual methods of eliminating cheating . My GPA is so low because everyone else is cheating the curve ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.991)]}]

POSITIVE

Sentence: "Being flexible with exam proctoring . In one class (MSE 170) I have felt the professor has been very understanding of different situations and circumstances , for example not doing mandatory video proctoring for exams and making them available on a long time window . In other cases I have felt very stressed taking exams due to not having access to a quiet and comfortable area during a required exam window , something that I definitely affects my performance during an exam ." [- Tokens: 85 - Sentence-Labels: {'label': [POSITIVE (0.9916)]}]

POSITIVE

Sentence: "Being transparent about grading requirements" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.6667)]}]

POSITIVE

Sentence: "reduce the number of midterms or lengthen time available to take exams" [- Tokens: 12 - Sentence-Labels: {'label': [NEGATIVE (0.9543)]}]

NEGATIVE

Sentence: "Different ways to give exams instead of one set time slot as sometimes internet issues arise . Our professor in MSE170 conducted did this very well ." [- Tokens: 27 - Sentence-Labels: {'label': [POSITIVE (0.9861)]}]

POSITIVE

Sentence: "Be accommodating with deadlines and technological issues ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.7462)]}]

POSITIVE

Sentence: "More weekly low-stakes quizzes , fewer large exams . I feel that quizzes force me to solidify my knowledge on one topic before moving on to the next , and I feel like I have better material retention with studying more regularly for quizzes than studying a couple of times a quarter for exams ." [- Tokens: 55 - Sentence-Labels: {'label': [POSITIVE (0.9915)]}]

POSITIVE

Sentence: "Stop assigning so much work and expecting that they can run the class as if it were an in-person class . The class structure needs to be adjusted to a n online learning experience instead of having the same expectations as an in-class course ." [- Tokens: 44 - Sentence-Labels: {'label': [NEGATIVE (0.9224)]}]

NEGATIVE

Sentence: "Not increasing the volume of work or length of lectures because they are asynchronous . Especially with prerecorded lectures , they are already more dense in format than a normal class would be with no natural lulls when someone asks a question so increasing the lecture length creates more work than a normal in person class ." [- Tokens: 57 - Sentence-Labels: {'label': [NEGATIVE (0.9586)]}]

NEGATIVE

Sentence: "I would like professors to be understanding of external situations when it comes to assigning work in an online quarter . I feel as though with the challenge of teaching with an online quarter , professors are more apt to assign more work or require the learning of additional material outside of lecture whether that be in the form of requiring outside research to answer homework or needing lessons within office hours to learn how to do the labs . With the stress of the conflicts in the world currently , for many of us there may be things that require our attention outside of school , and since this online quarter has required students to do more work and learn more course format outside of class , it can cause conflicts between our academics and areas where we need to focus outside of school . I think it would be best to teach the required course format needed to succeed in the class within the lectures and quiz sections so students can have a better expectation of the workload and not be overloaded with academic work on a regular basis outside of class ." [- Tokens: 195 - Sentence-Labels: {'label': [NEGATIVE (0.8518)]}]

NEGATIVE

Sentence: "Postpone midterm after snow day ." [- Tokens: 6 - Sentence-Labels: {'label': [NEGATIVE (0.9945)]}]

NEGATIVE

Sentence: "Encourage resilience and improvement by grading not just on curve , but on improvement , effort , etc . seen throughout the quarter ." [- Tokens: 24 - Sentence-Labels: {'label': [POSITIVE (0.998)]}]

POSITIVE

Sentence: "Having in class participation brings students to class who never pay attention and it 's distracting . I get that you want your class to have high attendance but if having in class participation brings students who are constantly on their phones or laptops working on other things and distracting people from paying attention , is it worth it ?" [- Tokens: 60 - Sentence-Labels: {'label': [POSITIVE (0.548)]}]

POSITIVE

Sentence: "Give workload that is proportional to the credits of the class ." [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9996)]}]

POSITIVE

Sentence: "Provide enough time during exams to fully complete them" [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.9985)]}]

POSITIVE

Sentence: "Resources to check our answers as we are working on homework , so that it 's possible to know when we 're on the right track , and build from there . The answers do n't have to be given to us , but the ability to know if we 're do

ing problems right step by step is incredibly informative" [- Tokens: 60 - Sentence-Labels: {'label': [POSITIVE (0.9999)]}]
POSITIVE
 Sentence: "Give interactive homework where we apply the material we learn in class , then provide swift feedback . For example , the homework quizzes and models are good for helping me solidify my knowledge ." [- Tokens: 35 - Sentence-Labels: {'label': [POSITIVE (0.9813)]}]
POSITIVE
 Sentence: "More practice with drawing sketches that are graded , either before the HW assignment or as a part of it ." [- Tokens: 21 - Sentence-Labels: {'label': [NEGATIVE (0.9676)]}]
NEGATIVE
 Sentence: "Have clearer rubrics and stick clearly to the rubrics" [- Tokens: 9 - Sentence-Labels: {'label': [NEGATIVE (0.6026)]}]
NEGATIVE
 Sentence: "Be clear on what will be covered on the exam with suggested practice problems / exams ." [- Tokens: 17 - Sentence-Labels: {'label': [NEGATIVE (0.943)]}]
NEGATIVE
 Sentence: "Give immediate and helpful feed back on assignments ." [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.9276)]}]
POSITIVE
 Sentence: "In CEE 220 , the HWs were accompanied by Canvas quizzes where we could input our answers . This was nice because we could immediately see whether or not our answers were correct ." [- Tokens: 34 - Sentence-Labels: {'label': [POSITIVE (0.9968)]}]
POSITIVE
 Sentence: "Make the correlation between lecture , homework , and tests more fair / reasonable ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9174)]}]
POSITIVE
 Sentence: "Providing a " homework quiz " of sorts for assignments . With the current system of uploading a pdf , there is no feedback until the assignment is graded , having a " quiz " to allow us to double check solutions before submitting (like used in CEE 220) would be helpful" [- Tokens: 54 - Sentence-Labels: {'label': [POSITIVE (0.5861)]}]
POSITIVE
 Sentence: "Be timely on grading assignments and midterms so that I know sooner what I need to study more ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9351)]}]
POSITIVE
 Sentence: "Create relevant homework assignments . By producing or providing problems that represent the questions on tests and the knowledge needing to be gained from classes , professors can use homework to help students learn rather just being another graded assignment ." [- Tokens: 41 - Sentence-Labels: {'label': [POSITIVE (0.9883)]}]
POSITIVE
 Sentence: "Personally , I like a lot of homework . It is a good study tool I use so the more the merrier ." [- Tokens: 23 - Sentence-Labels: {'label': [POSITIVE (0.9769)]}]
POSITIVE
 Sentence: "In the case of this class is provide recordings to the lectures and working out problems ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9703)]}]
POSITIVE
 Sentence: "if not live on zoom , then start the recordings with an intro same way professors usually do in in-person classes , like what we did before what we 'll do now , what is due this week , etc ..." [- Tokens: 41 - Sentence-Labels: {'label': [POSITIVE (0.8373)]}]
POSITIVE
 Sentence: "If it 's a long lecture , take the time to keep students engaged by allowing them to ask questions or take at least one break . The biggest problem I have with online lectures is keeping focused for more than an hour , so this would be very helpful ." [- Tokens: 51 - Sentence-Labels: {'label': [POSITIVE (0.9871)]}]

POSITIVE

Sentence: "Slow down a little bit in lectures and make sure you are doing plenty of examples . Also , try to link each subject to another topic or to the overall importance of the class so that we can make connections and remember important topics better ." [- Tokens: 47 - Sentence-Labels: {'label': [POSITIVE (0.8568)]}]

POSITIVE

Sentence: "Do more examples , go over the lectures at a steady pace , explain more about the lab and homework ." [- Tokens: 21 - Sentence-Labels: {'label': [POSITIVE (0.9675)]}]

POSITIVE

Sentence: "Give more examples Slow the lecture progression" [- Tokens: 7 - Sentence-Labels: {'label': [NEGATIVE (0.9678)]}]

NEGATIVE

Sentence: "Provide more structured zoom lectures with interactive lessons , not just q & a sessions ." [- Tokens: 16 - Sentence-Labels: {'label': [NEGATIVE (0.9718)]}]

NEGATIVE

Sentence: "I think that professor should strive to make their lecture format short and concise so that lab and quiz section could be used to have questions answered ." [- Tokens: 28 - Sentence-Labels: {'label': [NEGATIVE (0.9984)]}]

NEGATIVE

Sentence: "Give examples in class that are unique and not done in the book that are complicated . These examples should be harder or equally hard as those on the test so we are exposed to the level of difficulty on exams early ." [- Tokens: 43 - Sentence-Labels: {'label': [NEGATIVE (0.9811)]}]

NEGATIVE

Sentence: "Go slower on the lecture and have a clearer hand writing . Also , give a little more examples ." [- Tokens: 20 - Sentence-Labels: {'label': [NEGATIVE (0.9544)]}]

NEGATIVE

Sentence: "Derive / explain equations in class . Show some applications of those concepts / equations in class ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.9554)]}]

POSITIVE

Sentence: "Provide in depth examples of problems in class ." [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.9495)]}]

POSITIVE

Sentence: "Do practice problems characteristic of what we will be tested on for exams in class , rather than extraneous examples . Go slowly and reiterate key points ." [- Tokens: 28 - Sentence-Labels: {'label': [POSITIVE (0.9445)]}]

POSITIVE

Sentence: "Try to point out things in class that may show up on the exams . While I understand that all information is important , it makes it really difficult to study so much material for exams when over half of it would n't have even been on the exams in the first place , such as maybe real world applications . Although I really like that these are shown in class , oftentimes it will not be on an exam but a mathematical process behind it will be . So just giving a list or study sheet of what is fair game versus basically the entire 800 page textbook would be helpful for exam purposes ." [- Tokens: 116 - Sentence-Labels: {'label': [NEGATIVE (0.9999)]}]

NEGATIVE

Sentence: "provide more examples at a slower pace describing where the equations are coming from and why we can use them ." [- Tokens: 21 - Sentence-Labels: {'label': [NEGATIVE (0.9937)]}]

NEGATIVE

Sentence: "To go over homework problems in class and to teach slowly and not rush things" [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.999)]}]

POSITIVE

Sentence: "Posting lectures for the general information / format of the class and then using the scheduled class time for going through specific examples / problems and answering student questions ." [- Tokens: 30 - Sentence-Labels: {'label': [POSITIVE (0.8738)]}]

POSITIVE

Sentence: "First of all , they should be required to have a live lecture which t

hey can then record for students who were n't able to make the live . One of my professors has no live lectures , they only record a lecture , and its the literal dumbest waste of my money . Having live lectures at least makes one interact with the class , feel like they 're actually in school , and ask questions in real time ." [- Tokens: 81 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]

NEGATIVE

Sentence: "More practice problems that are worked out live via zoom , so that students can ask questions ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.7603)]}]

POSITIVE

Sentence: "Going over examples and interacting with students through questions posed in class ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9855)]}]

POSITIVE

Sentence: "Doing an in-class example , where I as a student physically do something that relates to what we are learning . So for example , doing , by myself or with 1 or 2 other people , a problem / drawing / whatever . Something that takes what we just discussed / learned in class and immediately doing something with that helps to get it in my brain better . One of the worst things (in my opinion) that detracts from my learning and my desire to learn are endless , droning lectures with little or no Professor / Student engagement ." [- Tokens: 104 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]

NEGATIVE

Sentence: "Since I mainly take STEM classes , lecture notes often involve concepts and examples but professors that do n't flow well between the two can mess up how much information I absorb in the lecture . Asking the students whether they want to move on or continue with examples will really help with this ." [- Tokens: 55 - Sentence-Labels: {'label': [NEGATIVE (0.9844)]}]

NEGATIVE

Sentence: "I like how well he answers question and the speed in which he covers material ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9996)]}]

POSITIVE

Sentence: "Go over more examples and spend more time clarifying questions" [- Tokens: 10 - Sentence-Labels: {'label': [NEGATIVE (0.9644)]}]

NEGATIVE

Sentence: "Make classes more discussion based and be more willing to take input and answer questions from students" [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.993)]}]

POSITIVE

Sentence: "Deliver a live course so that we can ask questions if we are confused ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9959)]}]

POSITIVE

Sentence: "An understanding of how everyone 's home environment is so different and not expecting each person to participate like they might in class . Not expecting 0 to turn our videos on . Giving 0 the same lectures that would normally happen , not a shorter modified lecture in order to save time ." [- Tokens: 54 - Sentence-Labels: {'label': [POSITIVE (0.9967)]}]

POSITIVE

Sentence: "Clear lectures explaining concepts at a depth that goes beyond the ability of a textbook . E.g. the mathematical basis for an equation 's use and how that applies in a tangible way ." [- Tokens: 34 - Sentence-Labels: {'label': [POSITIVE (0.9997)]}]

POSITIVE

Sentence: "Taking the time to do examples and give clear instructions on how to go about solving problems ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.9978)]}]

POSITIVE

Sentence: "Make lectures engaging and relevant with a good pace ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9979)]}]

POSITIVE

Sentence: "Clearly outlined notes with examples after the theoretical portion has been explained . Also hand writing notes to keep the course moving at a good pass I have found to be very helpful ." [- Tokens: 34 - Sentence-Labels: {'label': [POSITIVE (0.9982)]}]

POSITIVE

Sentence: "Engaging with the class and moving through material at a reasonable pace ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9996)]}]
 POSITIVE

Sentence: "Make it clear what topics we are going over and also be clear with their notes in class" [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.9618)]}]
 POSITIVE

Sentence: "Live lectures , provide lots of practice problems , create lab / quiz times to work together with other students" [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.9966)]}]
 POSITIVE

Sentence: "1. Record the zoom classes so that people who were not able to attend that class can watch it . For the prerecorded lecture videos , I wish they were in a better quality (audio , resolution , etc) . 2. Constantly check the chat window and participants window to see if student have any concerns / questions in class ." [- Tokens: 63 - Sentence-Labels: {'label': [NEGATIVE (0.9528)]}]
 NEGATIVE

Sentence: "Allow for flexibility by providing accessible recordings . Be sensitive to the speed of the lecture and adjust based on student feedback ." [- Tokens: 23 - Sentence-Labels: {'label': [POSITIVE (0.9889)]}]
 POSITIVE

Sentence: "can do more examples in lecture , or give example questions after lecture ." [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.7479)]}]
 POSITIVE

Sentence: "Provide posted lectures online and class time to go through specific problems / discussions / ask questions ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.9218)]}]
 POSITIVE

Sentence: "To support students in online classes , I really appreciate the style of teaching that is being used in ME 123 . Specifically , having the prelab videos and panopto videos to watch before actual meetings provide me with a strong background / introduction to the format , while the consistent zoom calls during our normal lecture times allows me to reinforce my learning by working out examples with my professor , TA , and classmates ." [- Tokens: 77 - Sentence-Labels: {'label': [POSITIVE (0.9965)]}]
 POSITIVE

Sentence: "Use class time to provide insight to materials covered in the book and not just review book materials in a tedious and unhelpful way . Clearly express to students what parts of the book they should be reading then providing additional materials in class that can provide better understanding for the students : such as different ways of solving the problems or interpreting theorems" [- Tokens: 64 - Sentence-Labels: {'label': [POSITIVE (0.8938)]}]
 POSITIVE

Sentence: "Doing panopto recordings helps , but I think just making sure everyone is understanding the material before continuing would help . Rushing doesn't really help anyone except for the quickest learners . I 've been really stressed out trying to catch up , but I 'm really bad at talking to people . So it sucks lol" [- Tokens: 58 - Sentence-Labels: {'label': [NEGATIVE (0.9999)]}]
 NEGATIVE

Sentence: "Posting chapter summaries throughout the quarter , or taking time in class to outline the connection and relevance of each chapter ." [- Tokens: 22 - Sentence-Labels: {'label': [POSITIVE (0.7994)]}]
 POSITIVE

Sentence: "Professors can best support me in my classes by preparing clear lectures with examples that utilize concepts being learned and prepare me for an upcoming exam . They can also post slides and panopto when possible for review ." [- Tokens: 39 - Sentence-Labels: {'label': [POSITIVE (0.9838)]}]
 POSITIVE

Sentence: "Engaging lectures - Spend time in lecture allowing students to try and solve the example problem before the prof solves it . Post lecture notes online ." [- Tokens: 27 - Sentence-Labels: {'label': [POSITIVE (0.9932)]}]
 POSITIVE

Sentence: "Professor 's office hour provides good explanations that are supplementary to the lecture . The real life example , application of concept makes the learning interesting and motivating ." [- Tokens: 29 - Sentence-Labels: {'label': [POSITIVE (0.9999)]}]
 POSITIVE

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bel': [POSITIVE (0.9847)]}]
POSITIVE
Sentence: "The office hour is really helpful . Since most of the material is gone over really fast so during the office hour we can review the lecture stuffs .
Also if the lecture could be recorded so that we can review the material again if we did n't understand , it would be better ." [- Tokens: 55 - Sentence-Labels: {'label': [NEGATIVE (0.6066)]}]
NEGATIVE
Sentence: "I think that the office hours are great . Every time I go she always greets me with a very positive and comforting atmosphere . I think that the lectures could be more fast paced . At times there is a lot of over clarification when in reality it is not a very complicated concept . Difficult concepts are gone over too quickly and are only understandable to those with prior knowledge ." [- Tokens: 73 - Sentence-Labels: {'label': [POSITIVE (0.7515)]}]
POSITIVE
Sentence: "Do example problems relevant to the course / homework in class . Hold frequent office hours , ask questions to the class so the class could answer them if we are working on a problem . Maybe ask if students were able to solve a problem a different way and explain how they solved it in class to the class ."
[- Tokens: 61 - Sentence-Labels: {'label': [POSITIVE (0.9456)]}]
POSITIVE
Sentence: "I think providing more practice in class and class engagement . That is difficult in such a large class but I feel that it helps content stick with students . Also providing more office hours because with classes this big , going to office hours and having many students waiting can be difficult . Sometimes it is difficult to ask questions in class because we move on a bit quickly and then there is not time to figure out where the confusion is rooted in the problem ."
[- Tokens: 88 - Sentence-Labels: {'label': [POSITIVE (0.9632)]}]
POSITIVE
Sentence: "If the textbook is the primary source of information besides the lectures , include more examples from the textbook and follow the same equation notations as the textbook , encourage study groups ."
[- Tokens: 33 - Sentence-Labels: {'label': [POSITIVE (0.6305)]}]
POSITIVE
Sentence: "Having breakout sessions would be very helpful . Also having more example problems . Trying to be engaging with polls or questions as much as possible ."
[- Tokens: 27 - Sentence-Labels: {'label': [NEGATIVE (0.9979)]}]
NEGATIVE
Sentence: "Providing a clear example and scenarios on how to apply the concept that we 've learned . Aside from the normal textbook scenario , probably do an example as well on how to solve a hard one with methods they used"
[- Tokens: 41 - Sentence-Labels: {'label': [POSITIVE (0.9437)]}]
POSITIVE
Sentence: "I think it is better and beneficial to students if the professors teach the online class as they do in-person class rather than posting the prerecording videos and holding the lecture time as a office hours ."
[- Tokens: 37 - Sentence-Labels: {'label': [NEGATIVE (0.7085)]}]
NEGATIVE
Sentence: "I think , it would be much better if the online classes were taught the same as in person classes . I mean by this is , if the teachers were show up in the class time and lectured the same way as if it is in person that would be much more helpful instead of posting pre-recorded videos and using the class time as a office hours ."
[- Tokens: 69 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]
NEGATIVE
Sentence: "The lecture can be more detailed , not just touch the point of basic knowledge , like providing more problem solving technique since we learn a lot of method to solve circuit and each require many small point that we need to pay attention to ."
[- Tokens: 46 - Sentence-Labels: {'label': [POSITIVE (0.933)]}]
POSITIVE
Sentence: "Make examples plentiful"
[- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9956)]}]
POSITIVE
Sentence: "Hosting office hours during regularly scheduled class times are very

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helpful to students so they can get the most access to professors ." [- Token
s: 23 - Sentence-Labels: {'label': [POSITIVE (0.9949)]}]
POSITIVE
Sentence: "Being very specific when going through example problems . Especially
for when we use methods we learned in the past this can still be confusing so e
ven if that is not the method we are going over it is still helpful if we fully
go over that ." [- Tokens: 48 - Sentence-Labels: {'label': [POSITIVE (0.967
9)]}]
POSITIVE
Sentence: "Walkthrough a problem and then provide examples for us to work on ind
ividually before going over it" [- Tokens: 17 - Sentence-Labels: {'label': [P
OSITIVE (0.8601)]}]
POSITIVE
Sentence: "Make more use of breakout rooms ." [- Tokens: 7 - Sentence-Labels:
{'label': [POSITIVE (0.9945)]}]
POSITIVE
Sentence: "One action professors at uw can take is not lecturing . Lecturing is
important but only lecturing will lose a students attention so fast ." [- Tok
ens: 25 - Sentence-Labels: {'label': [NEGATIVE (0.9274)]}]
NEGATIVE
Sentence: "Leave pauses in the lecture to allow for students to unmute and ask q
uestions ." [- Tokens: 15 - Sentence-Labels: {'label': [NEGATIVE (0.9796)]}]
NEGATIVE
Sentence: "Making lectures more interactive (asking questions of students , lik
e the 271 class problems)" [- Tokens: 16 - Sentence-Labels: {'label': [POSIT
IVE (0.9908)]}]
POSITIVE
Sentence: "Pausing more , going slower so there is time to understand the materia
l . Class feels very fast ." [- Tokens: 19 - Sentence-Labels: {'label': [NEGA
TIVE (0.8958)]}]
NEGATIVE
Sentence: "pauses before changing slides so that students can know the slide is g
oing to change & can take notes / pictures / ask questions as needed" [- Token
s: 26 - Sentence-Labels: {'label': [POSITIVE (0.9511)]}]
POSITIVE
Sentence: "Professor can provide complex / tricky examples to give students a be
tter understanding of the concept ." [- Tokens: 17 - Sentence-Labels: {'labe
l': [POSITIVE (0.9838)]}]
POSITIVE
Sentence: "Doing more examples during is very helpful ." [- Tokens: 8 - Sente
nce-Labels: {'label': [POSITIVE (0.9497)]}]
POSITIVE
Sentence: "Regular online , live lectures" [- Tokens: 5 - Sentence-Labels:
{'label': [POSITIVE (0.9523)]}]
POSITIVE
Sentence: "One thing I 'd prefer is instead of just having all notes / slides wri
tten out already and just shown , I would prefer if the professor wrote them alon
g so we can have more time to process . And I understand since it 's online we c
an go back , but it greatly improves my learning if I am able to follow along wi
thout doing that ." [- Tokens: 68 - Sentence-Labels: {'label': [NEGATIVE (0.
941)]}]
NEGATIVE
Sentence: "Continue to teach the same as they did in class . I think some profes
sors have this idea that because classes are online , they have to completely res
tructure their class . Most of the time , classes can just proceed as normal ."
[- Tokens: 44 - Sentence-Labels: {'label': [POSITIVE (0.9509)]}]
POSITIVE
Sentence: "Action professors at UW can take to best support me in my classes is
to give the class multiple practice problems to work on in class we can then use
as a reference for homework ." [- Tokens: 36 - Sentence-Labels: {'label': [PO
SITIVE (0.9775)]}]
POSITIVE
Sentence: "Changing curriculum so that it is possible for me and other students
to complete it ourselves at home without the resources we would normally have o
n campus ." [- Tokens: 28 - Sentence-Labels: {'label': [POSITIVE (0.5388)]}]

POSITIVE

Sentence: "do more example question and write down notes as lecture in person"
 [- Tokens: 12 - Sentence-Labels: {'label': [NEGATIVE (0.7263)]}]

NEGATIVE

Sentence: "Solving questions on a white board / the screen step by step during lecture instead of showing the question and the solution on a slide" [- Tokens: 25 - Sentence-Labels: {'label': [NEGATIVE (0.5548)]}]

NEGATIVE

Sentence: "I think it 's very helpful that professors ask if anyone has any questions during the class , give students a pa0e time to digest the knowledge . In my class Prof Ratliff did a very good job on getting feedback from students during class ." [- Tokens: 46 - Sentence-Labels: {'label': [POSITIVE (0.9776)]}]

POSITIVE

Sentence: "I think sometimes slowing down when going through examples could be r eally helpful , beca0e sometimes professors can speed through the examples and i t 's conf0ing ." [- Tokens: 27 - Sentence-Labels: {'label': [POSITIVE (0.760 8)]}]

POSITIVE

Sentence: "I am very glad that all my classes this quarter have live , in-person lectures . Some of my friends have classes where all the lectures are pre-recorded , which makes for a worse learning experience in my opinion . Not only is the re less opportunity to ask questions , or for an instructor to adapt to the clas s , but it also makes it a lot easier to fall behind when all the lectures are p re-recorded . If the lectures are live , it holds you accountable to making sure you attend , and you get rewarded with a better learning experience overall ."
 [- Tokens: 105 - Sentence-Labels: {'label': [NEGATIVE (0.9999)]}]

NEGATIVE

Sentence: "Going through examples is one of the most helpful ways to solidify th e material . I would also recommend not requiring in class attendance , sometime s the class moves by slowly , which is n't always a bad thing , but especially l ater in the quarter it is very easy to zone out . Being in control of when we le arn as the students might lead to an increase in the effectiveness of the lectur es ." [- Tokens: 76 - Sentence-Labels: {'label': [POSITIVE (0.9604)]}]

POSITIVE

Sentence: "I would be more organized in the handwritten examples related to the problems in slides as sometimes is was difficult to find the solving for the ex amples ." [- Tokens: 28 - Sentence-Labels: {'label': [NEGATIVE (0.9985)]}]

NEGATIVE

Sentence: "The main action would be to slow the pace of lectures when the concep t is very complex . However , this is not the main one . Another action that pro fessors should take is making sure they are giving more background to the inform ation , for example not j0t reading whats in the book ." [- Tokens: 55 - Sent ence-Labels: {'label': [NEGATIVE (0.9586)]}]

NEGATIVE

Sentence: "give great example for learning" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9843)]}]

POSITIVE

Sentence: "They can provide as many worked examples and practice problems as pos sible to break up the monotony and encourage students to be proactive in learnin g ." [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.9976)]}]

POSITIVE

Sentence: "Professor can condense the lectures to one lecture . Currently we are watching a pre-recorded lecture before class and having another lecture during a ctual lecture time to go through examples . I feel like the format coverage can be more concise and the examples can be squeezed in between each section to mak e a 50-60 min lecture ." [- Tokens: 58 - Sentence-Labels: {'label': [NEGATIVE (0.7182)]}]

NEGATIVE

Sentence: "Go over the information from the pre lectures more in depth before do ing examples during class ." [- Tokens: 17 - Sentence-Labels: {'label': [POSI TIVE (0.9072)]}]

POSITIVE

Sentence: "Live zoom sessions help by allowing me to ask questions if I do n't u nderstand something" [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0. 9765)]}]

POSITIVE

Sentence: "Have lots of example problems that reflect homework and exams ." [- Tokens: 11 - Sentence-Labels: {'label': [NEGATIVE (0.9517)]}]

NEGATIVE

Sentence: "Treat the zoom lectures as less of a " quiz yourselves " time . After watching the recorded Panopto lectures , I feel that it 's hard for me to fully understand what is going on in class and it 's difficult to participate in questions asked in class because I do n't fully understand yet . There 's also a lot of industry jargon that gets thrown around that makes things hard to understand . Describing some manufacturing parts and techniques with jargon makes it difficult to connect ideas and would only be helpful if I was already experienced ." [- Tokens: 101 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]

NEGATIVE

Sentence: "More structured zoom lectures . It would help if we had more interaction with professor Jones when covering course format and less watching her old lecture recordings . It makes it hard to engage with the material when it seems like we are just watching a youtube video and not sitting in a lecture ." [- Tokens: 55 - Sentence-Labels: {'label': [NEGATIVE (0.9992)]}]

NEGATIVE

Sentence: "Do zoom lectures instead of recorded lectures" [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.571)]}]

POSITIVE

Sentence: "Actually hold lectures" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9901)]}]

POSITIVE

Sentence: "Maybe be more drawings / diagrams when teaching ?" [- Tokens: 9 - Sentence-Labels: {'label': [NEGATIVE (0.5025)]}]

NEGATIVE

Sentence: "more interactive material . I think having more sections that are outside of Q & A sections would be beneficial . like if we had at least one day a week of live class on Fridays so we could ask questions and get new material at the same time ." [- Tokens: 50 - Sentence-Labels: {'label': [NEGATIVE (0.9833)]}]

NEGATIVE

Sentence: "I think the only think that could help support me in my learning online is for them to provide more examples of the topic that we are currently on . This allows me to see how that topic is applied in different type of scenarios and prepare me on upcoming exams ." [- Tokens: 52 - Sentence-Labels: {'label': [POSITIVE (0.9705)]}]

POSITIVE

Sentence: "Provide a lot of in class examples during lecture ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9959)]}]

POSITIVE

Sentence: "Realize students have other classes , so lectures can't go over the maximum time of 50 minutes ." [- Tokens: 19 - Sentence-Labels: {'label': [NEGATIVE (0.7615)]}]

NEGATIVE

Sentence: "It would have been nice to have live lectures . Unfortunately , more students in the class wanted pre-recorded lectures ." [- Tokens: 21 - Sentence-Labels: {'label': [NEGATIVE (0.987)]}]

NEGATIVE

Sentence: "Instead of saying , " full solution provided in the notes " , physically go through then entire example so that we can see the correct process and check our calculations while watching the video ." [- Tokens: 36 - Sentence-Labels: {'label': [NEGATIVE (0.9295)]}]

NEGATIVE

Sentence: "Solve problems in real time during lecture rather than having them prepared , it helps the students understand the thought process ." [- Tokens: 22 - Sentence-Labels: {'label': [POSITIVE (0.9992)]}]

POSITIVE

Sentence: "I think that teaching in person is better than having recorded lectures . It allows for a little bit more of a teacher and student iteration and makes the format a little bit more understandable ." [- Tokens: 36 - Sentence-Labels: {'label': [POSITIVE (0.9981)]}]

POSITIVE

Sentence: "Hold live meetings so they can answer questions over more than email" [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9906)]}]
 POSITIVE

Sentence: "More live session for interactive learning" [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9875)]}]
 POSITIVE

Sentence: "Making classes live . That way it forces students to attend" [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9215)]}]
 POSITIVE

Sentence: "I think having a specific time that we meet is better than a panopto because I sometimes get lazy and dont watch the panopto recordings ." [- Tokens: 26 - Sentence-Labels: {'label': [NEGATIVE (0.9964)]}]
 NEGATIVE

Sentence: "Do not offer pre-recorded lectures only . It is very easy for students to fall behind and it is almost impossible to catch up . It gives students a false hope that they will be able to go through the quarter very lazily and still do well , when this is not the case ." [- Tokens: 55 - Sentence-Labels: {'label': [NEGATIVE (0.9682)]}]
 NEGATIVE

Sentence: "Creating stopping points and summarizing the main points we 've talked about ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9985)]}]
 POSITIVE

Sentence: "In this course (ee271) specifically , I think reallocating some of the class time for lessons in coding with systemverilog would have been very helpful . We had a full week of optional format at the end , and I feel like it would 've been much better to use that time teaching systemverilog . It seemed like a lot of the teaching code work was offloaded to the TA 's unfairly ." [- Tokens: 75 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]
 NEGATIVE

Sentence: "Make class problems doable in class time and provide more help on HW (possibly show HW-like examples in class)" [- Tokens: 21 - Sentence-Labels: {'label': [POSITIVE (0.952)]}]
 POSITIVE

Sentence: "Please more in class problem . Do it on the board . Not just presentation . This is not an english class . Do the problem in class , solved it . This class need us to do a lot of practice but you never shown us how to do it exactly for every problems ." [- Tokens: 56 - Sentence-Labels: {'label': [NEGATIVE (0.9979)]}]
 NEGATIVE

Sentence: "The class and lectures moved too slowly so it felt that material was rushed when it was time to take exams . The professor needs to follow the schedule more rigorously and complete all material on time" [- Tokens: 37 - Sentence-Labels: {'label': [NEGATIVE (0.9998)]}]
 NEGATIVE

Sentence: "Give in-class exercise sheet to help students understand the material" [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.951)]}]
 POSITIVE

Sentence: "give great example problems on difficult concepts" [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.8394)]}]
 POSITIVE

Sentence: "One action that would be nice is to create a comfortable environment in which a student can learn at their own pace without being probed at with questions that they are not able to answer yet ." [- Tokens: 37 - Sentence-Labels: {'label': [POSITIVE (0.567)]}]
 POSITIVE

Sentence: "Having in class assignments" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9759)]}]
 POSITIVE

Sentence: "Go through a tough problem" [- Tokens: 5 - Sentence-Labels: {'label': [NEGATIVE (0.8704)]}]
 NEGATIVE

Sentence: "In class problems" [- Tokens: 3 - Sentence-Labels: {'label': [NEGATIVE (0.9962)]}]
 NEGATIVE

Sentence: "Do more complicated design problem in class" [- Tokens: 7 - Sentence-Labels: {'label': [NEGATIVE (0.9962)]}]
 NEGATIVE

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ce-Labels: {'label': [NEGATIVE (0.8991)]}]
NEGATIVE
Sentence: "Lecture slower" [- Tokens: 2 - Sentence-Labels: {'label': [NEGATIVE (0.9994)]}]
NEGATIVE
Sentence: "Professors can go through an example to clarify the information ."
[- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9057)]}]
POSITIVE
Sentence: "Elaborate on more than just what 's in the textbook . Teach in a way
that I could n't learn just by reading a book ." [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.9877)]}]
POSITIVE
Sentence: "Gives us more intuition on the concepts ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9972)]}]
POSITIVE
Sentence: "Go over some calculations slowly and in depth ." [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.8987)]}]
POSITIVE
Sentence: "Write the lecture notes slower ." [- Tokens: 6 - Sentence-Labels: {'label': [NEGATIVE (0.999)]}]
NEGATIVE
Sentence: "analysis the exam after giving them back ." [- Tokens: 8 - Sentence-Labels: {'label': [NEGATIVE (0.9655)]}]
NEGATIVE
Sentence: "Provide more examples that are related to homework and test questions
in class ." [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.6744)]}]
POSITIVE
Sentence: "One action the professors can take is to have a good mix of explaining
concepts and working out problems to get a complete understanding of the problem ."
[- Tokens: 28 - Sentence-Labels: {'label': [POSITIVE (0.9821)]}]
POSITIVE
Sentence: "The professor should go slower in his lectures and explain concepts more
instead of writing down notes ." [- Tokens: 18 - Sentence-Labels: {'label': [NEGATIVE (0.9177)]}]
NEGATIVE
Sentence: "In addition to teaching the material , it is nice when they also connect
the material to real life . For example , in EE233 we learn about filters which
can be found in radios and cell phones among other electronics ." [- Tokens: 42 - Sentence-Labels: {'label': [POSITIVE (0.9955)]}]
POSITIVE
Sentence: "When introducing a new concept , start with a familiar topic and transition
to the new concept gradually ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9945)]}]
POSITIVE
Sentence: "Cover examples closer to homework or the exam in class . A lot of the
material in lecture is not sufficient enough for understanding of homework problems ."
[- Tokens: 28 - Sentence-Labels: {'label': [NEGATIVE (0.9998)]}]
NEGATIVE
Sentence: "Explain well and derive , rather than just writing on the board copying
from their notes ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.7172)]}]
POSITIVE
Sentence: "Explain why something is done , as opposed to stating it as if by being
spoken that teaching is logical and perfect . Some concepts are easy to conclude to ,
whereas others are fairly farfetched and probably took a few years for the founder to fully root in their head ." [- Tokens: 52 - Sentence-Labels: {'label': [NEGATIVE (0.8202)]}]
NEGATIVE
Sentence: "Revisit material covered in lecture in different contexts" [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9951)]}]
POSITIVE
Sentence: "I think professors are often vague about what material should be focused
on for midterms . Often times we as students are forced to guess what concepts are
important and we have to try to study everything we have covered the same amount .
For me , this results in having a basic understanding of everything and

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is n't very helpful when I get on a test that requires me to have an in depth understanding of just a couple topics ." [- Tokens: 82 - Sentence-Labels: {'label': [NEGATIVE (0.9977)]}]

NEGATIVE

Sentence: "Assign seats" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.8054)]}]

POSITIVE

Sentence: "Being straight forward with the skills , both hard and soft , needed to succeed in a class ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9991)]}]

POSITIVE

Sentence: "Use analogies to present new material and get students excited about learning the material ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9992)]}]

POSITIVE

Sentence: "Provide examples of real world applications , cite references for information presented in slides ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9922)]}]

POSITIVE

Sentence: "Take the time to gauge the classes overall understanding throughout the entire lecture . Such as , after completing a small section of the days material , stop to see if anyone has questions or areas the class still feels uneasy or unsure about ." [- Tokens: 45 - Sentence-Labels: {'label': [NEGATIVE (0.975)]}]

NEGATIVE

Sentence: "It is not typical of ME 123 so far , but some professors fail to realize that as pure academics , they make examples hard for students in introductory classes hard to digest and apply to the material . If they could use more applicable real world examples it would help the classroom experience ." [- Tokens: 55 - Sentence-Labels: {'label': [NEGATIVE (0.972)]}]

NEGATIVE

Sentence: "Explain the homework in detail ." [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9926)]}]

POSITIVE

Sentence: "Go over examples in class . Best way to ensure that concepts are understood" [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9966)]}]

POSITIVE

Sentence: "Overall I 'd recommend more hands on learning , or active lectures . Too often lectures consist of a professor pointing to slides , and I find that when a professor actually writes out what they are going over while lecturing , I tend to retain it better , and take better notes ." [- Tokens: 54 - Sentence-Labels: {'label': [NEGATIVE (0.9998)]}]

NEGATIVE

Sentence: "Allow students to take notes during lecture and not go too fast ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9987)]}]

POSITIVE

Sentence: "The professors can help support by simplifying the material down to our level . Sometimes is can be hard to follow lectures because the professors are experts and we are learning the material for the first time ." [- Tokens: 38 - Sentence-Labels: {'label': [POSITIVE (0.9928)]}]

POSITIVE

Sentence: "Make the lectures feel more interactive -- having the students work through problems in class and then going through and explaining how to solve or work through various problems or topics ." [- Tokens: 32 - Sentence-Labels: {'label': [POSITIVE (0.9989)]}]

POSITIVE

Sentence: "I like the in-class activities . It could be helpful to do them more often ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.7937)]}]

POSITIVE

Sentence: "Listing out the big picture of the topics that talked in the class. i.e. Equation relation tree ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.953)]}]

POSITIVE

Sentence: "More example problems in lecture for engineering classes and less derivation . Mostly targeted to my CEE 220 class ." [- Tokens: 20 - Sentence-Labels:

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els: {'label': [NEGATIVE (0.9679)]}
NEGATIVE
Sentence: "Better explanations when trying to differentiate different types of similar things" [- Tokens: 11 - Sentence-Labels: {'label': [NEGATIVE (0.934)]}]
NEGATIVE
Sentence: "Taking the time to make sure that the class understands a topic . Instead of doing the lectures because they need to get done , take the time to make sure that the students understand the first topic before proceeding to the second one . Or at least get the majority of the class on the same page ." [- Tokens: 59 - Sentence-Labels: {'label': [POSITIVE (0.9699)]}]
POSITIVE
Sentence: "go through the steps of solving a question and let students follow along . explain the reasons . also , when teaching definitions , make sure having some practice problems to go over in class , which helps us to understand the terms" [- Tokens: 43 - Sentence-Labels: {'label': [POSITIVE (0.998)]}]
POSITIVE
Sentence: "To not assume / seem to assume that we know exactly what they are talking about in class , despite already doing assigned readings or what not ."
[- Tokens: 28 - Sentence-Labels: {'label': [NEGATIVE (0.9123)]}]
NEGATIVE
Sentence: "Hands on learning rather than long lectures . The classes I did the best in were those that gave us a task and had us figure out how to do it on our own and raise our hands for questions . In ME123 's case , this would sort of be like the Lab sections , but without the lecture bit as much ." [- Tokens: 64 - Sentence-Labels: {'label': [POSITIVE (0.9904)]}]
POSITIVE
Sentence: "I love review days . These help compress lengthy hour long lectures into short chunks of vital information , and can remind students of information they might have forgotten due to maybe learning about it at the beginning of the year , then never touching it again ." [- Tokens: 48 - Sentence-Labels: {'label': [POSITIVE (0.9994)]}]
POSITIVE
Sentence: "Make sure that if a topic is going to be put on a test that it is covered in lecture and made clear for everyone of its importance and is taught well ." [- Tokens: 33 - Sentence-Labels: {'label': [POSITIVE (0.9923)]}]
POSITIVE
Sentence: "- Present the material well . Basically be a good lecturer . Write out notes if it fits better than slides , or vice versa . When asked questions , answer them clearly and concisely as possible . ( Professor jones does this pretty well ) - note important things when going over new material even if it 's somewhat redundant ( ie this is THIS because THIS )" [- Tokens: 69 - Sentence-Labels: {'label': [POSITIVE (0.9928)]}]
POSITIVE
Sentence: "I would like it if my professors could take more questions during lectures , I always hear about how students wish profs would take more questions"
[- Tokens: 26 - Sentence-Labels: {'label': [NEGATIVE (0.6049)]}]
NEGATIVE
Sentence: "When deriving equations or doing example problems , to repeatedly refer to why we are doing this and what we are solving for . Some problems take a long time and tend to drift off losing track of what we 're doing ." [- Tokens: 43 - Sentence-Labels: {'label': [NEGATIVE (0.9995)]}]
NEGATIVE
Sentence: "using example to demonstrate concept" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9995)]}]
POSITIVE
Sentence: "Provide more examples in class ." [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.8972)]}]
POSITIVE
Sentence: "Professors are most useful to my learning when they spend equal time explaining why / how each problem solving method works and showing how to set up and apply them . This split of time use has been present in the classes that I 've been most successful and understood the most from ." [- Tokens: 54 - Sentence-Labels: {'label': [POSITIVE (0.9982)]}]
POSITIVE

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Sentence: "Provide thorough explanations of the material topics / methods in a way different than the book ." [- Tokens: 17 - Sentence-Labels: {'label': [NEGATIVE (0.6296)]}]

NEGATIVE

Sentence: "Refer to the textbook more and encourage the use of it" [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9148)]}]

POSITIVE

Sentence: "Have clear examples for problems and make the lecture slides accessible and understanding especially in the context outside of class" [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.9965)]}]

POSITIVE

Sentence: "Give plenty of examples to clearly explain the topics covered in class and to give insight into homework problems ." [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.9896)]}]

POSITIVE

Sentence: "Work through more examples of problems we might see on tests" [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9659)]}]

POSITIVE

Sentence: "Stating clear objectives at the beginning of each lecture so the students have an idea of the overarching theme of the lecture ." [- Tokens: 23 - Sentence-Labels: {'label': [POSITIVE (0.9985)]}]

POSITIVE

Sentence: "I have noticed that the professors I 've had that take the time to answer questions and do n't purely lecture for an hour have the best response from students and we learn the most . By being open to questions , it makes the bigger lecture halls feel smaller ." [- Tokens: 51 - Sentence-Labels: {'label': [POSITIVE (0.9931)]}]

POSITIVE

Sentence: "go through how the stuff we learn in class applies to the real world and how we will use it" [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.9934)]}]

POSITIVE

Sentence: "With a big class , I believe it is best to go over more generic topics so that everybody can understand the concepts of everything , and detailed examples should be provided during lab / sections . Otherwise , the lab would be redundant of the lecture ." [- Tokens: 48 - Sentence-Labels: {'label': [POSITIVE (0.8526)]}]

POSITIVE

Sentence: "Give more real world examples , make us excited about what were learning instead of doing another example problem ." [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.86)]}]

POSITIVE

Sentence: "Clearly answer questions" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9995)]}]

POSITIVE

Sentence: "Go slightly slower in lectures and emphasize on the most important concepts" [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9133)]}]

POSITIVE

Sentence: "Examples problems" [- Tokens: 2 - Sentence-Labels: {'label': [NEGATIVE (0.9965)]}]

NEGATIVE

Sentence: "Provide good examples in class and extra problems that have to do with the homework but are n't required" [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.6524)]}]

POSITIVE

Sentence: "have good lectures , give good practice problems or test before midterms / final" [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9476)]}]

POSITIVE

Sentence: "Go through difficult examples for topics in order to better prepare us for tests" [- Tokens: 14 - Sentence-Labels: {'label': [NEGATIVE (0.9965)]}]

NEGATIVE

Sentence: "Doing concrete examples and showing how to use equations are very helpful ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9904)]}]

POSITIVE

Sentence: "Link the course content to stories / real world examples . It really

helps me with building a solid understanding of the content that the textbook can back up . " [- Tokens: 30 - Sentence-Labels: {'label': [POSITIVE (0.9984)]}]

POSITIVE

Sentence: "Create carefully developed lectures for the students ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9987)]}]

POSITIVE

Sentence: "Highlight what 's the important stuff when he is going through proof , it 's often lots of steps with one final important part . Try to give a brief summary at the end of the lecture ." [- Tokens: 38 - Sentence-Labels: {'label': [POSITIVE (0.9824)]}]

POSITIVE

Sentence: "Professors can give explanations of material based on the context it is used in , the way to use the formulas in that context , and how to recognize when to use which formulas ." [- Tokens: 35 - Sentence-Labels: {'label': [POSITIVE (0.9943)]}]

POSITIVE

Sentence: "Doing a lot of example questions in class and talk about different methods to solve them so that we know how to consider different alternatives when given a difficult question in the homework or exam ." [- Tokens: 36 - Sentence-Labels: {'label': [POSITIVE (0.9871)]}]

POSITIVE

Sentence: "Provide as many examples as possible" [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9912)]}]

POSITIVE

Sentence: "Do n't teach from powerpoint presentations , work through the problems ." [- Tokens: 12 - Sentence-Labels: {'label': [NEGATIVE (0.998)]}]

NEGATIVE

Sentence: "Have more coordination between lecture and recitation ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.6716)]}]

POSITIVE

Sentence: "give lots of practice problems" [- Tokens: 5 - Sentence-Labels: {'label': [NEGATIVE (0.9986)]}]

NEGATIVE

Sentence: "Test review day before each exam . I think that watching my professor do practice problems in front of me is very beneficial . Only some of my professors here do exam reviews but I always really appreciate it when they do ." [- Tokens: 43 - Sentence-Labels: {'label': [POSITIVE (0.9943)]}]

POSITIVE

Sentence: "Have in class examples of materials to explain concepts ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9999)]}]

POSITIVE

Sentence: "Professors at UW should talk about examples and situations that occur on homeworks and exams , not just the broad knowledge" [- Tokens: 21 - Sentence-Labels: {'label': [POSITIVE (0.9849)]}]

POSITIVE

Sentence: "Tell more about how to approach the problems" [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9128)]}]

POSITIVE

Sentence: "Andrew does a fantastic job with this but other professors could go through more relevant examples after presenting the material ." [- Tokens: 21 - Sentence-Labels: {'label': [POSITIVE (0.9829)]}]

POSITIVE

Sentence: "Work through practice problems with the students" [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9628)]}]

POSITIVE

Sentence: "Slow down the lectures a little bit to make sure that the students are understanding what is being taught ." [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.9733)]}]

POSITIVE

Sentence: "Assign easy problems before hand , then have class teaching the concepts on the types of problems assigned ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9741)]}]

POSITIVE

Sentence: "More real-world examples of theoretical material . Even if the specific

ic application is outside the scope of the class , it still helps students prioritize the important parts and set a standard for mastery of the material ." [- Tokens: 38 - Sentence-Labels: {'label': [POSITIVE (0.9993)]}]

POSITIVE

Sentence: "Make the lectures relevant to the homework and the exams . Shorter Quiz sections will be helpful as well ." [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.9922)]}]

POSITIVE

Sentence: "Going over examples in class is the best way to make sure material is retained" [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9943)]}]

POSITIVE

Sentence: "The most helpful action professors at UW can take to support me in class is to go through examples in lecture that are at least somewhat similar to homework and test problems ." [- Tokens: 33 - Sentence-Labels: {'label': [POSITIVE (0.9685)]}]

POSITIVE

Sentence: "Give an outline of what we are about to cover and where we are going so that we can get a clear goal in mind ." [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.9828)]}]

POSITIVE

Sentence: "Give an overview of what will be taught at the beginning of class" [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9976)]}]

POSITIVE

Sentence: "Thoroughly explain the material (how to apply it , why they are following the steps they take during examples) Extra office hours before exams Scheduling due dates for assignments in a logical manner / offering extensions as seeing fit" [- Tokens: 41 - Sentence-Labels: {'label': [POSITIVE (0.9752)]}]

POSITIVE

Sentence: "Accurately describe what they are looking for / what the goals of the course are / what the course content means in the context of the major or degree that is being pursued that requires the class ." [- Tokens: 38 - Sentence-Labels: {'label': [POSITIVE (1.0)]}]

POSITIVE

Sentence: "Lectures were pretty good , possibly have more practice problems during lectures" [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.7523)]}]

POSITIVE

Sentence: "Go over practice midterms and finals in class before the real ones ." [- Tokens: 13 - Sentence-Labels: {'label': [NEGATIVE (0.9842)]}]

NEGATIVE

Sentence: "Cover all of the material" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9926)]}]

POSITIVE

Sentence: "Working through example problems in class ." [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9954)]}]

POSITIVE

Sentence: "Provide a better structure to lectures . Headings , sub headings and explanations would be beneficial to learning" [- Tokens: 18 - Sentence-Labels: {'label': [NEGATIVE (0.7809)]}]

NEGATIVE

Sentence: "Professor does a pretty good job the concept , but maybe we could go over more examples so we get a better feel on how to apply it to problems ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.5156)]}]

POSITIVE

Sentence: "better prepare us for questions we will receive on exams . the example questions in lectures are too easy while we get questioned about things we weren't prepared for as thoroughly ." [- Tokens: 32 - Sentence-Labels: {'label': [NEGATIVE (0.999)]}]

NEGATIVE

Sentence: "Give 2 examples of each concept , one simple example and one harder example ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.7286)]}]

POSITIVE

Sentence: "Better lecture , no more " is that good ? " [- Tokens: 11 - Sentence-Labels: {'label': [NEGATIVE (0.9878)]}]

NEGATIVE

Sentence: "Take the time to explain concepts more in depth so that it will be ea

sier to understand" [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.554)]}]
POSITIVE
 Sentence: "Ask the students if they are going too fast or too slow every once in awhile . Check private messages as well in Zoom calls ." [- Tokens: 26 - Sentence-Labels: {'label': [NEGATIVE (0.9217)]}]
NEGATIVE
 Sentence: "I do wish the practice quizzes accompanied with every lecture were mandatory . It encourages students to keep up with the asynchronous lectures . I * really * wish lectures were done in real time because student-to-student communication would spark A LOT more . (This class vs. my CEE class , which is held in real time , has so much more student communication. This class feels like it has close to none .)" [- Tokens: 76 - Sentence-Labels: {'label': [POSITIVE (0.9547)]}]
POSITIVE
 Sentence: "Answering questions and solving different types of practice problems and not just going over the concept . I also wish that the professor had posted lecture notes online , because sometimes I cannot comprehend the handwriting and I have a lot of missing sections from the notes ." [- Tokens: 48 - Sentence-Labels: {'label': [NEGATIVE (0.8101)]}]
NEGATIVE
 Sentence: "Encourage asking questions , especially " dumb " questions . So many times I see instructors present entirely new material , often at too fast a pace for students to fully process . The resulting silence from the lecture is not because everyone understands instantly - rather , it is due to the students not fully knowing what they do not understand about the material yet . Obviously this comes down to time constraints , class size , etc , but many instructors (especially in the math department) seem either oblivious that students are not simply absorbing material as fast as they can write it down . It takes time ." [- Tokens: 113 - Sentence-Labels: {'label': [NEGATIVE (0.9992)]}]
NEGATIVE
 Sentence: "Be open and accessible for asking questions during lecture and offering alternate explanations when the first does n't clarify the question ." [- Tokens: 22 - Sentence-Labels: {'label': [POSITIVE (0.8541)]}]
POSITIVE
 Sentence: "make sure to keep engagement high , e.g. with breakout rooms or asking questions of the group , also being a dynamic and interesting / easy-to-focus-on lecturing style is good (although some topics are easier for this than others)" [- Tokens: 41 - Sentence-Labels: {'label': [POSITIVE (0.9948)]}]
POSITIVE
 Sentence: "In online classes it is especially helpful when professors do extra to increase engagement during the lectures . Working through problems , asking questions , etc . Engagement falls automatically with online lectures , so it takes extra to bring it back to a normal level ." [- Tokens: 47 - Sentence-Labels: {'label': [POSITIVE (0.9893)]}]
POSITIVE
 Sentence: "Make the lectures as interactive as possible to make in-person attendance valuable and worthwhile ; online recordings and copies of lecture materials are very helpful for review as well as substituting for in-person attendance if needed ." [- Tokens: 37 - Sentence-Labels: {'label': [POSITIVE (0.9961)]}]
POSITIVE
 Sentence: "Please always have the chat enabled for messaging everyone during lectures . Many would prefer not to ask questions directly to the professor , and those that are shy to ask in the group will message the professor anyways . In many cases it is convenient , albeit boring for the professor , for 0 to type a response to a question . Additionally I think there should be a minimum of two hours of office hours for each member of the instruction team for each course . Office hours have been very busy , in my experience , because of this online ability . In fact , office hours in the future should be available during Zoom for some of 0 that may not live on campus , and office hours often fall outside of convenient times when we may be on campus . There is also no compensation for the fact that many of 0 are not in a suitable learning environment . It may be difficult to test in our given environment ." [- Tokens: 176 - Sentence-Labels: {'label': [NEGATIVE (0.9949)]}]
NEGATIVE

Sentence: "Using breakout rooms to allow students to discuss topics or problems has been helpful and has helped me to stay engaged . Also offering extra office hours or even just holding office hours right before or after class ." [- Tokens: 39 - Sentence-Labels: {'label': [POSITIVE (0.9949)]}]

POSITIVE

Sentence: "I would say take the time to answer all the questions I have . Whether that be in class , email , or office hours . If we are taking our time to learn the material they are teaching they should be able to take the time to answer our questions ." [- Tokens: 52 - Sentence-Labels: {'label': [NEGATIVE (0.866)]}]

NEGATIVE

Sentence: "The key difference between online and in-person class is student engagement . Focusing on this would likely make courses much more enriching when taught online . Professors should , therefore , focus on improving this aspect of their lectures by asking questions , creating interactive activities like polling , hosting frequent office hours , etc ." [- Tokens: 56 - Sentence-Labels: {'label': [POSITIVE (0.9952)]}]

POSITIVE

Sentence: "Being able to take questions during lecture ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9981)]}]

POSITIVE

Sentence: "Waste less class time answering a ton on individual student questions during class time . It often felt like every 30 seconds some student would interrupt the lecture with a question to clarify something that I did n't need and made it hard to actually learn anything . In person classes have far less student questions and when students are confused they can go to office hours rather than having professors waste my time answering every little question that comes up . Because of this I stopped watching lectures after week 3 to just read the book instead ." [- Tokens: 99 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]

NEGATIVE

Sentence: "The professors should try to get the class more involved . All of my professors are open to asking questions , but there is n't a lot of other involvement . Many students do n't feel comfortable interrupting the professor to ask a question ." [- Tokens: 46 - Sentence-Labels: {'label': [NEGATIVE (0.9971)]}]

NEGATIVE

Sentence: "Leave space for students to ask questions . This can be challenging when it feels like you are interrupting the professor in order to ask your question ." [- Tokens: 28 - Sentence-Labels: {'label': [NEGATIVE (0.9324)]}]

NEGATIVE

Sentence: "Be open to student feedback . I personally like how Professor Wilson has asked 0 during lecture what she could be doing to help 0 . That type of active questioning is really helpful ." [- Tokens: 35 - Sentence-Labels: {'label': [POSITIVE (0.9325)]}]

POSITIVE

Sentence: "Professor lets student ask questions during the class" [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9759)]}]

POSITIVE

Sentence: "spend time to answer questions in class time" [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9875)]}]

POSITIVE

Sentence: "I kind of hoped that the professor did n't disable the class chat in Zoom . Because we could n't really know what questions other students had , and did not have a good way of asking questions in class ." [- Tokens: 41 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]

NEGATIVE

Sentence: "- Breakout rooms during breaks - Have student intros on first day - More get to know your class mate kind of activities" [- Tokens: 23 - Sentence-Labels: {'label': [POSITIVE (0.9362)]}]

POSITIVE

Sentence: "When they allow students to chat with each other privately on zoom , it 's nice because then you can ask other students clarifying questions instead of slowing the professor down and having them answer follow up questions ." [- Tokens: 39 - Sentence-Labels: {'label': [POSITIVE (0.9607)]}]

POSITIVE

Sentence: "Watch the participants and chat tabs in Zoom during lecture . Student s are often too polite to interrupt the professor . In a physical classroom a ra ised hand allows the professor to finish their sentence before addressing the qu estion . There is n't a good analogy in an online lecture , so it is easier to m iss a question" [- Tokens: 59 - Sentence-Labels: {'label': [POSITIVE (0.697 8)]}]

POSITIVE

Sentence: "While the professor in this class doing an excellent job delivering t he online lecture , maybe he should be more active interaction with students . F or instance , initiate a conversation with students , asking questions , etc" [- Tokens: 38 - Sentence-Labels: {'label': [NEGATIVE (0.9957)]}]

NEGATIVE

Sentence: "Use breakout rooms in lectures to allow students to still have ineract ion with one another ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9988)]}]

POSITIVE

Sentence: "Interacting with students and allowing 0 to talk with other students like the break out room allows the online class to have a somewhat similar envi ronment as the real life class ." [- Tokens: 32 - Sentence-Labels: {'label': [POSITIVE (0.9966)]}]

POSITIVE

Sentence: "Answer student questions students ask in the zoom chat ." [- Token s: 10 - Sentence-Labels: {'label': [POSITIVE (0.9361)]}]

POSITIVE

Sentence: "I feel that it really helps if professors at UW engage with their stu dents instead of just posting material for 0 to absorb . Like having mandatory zo om discussions ." [- Tokens: 30 - Sentence-Labels: {'label': [POSITIVE (0.985 7)]}]

POSITIVE

Sentence: "Providing opportunities to ask questions . I like having the asynchro noo lectures and 0ing class time for office hours ." [- Tokens: 20 - Sentence -Labels: {'label': [POSITIVE (0.9928)]}]

POSITIVE

Sentence: "Professors need to stay more on topic during lectures and spend less time answering every question students have , because its hard to actually lear n anything if lectures are constantly interrupted by students ." [- Tokens: 34 - Sentence-Labels: {'label': [NEGATIVE (0.9977)]}]

NEGATIVE

Sentence: "Be attentive to students in class to see if they 're keeping up with the lecture (observe for frantic note-taking) ." [- Tokens: 23 - Sentence- Labels: {'label': [POSITIVE (0.9512)]}]

POSITIVE

Sentence: "provide an environment that invites questions and commentary from stu dents . (mostly already does)" [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9928)]}]

POSITIVE

Sentence: "Ask Students more questions ." [- Tokens: 5 - Sentence-Labels: {'l abel': [POSITIVE (0.8173)]}]

POSITIVE

Sentence: "Get more involved with the classroom during lecture . I feel like in a lot of my classes , the professor just reads off slides or old notes . This i s a really impersonal and , in my opinion , ineffective way of teaching students a subject . With more interaction , the students would be more invested and atte nitive to the lecture ." [- Tokens: 64 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]

NEGATIVE

Sentence: "Professors should welcome questions during class and pause to see if there are any questions . (within reason)" [- Tokens: 20 - Sentence-Label s: {'label': [POSITIVE (0.6225)]}]

POSITIVE

Sentence: "Encourage questions and interaction with the material through interactive classes , as well as working with TAs to encourage personal exploration of t he material ." [- Tokens: 25 - Sentence-Labels: {'label': [POSITIVE (0.996 4)]}]

POSITIVE

Sentence: "Give enough time for students to answer questions on their own before giving the answer to questions on lecture slides . Also press students to answer questions . Students are often timid to answer questions in class ." [- Tokens: 38 - Sentence-Labels: {'label': [POSITIVE (0.7954)]}]

POSITIVE

Sentence: "Take time to make sure that we understand the material in lectures . I feel like most of the time , the professors are so concerned with covering as much material as possible , that they do n't focus enough on making sure we understand really key concepts ." [- Tokens: 49 - Sentence-Labels: {'label': [NEGATIVE (0.9262)]}]

NEGATIVE

Sentence: "Having more time to answer questions during lecture , instead of rushing through material in order to cover more topics ." [- Tokens: 21 - Sentence-Labels: {'label': [POSITIVE (0.9023)]}]

POSITIVE

Sentence: "Be as engaging as possible , despite having to pre-record lectures and post digital course materials , including interactive / creative and engaging course elements to keep a positive mentality ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.999)]}]

POSITIVE

Sentence: "I think that being engaging and interesting is extremely important in online lectures , I find it much harder to be engaged than before . Also a clear structure is really beneficial ." [- Tokens: 33 - Sentence-Labels: {'label': [NEGATIVE (0.7843)]}]

NEGATIVE

Sentence: "Make everything very clear and be responsive to emails and messages regarding questions ." [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9883)]}]

POSITIVE

Sentence: "Create an encouraging atmosphere for questions , be humorous and engaging during lecture ." [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9995)]}]

POSITIVE

Sentence: "Be interested in the success of their students and find different ways to teach in order to help students learn ." [- Tokens: 21 - Sentence-Labels: {'label': [POSITIVE (0.8661)]}]

POSITIVE

Sentence: "I just want the teachers to know what they are talking about . Some of the professors I have had go through lecture reading off slides do n't provide good explanations to student questions or in class examples . Students should n't be correcting professors during class but it happen far too often so if this could stop and professors who are actually knowledgeable the subject be the ones teaching ." [- Tokens: 71 - Sentence-Labels: {'label': [NEGATIVE (0.9436)]}]

NEGATIVE

Sentence: "I think teaching with enthusiasm , clear voice , and preparation helps in disseminating information to students ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.9961)]}]

POSITIVE

Sentence: "Keep lectures fresh and interesting , not just talking with slides ; demos are always fun" [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.997)]}]

POSITIVE

Sentence: "Professor actually care about 0 . proper in class problems , when we ask questions she is always answering it with her patience ." [- Tokens: 24 - Sentence-Labels: {'label': [POSITIVE (0.9862)]}]

POSITIVE

Sentence: "Be as organized as possible . Give advice on how to learn the material and success in class . Be friendly so students can / are willing to approach the professor" [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.8466)]}]

POSITIVE

Sentence: "Be more friendly and non monotonous while lecturing" [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.8059)]}]

POSITIVE

Sentence: "Be clear and organized ." [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9778)]}]
 POSITIVE

Sentence: "care about the students and activity engage in wanting us to learn , making material as interesting and engaging the class and being positive and happy people" [- Tokens: 27 - Sentence-Labels: {'label': [POSITIVE (0.9959)]}]
 POSITIVE

Sentence: "By being clear and concise in lectures . Profs going off on tangents wastes class time and can further confuse students ." [- Tokens: 22 - Sentence-Labels: {'label': [NEGATIVE (0.9995)]}]
 NEGATIVE

Sentence: "One action the professors can take would be having well written lecture slides that are easy to follow and practice exams that reflect their course work ." [- Tokens: 26 - Sentence-Labels: {'label': [NEGATIVE (0.9448)]}]
 NEGATIVE

Sentence: "Be understanding of unforeseen circumstances related to technology ; provide lecture recordings ; scale projects accordingly" [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9123)]}]
 POSITIVE

Sentence: "Making sure lecture is as clear an understandable as possible , and that resources are provided for online access" [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9863)]}]
 POSITIVE

Sentence: "post lecture videos and class notes . Being well organized with all the class material" [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9887)]}]
 POSITIVE

Sentence: "Create concise lecture notes after each lecture" [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9995)]}]
 POSITIVE

Sentence: "Have clearly organized classes where the readings , lesson plan , and supportive material is all clearly laid out (on a site such as canvas .) Make sure every single homework question , example , and lecture is purposeful and contributes directly to the core material that you want students to learn ." [- Tokens: 55 - Sentence-Labels: {'label': [POSITIVE (0.9999)]}]
 POSITIVE

Sentence: "write clear notes that can be posted online , so that we can review topics that we did n't understand" [- Tokens: 20 - Sentence-Labels: {'label': [NEGATIVE (0.9971)]}]
 NEGATIVE

Sentence: "Making sure lecture recordings are clear and easy to understand . Also making sure in classes such as EE 215 where we have decided to do entirely pre-recorded lectures , that the professor responds to emails quickly so there is good communication for asking questions" [- Tokens: 45 - Sentence-Labels: {'label': [POSITIVE (0.9973)]}]
 POSITIVE

Sentence: "Making resources more clear and more online-friendly since that is the only option available right now . Furthermore , making office hours longer or restructuring them so more people can get help at once would make for a more productive experience ." [- Tokens: 42 - Sentence-Labels: {'label': [POSITIVE (0.9861)]}]
 POSITIVE

Sentence: "Be understanding , reach out to students who are having a hard time ." [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9956)]}]
 POSITIVE

Sentence: "Make sure all course material is presented in up a neat and organized manner . Make sure that the students are learning the material and are able to keep up with the course work ." [- Tokens: 35 - Sentence-Labels: {'label': [POSITIVE (0.9981)]}]
 POSITIVE

Sentence: "Making sure that class is flexible and changes if we need it ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9984)]}]
 POSITIVE

Sentence: "Make sure they are clearly describing each topic for the class especially when the lectures are prerecorded and there is no chance to ask questions

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    [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.9967)]}]
POSITIVE
Sentence: "Taking the time to listen to the students ." [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.9902)]}]
POSITIVE
Sentence: "Be understanding of attendance / deadlines and work load ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.8919)]}]
POSITIVE
Sentence: "Explain materials clearly" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9998)]}]
POSITIVE
Sentence: "Be flexible" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.9126)]}]
POSITIVE
Sentence: "more concise notes / review" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9783)]}]
POSITIVE
Sentence: "be more understanding of the student 's situation and understand that some student have really difficult learning in a stressed environment . Showing signs not understanding puts student at a situation that makes them very difficult to focus on the materials at hand eventually become more stressed to perform . It becomes a downward cascade that spirals to 1 performance ." [- Tokens: 61 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]
NEGATIVE
Sentence: "Been flexible" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.5291)]}]
POSITIVE
Sentence: "Make clear explanations ." [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.992)]}]
POSITIVE
Sentence: "The lecture note can be more clear and organized ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.5708)]}]
POSITIVE
Sentence: "Internalize feedback from students" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.8687)]}]
POSITIVE
Sentence: "Do n't skip logic when explaining things or assume we know the given information" [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9915)]}]
POSITIVE
Sentence: "Continue making clear explanations about the lecture materials ." [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.97)]}]
POSITIVE
Sentence: "Being patient since online classes are new to many ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9639)]}]
POSITIVE
Sentence: "Sympathize with students who have technical difficulties ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9857)]}]
POSITIVE
Sentence: "Understand that learning at home is much more difficult than on campus in person classes ." [- Tokens: 17 - Sentence-Labels: {'label': [NEGATIVE (0.9884)]}]
NEGATIVE
Sentence: "Be more receptive of criticism" [- Tokens: 5 - Sentence-Labels: {'label': [NEGATIVE (0.9882)]}]
NEGATIVE
Sentence: "Tells some jokes to make the lectures more interesting . Honestly the format is good but online class is not easy to get attentions from students" [- Tokens: 26 - Sentence-Labels: {'label': [NEGATIVE (0.9975)]}]
NEGATIVE
Sentence: "Provide engaging lectures ." [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9971)]}]
POSITIVE
Sentence: "When lecturing , please be more enthusiastic when lecturing than in the classroom because it is harder to concentrate in an online class . Professors t
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hat speak with more excitement and engage students are easier to foc0 on at home . Home can be very distracting ." [- Tokens: 47 - Sentence-Labels: {'label': [NEGATIVE (0.958)]}]

NEGATIVE

Sentence: "Be enganged" [- Tokens: 2 - Sentence-Labels: {'label': [NEGATIVE (0.9561)]}]

NEGATIVE

Sentence: "Try and be the most accommodating to the students ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.996)]}]

POSITIVE

Sentence: "Be understanding ! Realize that being at home can be even more stress ful of an environment than at school so the amount of work that should be expect ed should not be more than normal ." [- Tokens: 35 - Sentence-Labels: {'labe l': [POSITIVE (0.7621)]}]

POSITIVE

Sentence: "Being accommodating to our access to technology from home , without l ibraries or UW , the technology I have to complete my assignments are limited ." [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.9855)]}]

POSITIVE

Sentence: "Listen closely to student feedback about structure , styles , teachin g methods , etc. and update classes accordingly . Its much harder to learn onlin e if even one part of the class impedes learning , and professors should listen even more closely than normal to student feedback ." [- Tokens: 48 - Sentenc e-Labels: {'label': [NEGATIVE (0.756)]}]

NEGATIVE

Sentence: "Make lectures engaging for the students so that people actually liste n to the zoom call ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9978)]}]

POSITIVE

Sentence: "Engaging lectures" [- Tokens: 2 - Sentence-Labels: {'label': [POSI TIVE (0.9993)]}]

POSITIVE

Sentence: "Be understanding of the challenges that accompany online learning" [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.9897)]}]

POSITIVE

Sentence: "Being accomodating is really helpful . Oing technology is super stres sful for a lot of people (myself included) and when things go wrong , it 's a lot more complicated to fix than in person ." [- Tokens: 38 - Sentence-Label s: {'label': [POSITIVE (0.8796)]}]

POSITIVE

Sentence: "Live lectures that are more engaging and encourage participation ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9823)]}]

POSITIVE

Sentence: "I think that the professors willingness to work with students to find what works best with 0 was helpful to me and I am sure a lot of other students ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.9646)]}]

POSITIVE

Sentence: "Being flexible and accomodating to any problems that may come up" [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9973)]}]

POSITIVE

Sentence: "Time flexibility" [- Tokens: 2 - Sentence-Labels: {'label': [POSIT IVE (0.7595)]}]

POSITIVE

Sentence: "Write notes clearly by verbally explaining each variable and explain what your writing as your doing it ." [- Tokens: 18 - Sentence-Labels: {'lab el': [POSITIVE (0.9984)]}]

POSITIVE

Sentence: "Make it less stressful" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9986)]}]

POSITIVE

Sentence: "be engaging ... show some cool live examples or something . dry zoom lectures are so last month ." [- Tokens: 19 - Sentence-Labels: {'label': [PO SITIVE (0.9461)]}]

POSITIVE

Sentence: "Support 0 in completing work at our own pace ." [- Tokens: 10 - Se

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ntence-Labels: {'label': [POSITIVE (0.9938)]}]
POSITIVE
Sentence: "Engaging lectures" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.9993)]}]
POSITIVE
Sentence: "Taking different time zones into consideration" [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9892)]}]
POSITIVE
Sentence: "Be more approachable . This can be done by making it very clear through body language , and emotion , that theyre interested in our success and are willing to help us to get be successful . This is hard if a professor is n't interested , but if they are , being as genuine as possible with students helps us ( or me at least ) feel like theyre approachable , which makes me want to succeed more ." [- Tokens: 80 - Sentence-Labels: {'label': [POSITIVE (0.9986)]}]
POSITIVE
Sentence: "Be as interactive as possible with students and include elements such as class problems and survey questions that actively test learning . Then both students and teachers get better feedback on what needs more work ." [- Tokens: 36 - Sentence-Labels: {'label': [POSITIVE (0.9534)]}]
POSITIVE
Sentence: "Be sure to be accommodating for anything that might come up and make the online sessions friendly and welcoming ." [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.9495)]}]
POSITIVE
Sentence: "explain the question clearly in lecture" [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9768)]}]
POSITIVE
Sentence: "To go over material in a consistent manner and make sure that he explains it well ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9998)]}]
POSITIVE
Sentence: "The most important to me is clear and detailed explanation . Some professors assume that students know materials , but sometimes it is not beneficial to students ." [- Tokens: 28 - Sentence-Labels: {'label': [POSITIVE (0.9999)]}]
POSITIVE
Sentence: "Having a clear lecture plan ( what they will cover ) and then following it ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9713)]}]
POSITIVE
Sentence: "Engage students more" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9986)]}]
POSITIVE
Sentence: "Have clear , well structured lectures that explain the concepts we are learning well ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9992)]}]
POSITIVE
Sentence: "Try to seem more empathetic to students" [- Tokens: 7 - Sentence-Labels: {'label': [NEGATIVE (0.9906)]}]
NEGATIVE
Sentence: "I wish some professor would care a little more and put some more effort in their lectures . Some professors come to class and just read their slides and that 's pretty much it ." [- Tokens: 35 - Sentence-Labels: {'label': [NEGATIVE (0.9675)]}]
NEGATIVE
Sentence: "Be engaged with how the students learn the material and interested in knowing what concepts are easier / more difficult to grasp . It is productive when a teacher is aware of the difficulties of what he / she is teaching . Being able to communicate that is a great way to have a class of students learning at a steady pace ." [- Tokens: 63 - Sentence-Labels: {'label': [POSITIVE (0.9999)]}]
POSITIVE
Sentence: "One action is that they should be friendly through all interactions with students so we can feel comfortable in approaching the professor if we have any questions or need help with course related material ." [- Tokens: 35 - Sentence-Labels: {'label': [POSITIVE (0.7976)]}]

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POSITIVE
 Sentence: "be more organized with slides and classes" [- Tokens: 7 - Sentence-Labels: {'label': [NEGATIVE (0.9435)]}]

NEGATIVE
 Sentence: "Be clear in expectations and content" [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9938)]}]

POSITIVE
 Sentence: "Showing up to lecture prepared to teach" [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9918)]}]

POSITIVE
 Sentence: "My professors at UW can show excitement in the material . A professor who shows how much they love the material through excitement helps give me reason for wanting to learn it ." [- Tokens: 33 - Sentence-Labels: {'label': [POSITIVE (0.9993)]}]

POSITIVE
 Sentence: "Be excited and enthusiastic about their subject and their class ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9864)]}]

POSITIVE
 Sentence: "The best action I believe my professors can take is to listen to their students . Through reviews , ratemyprofessor , and general body language in class , a professor can come to understand what students have trouble with in class and in that way the professor can plan a way to adapt their lectures and material to address these concerns" [- Tokens: 61 - Sentence-Labels: {'label': [POSITIVE (0.9783)]}]

POSITIVE
 Sentence: "They can provide clear instruction on material ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9939)]}]

POSITIVE
 Sentence: "Be enthusiastic about their subject" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9903)]}]

POSITIVE
 Sentence: "Do n't mind the simple questions ." [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.6289)]}]

POSITIVE
 Sentence: "Be a little more clear and less mistake prone during lectures" [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.5661)]}]

POSITIVE
 Sentence: "Clear lectures" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.9994)]}]

POSITIVE
 Sentence: "Clear work and diagrams when lecturing . Appropriately named variables ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9999)]}]

POSITIVE
 Sentence: "Be clear on the consistency of using the same formulas to go about problems in order to simplify problems that look very messy ." [- Tokens: 24 - Sentence-Labels: {'label': [NEGATIVE (0.9228)]}]

NEGATIVE
 Sentence: "The single thing that most matters to me is whether the professor cares how the students are learning . It 's valuable when a professor cares that every student learns ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.8272)]}]

POSITIVE
 Sentence: "Professors can prepare good lecture slides and notes so that time is used efficiently in class . That way , students stay engaged because the presentation is more effective ." [- Tokens: 30 - Sentence-Labels: {'label': [POSITIVE (0.9956)]}]

POSITIVE
 Sentence: "Create a accepting atmosphere within classrooms (ie All questions are valid and worth hearing / answering) ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9951)]}]

POSITIVE
 Sentence: "I have no doubt they are incredibly smart but most of them do not know how to teach effectively the topic they excel in . I think one of my best teachers went back to school to learn how to teach physics in a way so students can understand , and it effected my learning in such a positive way ." [- Tokens:

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61 - Sentence-Labels: {'label': [POSITIVE (0.9963)]}]
POSITIVE
Sentence: "clear with his explanations" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9973)]}]
POSITIVE
Sentence: "making course objectives very clear" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9996)]}]
POSITIVE
Sentence: "Clear and concise lecture notes" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9991)]}]
POSITIVE
Sentence: "give lectures with well arranged materials and concepts" [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9992)]}]
POSITIVE
Sentence: "Try to explain things in the most commonly understandable way as possible ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9944)]}]
POSITIVE
Sentence: "Ensuring that lecture material is clearly conveyed through visual representation and clear speaking ." [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9999)]}]
POSITIVE
Sentence: "Be flexible and check email often" [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.8148)]}]
POSITIVE
Sentence: "To be more clear in lecture , lecture is a little slow and can get tedious . Different expressions and representations of the material will help deepen the learning ." [- Tokens: 30 - Sentence-Labels: {'label': [NEGATIVE (0.9973)]}]
NEGATIVE
Sentence: "Make the lectures as interesting as possible ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9986)]}]
POSITIVE
Sentence: "I am not too sure if this is possible , but maybe give students the licensing for MultiSim and available external hard drives for high-memory demanding tasks so that students can perform lab assignment with equal accessibility to the same technology . Also , send students the lab kit so that students can maybe build circuits that they can potentially use even when other equipment is not available at the moment but maybe use after the COVID-19 lock-down is lifted ."
[- Tokens: 81 - Sentence-Labels: {'label': [NEGATIVE (0.992)]}]
NEGATIVE
Sentence: "Give extra practice problems for tests and give instruction on things like lab maybe a little more than they usually would because it is sometimes difficult to do those problems ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.6128)]}]
POSITIVE
Sentence: "Make document summarizing all important equations and scenarios ; discuss labs" [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9916)]}]
POSITIVE
Sentence: "Do n't make labs the same way . It 's impossible to work in a group through zoom" [- Tokens: 18 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]
NEGATIVE
Sentence: "Mail lab equipment to students" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9851)]}]
POSITIVE
Sentence: "One thing that would be better is to have a system to interact with teachers alot better especially in labs" [- Tokens: 20 - Sentence-Labels: {'label': [NEGATIVE (0.9922)]}]
NEGATIVE
Sentence: "I would like a lot more guidance on the labs . The labs have been very confusing to follow this quarter , and some extra help would be appreciated ."
[- Tokens: 30 - Sentence-Labels: {'label': [NEGATIVE (0.9805)]}]
NEGATIVE
Sentence: "It would be a lot more better if the labs were group work . I think we all had a hard time figuring out the labs alone . Also writing the lectures on a piece of paper would be more helpful than writing on a tablet . It is so hard

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to read the hand writings when they are written on a tablet ." [- Tokens: 64 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]

NEGATIVE

Sentence: "Lab assignments this quarter are causing me the most trouble . Making sure the manuals are updated with all the information requested by students is the first step to making sure the labs can get done on time in the situation . This is probably the biggest cause of stress for students ." [- Tokens: 53 - Sentence-Labels: {'label': [NEGATIVE (0.9979)]}]

NEGATIVE

Sentence: "STOP EXPECTING STUDENTS TO DO SIMULATIONS AT HOME ! This is unfair to 1er students who do n't have the hardware or internet connection to support it . Instead , you could do a lab demonstration and have the students take a quiz on it . I understand that this is not the same as actually doing the lab , but you can't expect the learning to be exactly the same right now . Each lab took me > 15 hours because my computer would crash or my internet connection was slow ." [- Tokens: 94 - Sentence-Labels: {'label': [NEGATIVE (0.9999)]}]

NEGATIVE

Sentence: "Offering in session labs" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9963)]}]

POSITIVE

Sentence: "Offering discussion sections and zoom hours to do over the lab / discussion questions ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.997)]}]

POSITIVE

Sentence: "Offer zoom call lab sessions and more explanations of how to approach problems rather than recordings of simply practice problems" [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.8448)]}]

POSITIVE

Sentence: "More talk about lab material in class because the T.A. ' s run go through the learnings too quickly ." [- Tokens: 20 - Sentence-Labels: {'label': [NEGATIVE (0.9969)]}]

NEGATIVE

Sentence: "Focusing more about solidworks" [- Tokens: 4 - Sentence-Labels: {'label': [NEGATIVE (0.599)]}]

NEGATIVE

Sentence: "I think that my professors are doing the best that they can ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9956)]}]

POSITIVE

Sentence: "There really is n't anything else they can do under this circumstance ." [- Tokens: 13 - Sentence-Labels: {'label': [NEGATIVE (0.9993)]}]

NEGATIVE

Sentence: "I think my professor did well enough to deliver this class online . I like his teaching style ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9821)]}]

POSITIVE

Sentence: "Not much I can think of" [- Tokens: 6 - Sentence-Labels: {'label': [NEGATIVE (0.9626)]}]

NEGATIVE

Sentence: "Not really" [- Tokens: 2 - Sentence-Labels: {'label': [NEGATIVE (0.9997)]}]

NEGATIVE

Sentence: "Our professor did the best in terms of teaching online classes . He handled it very well and there is n't much I would change or suggest ." [- Tokens: 28 - Sentence-Labels: {'label': [POSITIVE (0.9954)]}]

POSITIVE

Sentence: "I think overall he did a great job with the online format . Providing resources and answering questions about hw and lectures helped a lot ." [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.9942)]}]

POSITIVE

Sentence: "N / a I believe that all my professors this quarter did an outstanding job in adapting to these current circumstances ." [- Tokens: 22 - Sentence-Labels: {'label': [POSITIVE (0.9883)]}]

POSITIVE

Sentence: "He replies my email related to homework quickly , and explains clearly ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9956)]}]

POSITIVE
 Sentence: "My professor has been doing great adjusting to the online format ." [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9921)]}]

POSITIVE
 Sentence: "I think they have been doing a pretty good job ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9967)]}]

POSITIVE
 Sentence: "Right now is good enough ." [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9934)]}]

POSITIVE
 Sentence: "nan" [- Tokens: 1 - Sentence-Labels: {'label': [NEGATIVE (0.6754)]}]

NEGATIVE
 Sentence: "Zhanzhan has been the most helpful professor . It was hard learning from online material , but she provided zoom sessions and helpful discussion sections which set me up for success" [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.9957)]}]

POSITIVE
 Sentence: "The professor 's are very understanding of the unique circumstances that each student is in . There are many opportunities where exceptions are made for 1 internet or different time zones that do n't restrict the integrity of the class ." [- Tokens: 41 - Sentence-Labels: {'label': [POSITIVE (0.9931)]}]

POSITIVE
 Sentence: "EE271 was by far my favorite class this quarter , especially because of how well the professor managed to make the transition to online as seamless as possible ." [- Tokens: 29 - Sentence-Labels: {'label': [POSITIVE (0.9985)]}]

POSITIVE
 Sentence: "None ." [- Tokens: 2 - Sentence-Labels: {'label': [NEGATIVE (0.5293)]}]

NEGATIVE
 Sentence: "He is trying to find best way to present during lecture" [- Tokens: 11 - Sentence-Labels: {'label': [NEGATIVE (0.5406)]}]

NEGATIVE
 Sentence: "he is well acknowledge" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9951)]}]

POSITIVE
 Sentence: "None" [- Tokens: 1 - Sentence-Labels: {'label': [POSITIVE (0.6373)]}]

POSITIVE
 Sentence: "Not sure" [- Tokens: 2 - Sentence-Labels: {'label': [NEGATIVE (0.972)]}]

NEGATIVE
 Sentence: "I thought professor Jones has structured the class incredibly well ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9956)]}]

POSITIVE
 Sentence: "There really is n't too much he can do better . Lectures are very clear and informative ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.9956)]}]

POSITIVE
 Sentence: "He 's doing good" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.99)]}]

POSITIVE
 Sentence: "The professor was fine ." [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9376)]}]

POSITIVE
 Sentence: "I honestly do n't learn anything in class" [- Tokens: 8 - Sentence-Labels: {'label': [NEGATIVE (0.9946)]}]

NEGATIVE
 Sentence: "The number one action to best support me in my classes is to provide lectures prerecorded along with the notes or the slides from the lecture . I find live zoom courses to be very difficult . The chat is very distracting and internet troubles can cause material to be missed which is very stressful . Providing this prerecorded is much more helpful and relaxing to view the lectures and stop as needed or sometimes even to speed up . If I have questions , I can go to

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office hours ." [- Tokens: 92 - Sentence-Labels: {'label': [NEGATIVE (0.551
6)]}]
NEGATIVE
Sentence: "Recorded lectures Quizzes that match the material" [- Tokens: 7 -
Sentence-Labels: {'label': [POSITIVE (0.9837)]}]
POSITIVE
Sentence: "Honestly j0t make everything as flexible with time as possible – offe
ring lecture recordings so you do n't have to watch live and posting lecture sli
des is really helpful . Also midterms + final is better to me then the quizzes
." [- Tokens: 42 - Sentence-Labels: {'label': [POSITIVE (0.988)]}]
POSITIVE
Sentence: "Taking notes when not in a physical lecture is much more difficult ;
it may help if professors or TAs write guides for each topic . i.e. when teachi
ng Fourier transforms , they could write a page or two describing the process to
solve a problem 0ing them . Posting lecture slides somewhat works , but it makes
a lot more sense to have a step by step guide on applying the concept ." [- To
kens: 74 - Sentence-Labels: {'label': [NEGATIVE (0.9048)]}]
NEGATIVE
Sentence: "The professor could post their lectures and slides online so we can l
earn by our self ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.7
393)]}]
POSITIVE
Sentence: "Provide written materials that contain the subject matter of the cour
se . These may include lecture slides , scans of handouts , or reading assignmen
ts from a textbook ." [- Tokens: 29 - Sentence-Labels: {'label': [POSITIVE
(0.8232)]}]
POSITIVE
Sentence: "Have clear and easy to follow lectures and notes that are legible or
typed and available for students" [- Tokens: 18 - Sentence-Labels: {'label':
[POSITIVE (0.9974)]}]
POSITIVE
Sentence: "Recorded review session , having the homework due after the lab sessi
ons when we go over it ( ie Thursday Lab sessions )" [- Tokens: 23 - Sentence
-Labels: {'label': [NEGATIVE (0.5037)]}]
NEGATIVE
Sentence: "Maybe a more timely update on tests and homework solutions ." [- To
kens: 11 - Sentence-Labels: {'label': [NEGATIVE (0.9119)]}]
NEGATIVE
Sentence: "This goes out to STEM professors specifically . Please explain the as
sumptions you are making . For example , assuming students know a certain kind o
f mathematical notation or that they remember a certain mathematical concept . A
t least mentioning this assumption and providing some resources for students to
fill in their background if they are not familiar with this concept will really
really help students understand lectures better . It 's harder to participate an
d get student input in online classes so I think that this is especially importa
nt for better understanding , especially when the professor ca n't see your face
." [- Tokens: 104 - Sentence-Labels: {'label': [NEGATIVE (0.6835)]}]
NEGATIVE
Sentence: "Be clear about expectations and where items are located in the online
environment ( due dates , where in Canvas files are located , changes that occur
for any reason , etc ) , somewhat lenient as students transition to online learn
ing ( in terms of due date / time flexibility ) , stop 0ing breakout sessions /
rooms ( as they are not effective and 0ually end up with students sitting in si
lence until returning to the full class session ) , and do not 0e the flipped le
cture format beca0e " in-class " sessions essentially become office hours and al
l of the material is actually covered in required videos on top of these in-clas
s lecture times ( the videos were vastly superior to in-class sessions beca0e ac
tual format was covered )" [- Tokens: 133 - Sentence-Labels: {'label': [NEGAT
IVE (0.9984)]}]
NEGATIVE
Sentence: "Varying the format for the delivery of lectures and quiz sections . B
y that , I mean having the real time zoom lecture , recording of the zoom lectur
e uploaded , notes / slides posted before class and annotated slides posted afte
r class , include handwritten and a typed write up too if possible ." [- Token
s: 55 - Sentence-Labels: {'label': [POSITIVE (0.8295)]}]

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POSITIVE

Sentence: "Provide more practice resources to learn and study from . Add more useful information in video lectures that may consist of additional format besides just covering example problems ." [- Tokens: 29 - Sentence-Labels: {'label': [NEGATIVE (0.969)]}]

NEGATIVE

Sentence: "Provide ample practice and have a well outlined syllabus ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9892)]}]

POSITIVE

Sentence: "Uploading the Notes / Lecture Materials online . Give more details on calculations on example problems ." [- Tokens: 17 - Sentence-Labels: {'label': [NEGATIVE (0.7241)]}]

NEGATIVE

Sentence: "Professors can best support their students by having a detailed canvas page with many resources . However , resources are only helpful when they are easy and clear to find . Honestly , although it sounds stupid , a lot of professors have bad and unclear class organization so its hard to find what you need to do / things that can help you study . Also , talking about what is going to happen next in the class is nice ." [- Tokens: 82 - Sentence-Labels: {'label': [NEGATIVE (0.778)]}]

NEGATIVE

Sentence: "Giving us the reviews before the exams . As well as the small review at the beginning of each class , which really help me to understand and remember the materials ." [- Tokens: 32 - Sentence-Labels: {'label': [POSITIVE (0.9931)]}]

POSITIVE

Sentence: "The professor was a relatively good one . He spoke loudly and clearly , responded intelligently to questions , and gave enough material outside the class for practice ." [- Tokens: 29 - Sentence-Labels: {'label': [POSITIVE (0.952)]}]

POSITIVE

Sentence: "- upload lecture notes and practice tests - speak clearly and slowly in lecture , pause to ask students if there 's questions , and provide office hours" [- Tokens: 28 - Sentence-Labels: {'label': [POSITIVE (0.9979)]}]

POSITIVE

Sentence: "I think communication of deadlines and offering extra help during lectures is very important since we cant ask questions in person ." [- Tokens: 22 - Sentence-Labels: {'label': [POSITIVE (0.9766)]}]

POSITIVE

Sentence: "Creating lectures that are pre-recorded to allow more flexibility , but also providing live sessions to answers questions ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9926)]}]

POSITIVE

Sentence: "Distribute all information about logistics in written form . It is not necessary to watch all the recordings to learn sufficiently in the class , but it is very difficult to find important logistical information when it is presented during the videos . Also trying to keep lectures as concourse as possible is really important when it is so hard to engage effectively ." [- Tokens: 64 - Sentence-Labels: {'label': [POSITIVE (0.6871)]}]

POSITIVE

Sentence: "Being flexible and understanding that some students do n't learn as well in an online setting . Recording lectures is the most important thing in my opinion because students can rewind , slow down or speed up lectures to match their own preferred pace ." [- Tokens: 45 - Sentence-Labels: {'label': [POSITIVE (0.9986)]}]

POSITIVE

Sentence: "Be really clear and organized with whatever platform is used to host the class info (ie Canvas) . Sometimes I have difficulty finding the information that I know exists because it 's hidden in a weird folder . My favorite class had recorded lectures from several years ago , so those are what are being posted as daily lectures ; that gives the teacher more time to have more and longer office hours for questions . The combo seems really effective and I 'd love to see something like be more common if this stat0 continues for multiple quarters ." [- Tokens: 102 - Sentence-Labels: {'label': [POSITIVE (0.6014)]}]

POSITIVE

Sentence: "When recording lectures , it 's helpful when professors address commonly misunderstood concepts by students . It 's helpful to give examples of why some reasoning is wrong in addition to the right thought process ." [- Tokens: 36 - Sentence-Labels: {'label': [POSITIVE (0.967)]}]

POSITIVE

Sentence: "Clear , available notes and lectures" [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9979)]}]

POSITIVE

Sentence: "Being empathetic towards the needs of a diverse student base and providing copious resources for student enrichment in the form of helpful websites , documents , and alternative texts that may be helpful . Not all students learn the same way for one reason or another , so having professors that realize that is critical ." [- Tokens: 56 - Sentence-Labels: {'label': [POSITIVE (0.9938)]}]

POSITIVE

Sentence: "Providing ya with resources such as copies of notes or recordings of lectures to look back on if we need to . Also posting older exams to help us prep for upcoming exams" [- Tokens: 33 - Sentence-Labels: {'label': [POSITIVE (0.7689)]}]

POSITIVE

Sentence: "Students needs as much access to necessary academic materials as possible . Professors should share all lecture slides , in class notes , and record lectures ." [- Tokens: 27 - Sentence-Labels: {'label': [POSITIVE (0.9761)]}]

POSITIVE

Sentence: "Provide video lectures and lecture slides ." [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9776)]}]

POSITIVE

Sentence: "Providing good resources to understand the lectures for example lecture slides , lecture recordings , etc . They should also make sure that students can understand them ." [- Tokens: 28 - Sentence-Labels: {'label': [POSITIVE (0.9855)]}]

POSITIVE

Sentence: "Record the lectures" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9937)]}]

POSITIVE

Sentence: "Providing lecture notes and online recordings Going through all the steps of problems" [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9261)]}]

POSITIVE

Sentence: "Upload lecture resources (lecture recordings , notes) online . And provide practice material ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9653)]}]

POSITIVE

Sentence: "Record lectures and make them available online with the in class powerpoint / notes" [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9693)]}]

POSITIVE

Sentence: "Provide extra online materials to compensate for lack of in person , like extra lecture videos or links to other resources like khan academy or something" [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.8014)]}]

POSITIVE

Sentence: "Promptly uploading any recorded materials such as lectures or handwritten examples" [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.521)]}]

POSITIVE

Sentence: "Post lecture notes and video recordings after the class ." [- Tokens: 10 - Sentence-Labels: {'label': [NEGATIVE (0.7166)]}]

NEGATIVE

Sentence: "Personally , a wholly online format is best supported by a well organized set of resources for independent study for me ." [- Tokens: 22 - Sentence-Labels: {'label': [POSITIVE (0.9881)]}]

POSITIVE

Sentence: "Because everything is online , it can be difficult to know what resources are available and what is necessary for class each day , so making a list or posting what would be needed for class that day would be great . Also I was very

unfamiliar with the terminology used in this course and since I can't ask questions while watching a panopto lecture it would be great to have a terms sheet available ." [- Tokens: 77 - Sentence-Labels: {'label': [POSITIVE (0.9781)]}]

POSITIVE

Sentence: "Post lecture notes / recordings ." [- Tokens: 6 - Sentence-Labels: {'label': [NEGATIVE (0.6175)]}]

NEGATIVE

Sentence: "Provide detailed lecture notes and recordings on canvas for 0 to self review ." [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9739)]}]

POSITIVE

Sentence: "It would be helpful if they either pre-recorded lectures or always recorded them on zoom . For each lecture it would be helpful to have sections of the textbook that correspond to each lecture listed somewhere ." [- Tokens: 37 - Sentence-Labels: {'label': [NEGATIVE (0.9996)]}]

NEGATIVE

Sentence: "Having a schedule that makes sense and create a routine . Having everything laid out on canvas is helpful because the dashboard feels you everything that needs to be done along with the to do list . Having a weekly routine of when things are due is super helpful . Professors should upload all their teaching material and record all meeting so we can access them whenever is convenient for 0 . Also , lectures should either be prerecorded or be during lecture time . I don't think professors should be allowed to do both . Having both prerecorded lectures along with live lectures is too much to do aside from live lectures ." [- Tokens: 115 - Sentence-Labels: {'label': [POSITIVE (0.9856)]}]

POSITIVE

Sentence: "One action professors can take is to record lectures so that students can watch them at their convenience if they can not for whatever reason attend the lecture at the specific time . Also providing the notes for the lecture beforehand as it can be helpful with blurry cameras and such . Also having the exams zoom proctored is a good idea to make sure the testing that needs to happen is as fair as possible . Lots of different office hour is nice for flexibility . Also keeping lectures to the amount of time it would normally be in person such as not having over a 50 minute lecture recording for a scheduled 50 minute class ." [- Tokens: 118 - Sentence-Labels: {'label': [POSITIVE (0.9941)]}]

POSITIVE

Sentence: "To gather & present as many resources available related to the class whether that be textbook , extra lecture videos for explanation , suggested questions to solve from the textbook ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.9949)]}]

POSITIVE

Sentence: "Post recorded videos of lectures and lecture notes" [- Tokens: 8 - Sentence-Labels: {'label': [NEGATIVE (0.9353)]}]

NEGATIVE

Sentence: "The best way to support students online is to give as many types of learning outlets as possible . This includes lecture notes and specific steps to solve specific problems ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.5379)]}]

POSITIVE

Sentence: "Record every lecture and upload as many materials that may help students as possible ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9953)]}]

POSITIVE

Sentence: "Provide recorded lectures and organized class notes is very helpful" [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9525)]}]

POSITIVE

Sentence: "Post things like lecture slides or notes online in case we miss things in class , or have a panopto set up for quick review when notes do n't suffice ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.9627)]}]

POSITIVE

Sentence: "Provide reading and extra problems that represent what we need to know for a class so that we do n't have to depend just on lecture and homework problems for learning and practice ." [- Tokens: 34 - Sentence-Labels: {'label': [POSITIVE (0.9944)]}]

POSITIVE

Sentence: "Provide a clear list of resources to supplement class learning includ

ing but not limited to : professor office hours , TA office hours , a place for students to chat w / each other online (i.e. Slack) , trusted online resource s (tutorials , YouTube videos , q & a sites) , tutors , etc ." [- Tokens: 59 - Sentence-Labels: {'label': [POSITIVE (0.9882)]}]

POSITIVE

Sentence: "I would say making all material available especially when it comes to class slides and tests . Not providing some sort of practice test makes going in to the first test extremely difficult" [- Tokens: 32 - Sentence-Labels: {'label': [NEGATIVE (0.9968)]}]

NEGATIVE

Sentence: "Provide good and organized resources for reference and practice . Such as , lecture notes , practice exams , etc ." [- Tokens: 21 - Sentence-Labels: {'label': [POSITIVE (0.9897)]}]

POSITIVE

Sentence: "Having video recordings or posting in-depth lecture slides online so that I can go back and review material" [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.8671)]}]

POSITIVE

Sentence: "Provide supplementary materials , such as sections to read , practice exams , etc ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9196)]}]

POSITIVE

Sentence: "Offer more practice problem sets going into the midterm . Panapto would also be nice ." [- Tokens: 16 - Sentence-Labels: {'label': [NEGATIVE (0.9563)]}]

NEGATIVE

Sentence: "Produce , upkeep , and share preparatory materials for all midterms and finals they plan to administer . For example , practice tests , study guides , equation sheets , or any other documentation that makes the expectations of the test as clear as possible , as early as possible ." [- Tokens: 51 - Sentence-Labels: {'label': [POSITIVE (0.9964)]}]

POSITIVE

Sentence: "Take good , thorough notes in class that are posted online afterwards . Additionally , having panopto available to view when notes are unclear ." [- Tokens: 25 - Sentence-Labels: {'label': [POSITIVE (0.9899)]}]

POSITIVE

Sentence: "record lectures and upload them on canvas , as well as creating practice tests" [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9957)]}]

POSITIVE

Sentence: "Give a well-structured canvas page with abundant extra study material s and resources , offer office hours ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9955)]}]

POSITIVE

Sentence: "Provide as many avenues (ways to access and learn) their content as possible , such as posting lectures , posting panaptos , giving recommended reading , problems (SUGGESTED problems are super useful) ." [- Tokens: 37 - Sentence-Labels: {'label': [POSITIVE (0.9555)]}]

POSITIVE

Sentence: "Posting lecture slides on canvas , as well as posting a lot of practice exams / problems before midterms and finals ." [- Tokens: 22 - Sentence-Labels: {'label': [NEGATIVE (0.7611)]}]

NEGATIVE

Sentence: "Panopto the lectures and also post more practice tests" [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.9762)]}]

POSITIVE

Sentence: "I would greatly appreciate if the professors would provide more review materials for the midterm and final exams . This includes comprehensive study guides that include exactly what topics are going to be covered (without giving any specific details about the actual problems) , a sheet with the fundamental equations that will be necessary to apply for the exam questions and sample problems that are of the same level of difficulty and style as the ones on the exams ." [- Tokens: 82 - Sentence-Labels: {'label': [POSITIVE (0.9014)]}]

POSITIVE

Sentence: "More on line files , lecture notes , and more practice midterm problems" [- Tokens: 13 - Sentence-Labels: {'label': [NEGATIVE (0.8238)]}]

NEGATIVE

Sentence: "Publish lecture format in advance and hold help sessions ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9706)]}]

POSITIVE

Sentence: "Provide extra resources like past example problems and extra office hours to accommodate for being online" [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9662)]}]

POSITIVE

Sentence: "Giving more resources to practice extra problems and having more office hours for help" [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.7797)]}]

POSITIVE

Sentence: "I think having more practice problems available would be very beneficial . I also think the professor having more office hours would be helpful (especially for my specific course) ." [- Tokens: 32 - Sentence-Labels: {'label': [NEGATIVE (0.9814)]}]

NEGATIVE

Sentence: "I think that the best thing professors can do is to make clear what we are expected to know , and make sure we have access to all of the resources needed to learn these things (lectures , PDFs , office hours) ." [- Tokens: 45 - Sentence-Labels: {'label': [POSITIVE (0.998)]}]

POSITIVE

Sentence: "More available office hours and active announcements ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9305)]}]

POSITIVE

Sentence: "Clear Instructions and break down for what is due each week . Availability during office hours ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9306)]}]

POSITIVE

Sentence: "allow for homework help during office hours and have notes that are available online" [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.7458)]}]

POSITIVE

Sentence: "Provide material covered in class online somewhere since it can be difficult to get everything done as notes . Maybe giving names of good external references . Hold office hours (which most already do) ." [- Tokens: 37 - Sentence-Labels: {'label': [POSITIVE (0.7138)]}]

POSITIVE

Sentence: "Offer (optional) practice problems , old quizzes / exams . Offer of office hours for those who need them ." [- Tokens: 21 - Sentence-Labels: {'label': [POSITIVE (0.9374)]}]

POSITIVE

Sentence: "Provide copious amounts of office hours , online resources" [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.9947)]}]

POSITIVE

Sentence: "My professors can offer extensive resources which include office hours , online notes , updated class calendar , etc ." [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.966)]}]

POSITIVE

Sentence: "They can provide office hours and practice problems that can help learn the course material" [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9741)]}]

POSITIVE

Sentence: "Provide more practice exams and maybe a review session for an hour or two outside of the usual lecture time ." [- Tokens: 21 - Sentence-Labels: {'label': [NEGATIVE (0.5717)]}]

NEGATIVE

Sentence: "Make sure the they have video recording , and post a Q & A poll after class" [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9735)]}]

POSITIVE

Sentence: "Posting lecture notes and / or lecture slides on canvas is really useful and helpful for studying . I also have a professor who takes a poll of questions and posts answers to those questions weekly ." [- Tokens: 37 - Sentence-Labels: {'label': [POSITIVE (0.9935)]}]

POSITIVE

Sentence: "Ensure the lecture videos are well-recorded . They should not skip around or have sound cutting in and out ." [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.9984)]}]
 POSITIVE

Sentence: "Recordings of lectures was very helpful . Also , 0ing board as Professor Chen support me as in-person courses ." [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.9958)]}]
 POSITIVE

Sentence: "Have pre-recorded lecture ." [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.6379)]}]
 POSITIVE

Sentence: "Provide supplementary material for learning concepts and strategies" [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9934)]}]
 POSITIVE

Sentence: "clear annotations / step by step procedure for the slides and example problems is very helpful , since I use those to review concepts for the exams" [- Tokens: 27 - Sentence-Labels: {'label': [POSITIVE (0.9958)]}]
 POSITIVE

Sentence: "Prerecorded lectures are very useful as they provide me flexibility in this time when my sleep schedule is abnormal" [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9979)]}]
 POSITIVE

Sentence: "Continuing to offer pre-recorded videos of their lecture ." [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.8765)]}]
 POSITIVE

Sentence: "The main thing is just posting assignments early so people have time to see them and complete them which can be hard sometimes when we never actually go to class ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.9579)]}]
 POSITIVE

Sentence: "Videos of them working through hard practice problems . That would be so helpful ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9598)]}]
 POSITIVE

Sentence: "Provide recording of their lectures" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.954)]}]
 POSITIVE

Sentence: "Assistance with labs and homework beyond office hours , like a FAQ page or links to supplemental help since lecture does not address many lab / homework problems" [- Tokens: 28 - Sentence-Labels: {'label': [POSITIVE (0.7998)]}]
 POSITIVE

Sentence: "Post all updated information on class requirements , test / assignment policies , allowed materials in one place . These usually begin in the syllabus at the beginning of the quarter , but as the quarter goes on , information often disperses around several places (email , canvas notifications , and potentially outdated syllabus) . This can make it difficult to feel on top of everything when you are taking many classes that have this issue to some extent or another , especially during online classes ." [- Tokens: 89 - Sentence-Labels: {'label': [NEGATIVE (0.9987)]}]
 NEGATIVE

Sentence: "It is helpful if they provide the powerpoint or class notes before lecture so that we can review the material before class and understand it better ." [- Tokens: 27 - Sentence-Labels: {'label': [POSITIVE (0.5508)]}]
 POSITIVE

Sentence: "More detailed notes , for many people going to the lectures are not possible . Having detailed notes gives reassurance that would be very helpful ." [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.8191)]}]
 POSITIVE

Sentence: "Offer detailed notes / slides" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9549)]}]
 POSITIVE

Sentence: "Posting lecture notes and recordings on time ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.8298)]}]
 POSITIVE

Sentence: "Pre-Recorded lectures with no set class time . Allows for a flexible schedule and less stress (which helps a lot because my internet is terrible and I have to carefully plan when to watch my classes) . The flexible schedule also allowed me to go back to work well before school got out" [- Tokens: 55 - Sentence-Labels: {'label': [POSITIVE (0.998)]}]

POSITIVE

Sentence: "Have pre-recorded lectures" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9188)]}]

POSITIVE

Sentence: "Recorded lectures to account for disrupted schedules and students in different timezones ." [- Tokens: 13 - Sentence-Labels: {'label': [NEGATIVE (0.9813)]}]

NEGATIVE

Sentence: "Having lectures be asynchronous helps a lot because I have even more trouble staying focused in online lectures , so having the ability to go back over lectures is extremely helpful ." [- Tokens: 32 - Sentence-Labels: {'label': [POSITIVE (0.9872)]}]

POSITIVE

Sentence: "By recording lectures and providing them on canvas ." [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.9799)]}]

POSITIVE

Sentence: "More supplement resources may need to help 0 understand the theories better and calculation better ." [- Tokens: 16 - Sentence-Labels: {'label': [NEGATIVE (0.9976)]}]

NEGATIVE

Sentence: "Upload recordings of lectures and lecture slides ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.6946)]}]

POSITIVE

Sentence: "Pre record lectures , and then upload those to minimize connection issues causing students to miss information ." [- Tokens: 18 - Sentence-Labels: {'label': [NEGATIVE (0.6574)]}]

NEGATIVE

Sentence: "extra practice material is always the best . Extra optional homework problems . extra practice problems . Extra practice exams ." [- Tokens: 21 - Sentence-Labels: {'label': [POSITIVE (0.9888)]}]

POSITIVE

Sentence: "Record Lecture" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.9886)]}]

POSITIVE

Sentence: "It would be very helpful if professors created study guides in preparation for the exams that outline the concepts covered on the exam for easier studying" [- Tokens: 26 - Sentence-Labels: {'label': [NEGATIVE (0.9998)]}]

NEGATIVE

Sentence: "Posting lecture notes . I like having lectures that do n't have to be connected to at a certain time for online classes" [- Tokens: 23 - Sentence-Labels: {'label': [POSITIVE (0.8964)]}]

POSITIVE

Sentence: "Due to online quarters , I felt it became more difficult to keep up with the learning , especially if there was confusion . So I think it would be helpful for professors to post a short weekly review video that covers all the important things we learned over that week , which should help clear up some confusion and give students a basis on what they should know at that point ." [- Tokens: 73 - Sentence-Labels: {'label': [NEGATIVE (0.9798)]}]

NEGATIVE

Sentence: "Recording and posting lectures on canvas is a huge help ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9971)]}]

POSITIVE

Sentence: "Video recording for each lecture . The slide alone is not sufficient enough for review , and the recording helped me to get more context on what we had learned ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.7224)]}]

POSITIVE

Sentence: "Post lecture slides before class , so we can annotate them ." [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9197)]}]

POSITIVE

Sentence: "The one best action to support online learning is to provide the recorded lectures . This is really helpful if having technical issues ." [- Tokens: 24 - Sentence-Labels: {'label': [NEGATIVE (0.5164)]}]

NEGATIVE

Sentence: "Make their lectures recorded and give students access to those recordings . I understand the need to ensure students actually are attending class , and I have even had teachers refuse to record lectures even in this time of COVID19 . However , the variability in internet connection and pace of material in an online course causes many problems . Students especially those forced to notetaking on their electronic devices may fall behind taking notes . Ensuring students get access to the material that they are paying for and the faculty work so hard to deliver is essential to forwarding education especially in times of hardship like this ." [- Tokens: 109 - Sentence-Labels: {'label': [NEGATIVE (0.7792)]}]

NEGATIVE

Sentence: "provide the lecture slide before lecture start , so we can look back during the lecture" [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.702)]}]

POSITIVE

Sentence: "Be highly organized . When we have a schedule that 's well-mapped out and easy to reference , it makes planning school and life much easier . Everyone is talking about these " uncertain times "-- if you have other responsibilities to take care of , a good course schedule and expectations will , I think , help students plan their lives in tandem with school and succeed ." [- Tokens: 69 - Sentence-Labels: {'label': [POSITIVE (0.9986)]}]

POSITIVE

Sentence: "Provide more examples and practice problems (that are n't required) because it is harder to follow along with lectures and ask questions ." [- Tokens: 25 - Sentence-Labels: {'label': [NEGATIVE (0.996)]}]

NEGATIVE

Sentence: "Recording lectures is a great help . Providing access to an online textbook could also be a big help . It 's hard to get books shipped out in a timely manner ." [- Tokens: 33 - Sentence-Labels: {'label': [POSITIVE (0.9938)]}]

POSITIVE

Sentence: "Organization is very helpful ." [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9883)]}]

POSITIVE

Sentence: "Provide recorded lectures . Professors are still getting used to using software like zoom . Sometimes they go a little too fast , and often times they go too slow or have long pauses . Watching lectures after class allows me to increase the speed , skip around , and pause as needed ." [- Tokens: 54 - Sentence-Labels: {'label': [POSITIVE (0.9904)]}]

POSITIVE

Sentence: "Organize zoom lecture recordings and other format . This makes it easier to catch up or re watch a video that didn't really stick or find information of a specific section more easily ." [- Tokens: 35 - Sentence-Labels: {'label': [POSITIVE (0.9933)]}]

POSITIVE

Sentence: "Recorded lectures have been immensely helpful . I 've been dealing with a lot of health issues this quarter , so having the lectures recorded has given me some flexibility that has been life-saving ." [- Tokens: 35 - Sentence-Labels: {'label': [POSITIVE (0.9993)]}]

POSITIVE

Sentence: "When assignments are online , it can be very easy to lose track of things . Professors need to make sure their assignments are very well organized . Canvas should have everything , and the professors who do this best will input every single assignment for the entire quarter in advance so there are no surprises for the students ." [- Tokens: 60 - Sentence-Labels: {'label': [POSITIVE (0.9895)]}]

POSITIVE

Sentence: "The posted slides / lecture notes should be more complete , it takes a long time to review by watching the recordings where often times things that are needed for homework are not included in the written material" [- Tokens: 38 - Sentence-Labels: {'label': [NEGATIVE (0.9999)]}]

NEGATIVE

Sentence: "give some chapter summaries of coursework after finishing each chapter

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r ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.5557)]}]  
POSITIVE  
Sentence: "post recording after lecture" [- Tokens: 4 - Sentence-Labels: {'label': [NEGATIVE (0.7877)]}]  
NEGATIVE  
Sentence: "Making lectures online so I can watch it back . Merging lab sections into one so we can get the most interactive feedback with the TA 's ." [- Tokens: 28 - Sentence-Labels: {'label': [POSITIVE (0.9631)]}]  
POSITIVE  
Sentence: "Provide lecture recordings" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.971)]}]  
POSITIVE  
Sentence: "I very much appreciate the latex notes that allow 0 to learn the material from lecture in a written reference format if we miss the zoom class and are unable to watch the recording ." [- Tokens: 35 - Sentence-Labels: {'label': [POSITIVE (0.9844)]}]  
POSITIVE  
Sentence: "Make sure that all files / resources are uploaded to canvas" [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9542)]}]  
POSITIVE  
Sentence: "Have a very clear schedule of when assignments are due and what is expected on a weekly basis ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9984)]}]  
POSITIVE  
Sentence: "Having well organized information on the class website . It 's harder to pay attention on zoom , so having references on the site and things like saying what a zoom lecture link is about makes it easier to try to catch up . This class did a 10 / 10 job with this" [- Tokens: 54 - Sentence-Labels: {'label': [POSITIVE (0.9998)]}]  
POSITIVE  
Sentence: "I think that the best thing that professors can do is to condense all of the notifications and assignments into one place . I constantly feel like I am having to jump through multiple websites just to find my assignments ." [- Tokens: 41 - Sentence-Labels: {'label': [NEGATIVE (0.9914)]}]  
NEGATIVE  
Sentence: "Keep the course 's website up to date ( e.g. upload lecture slides and materials promptly ) ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.9121)]}]  
POSITIVE  
Sentence: "Provide very detailed lecture notes ." [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9875)]}]  
POSITIVE  
Sentence: "I would appreciate a reading guide . My professors typically suggest a textbook for the course , but they do not provide a guide for what sections will be covered during specific times of the quarter . A reading guide would be helpful because it would ease my ability to read ahead . Sometimes it is easier to understand covered material by reading ahead ." [- Tokens: 65 - Sentence-Labels: {'label': [NEGATIVE (0.9887)]}]  
NEGATIVE  
Sentence: "Some videos on real world examples would be good . For the most part it was pretty good the way it was presented ." [- Tokens: 24 - Sentence-Labels: {'label': [POSITIVE (0.637)]}]  
POSITIVE  
Sentence: "Having a calendar / syllabus laying out all the deadlines throughout the quarter ." [- Tokens: 14 - Sentence-Labels: {'label': [NEGATIVE (0.9679)]}]  
NEGATIVE  
Sentence: "Less HW typos" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.7441)]}]  
POSITIVE  
Sentence: "Providing recorded lectures is always helpful" [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9832)]}]  
POSITIVE  
Sentence: "Update their websites often ." [- Tokens: 5 - Sentence-Labels: {'label': [NEGATIVE (0.8725)]}]
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NEGATIVE

Sentence: "Post notes on the website , since half of my time are spent in another country , it 's hard to be in every class . But I missed some of the knowledge taught in class ." [- Tokens: 37 - Sentence-Labels: {'label': [NEGATIVE (0.9996)]}]

NEGATIVE

Sentence: "Keep an organized canvas page with all the documents sorted . Have the course information easily accessible is very helpful . Specifically , zoom recordings would be very helpful to have organized for viewing and review ." [- Tokens: 37 - Sentence-Labels: {'label': [POSITIVE (0.7559)]}]

POSITIVE

Sentence: "I like if the professors can provide their lecture notes on canvas so dealing with the exam can be easier ." [- Tokens: 21 - Sentence-Labels: {'label': [NEGATIVE (0.8117)]}]

NEGATIVE

Sentence: "Record the lectures and make them available to the class (the professor I have for EE361 does this already , but not all my professors this quarter have) ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.993)]}]

POSITIVE

Sentence: "Putting all due dates for assignments online at the start of the quarter . I understand if things need to be adj0ted , but it helps for planning when your professors indicate when things will be due . This includes assignments , exams , projects , etc ." [- Tokens: 48 - Sentence-Labels: {'label': [POSITIVE (0.9694)]}]

POSITIVE

Sentence: "Use Canvas for announcements and assignments as much as possible ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9368)]}]

POSITIVE

Sentence: "Recording the lectures is really helpful ." [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9939)]}]

POSITIVE

Sentence: "Making sure everything we need to access during class is easily accessible . Searching through canvas to find one specific document takes a long time and distracts from instruction ." [- Tokens: 30 - Sentence-Labels: {'label': [NEGATIVE (0.7462)]}]

NEGATIVE

Sentence: "better course summary and outlines so students can work more at their own pace" [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.8906)]}]

POSITIVE

Sentence: "Provide good recording for the lectures" [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9857)]}]

POSITIVE

Sentence: "Offer everything online asynchronously" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9956)]}]

POSITIVE

Sentence: "Post all lecture slides for the course in advance ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9326)]}]

POSITIVE

Sentence: "Offer resources as similar as possible to normal class" [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.9919)]}]

POSITIVE

Sentence: "Provide recordings of the lectures so that people that are unable to watch them at the time of the lecture are still able to take the course" [- Tokens: 27 - Sentence-Labels: {'label': [POSITIVE (0.769)]}]

POSITIVE

Sentence: "Be more clear about due dates and deadlines ." [- Tokens: 9 - Sentence-Labels: {'label': [NEGATIVE (0.995)]}]

NEGATIVE

Sentence: "More practice quizzes" [- Tokens: 3 - Sentence-Labels: {'label': [NEGATIVE (0.9545)]}]

NEGATIVE

Sentence: "Try and keep course material as organized and accessible as possible , and conduct online classes thru as few different websites as possible . Example : my math 324 class is sprawled across 4 different web platforms (canvas , gradescrope , webassign , and the UW math site) which makes it difficult to know

where to find everything ." [- Tokens: 61 - Sentence-Labels: {'label': [NEGATIVE (0.987)]}]

NEGATIVE

Sentence: "Regularly upload class notes / lectures to Canvas , send out emails with reminders for due dates because it can get a lot harder to keep track of all the work that needs to be done ." [- Tokens: 37 - Sentence-Labels: {'label': [NEGATIVE (0.9556)]}]

NEGATIVE

Sentence: "Have a more comprehensive list of what might be on the quizzes . I think the professor has a good balance between talking about examples and explaining the significance of each aspect in detail drawing during her lectures ." [- Tokens: 39 - Sentence-Labels: {'label': [POSITIVE (0.9998)]}]

POSITIVE

Sentence: "Recorded lectures are the most helpful thing to be able to go back and review ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9585)]}]

POSITIVE

Sentence: "a very clear schedule with all due dates and assignments ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9909)]}]

POSITIVE

Sentence: "Recording and posting lectures , very helpful when they save the written notes they add to their slides ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9984)]}]

POSITIVE

Sentence: "More example problems . More practice tests ." [- Tokens: 8 - Sentence-Labels: {'label': [NEGATIVE (0.9857)]}]

NEGATIVE

Sentence: "Make all the tasks as clear as possible" [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9964)]}]

POSITIVE

Sentence: "Be organized . Having a set , organized schedule with lectures , labs , quiz sections , homework due dates , and exams makes online classes far easier to take ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.999)]}]

POSITIVE

Sentence: "Give the answers to the homework questions before they are due . This gives students a chance to learn the correct method the complete their hw without turning in a solution that is incorrect and then relying on the answer key at a later date ." [- Tokens: 46 - Sentence-Labels: {'label': [POSITIVE (0.996)]}]

POSITIVE

Sentence: "understanding about time differences and pre-recording lectures" [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9975)]}]

POSITIVE

Sentence: "Recording the lectures to be able to watch them anytime" [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9756)]}]

POSITIVE

Sentence: "Make easy to follow instructions for classwork and an easy to understand outline for the class ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9987)]}]

POSITIVE

Sentence: "Make lectures easily / consistently accessible" [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9996)]}]

POSITIVE

Sentence: "Recording the lectures through zoom so we can view later (which all my professors do) ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.912)]}]

POSITIVE

Sentence: "Be organized with resources and make sure they are easy for students to find and access ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9929)]}]

POSITIVE

Sentence: "Tag lecture descriptions with a " tl ; dr " type index so it 's easier to find format specifically relevant to my question when reviewing or working on homework ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.7327)]}]

POSITIVE

Sentence: "Please take extra care to make Canvas and assignments organized . I have one professor who makes assignments for minor to-dos , like watching videos before class . Since there is nothing to turn in , Canvas then marks those as "overdue " and those assignments clog up the student 's feed , making it hard to find things that actually need to be completed . Little things like inconsistent turn-in times , assignment information scattered across multiple webpages / pdfs , and vague syllabi are a lot more difficult to deal with when Canvas facilitates so much of our interaction with the course ." [- Tokens: 106 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]

NEGATIVE

Sentence: "Being organized on canvas is important . Online learning is very self-paced , so it 's important that students are able to access the resources they need with ease . Making assignment due dates very clear and test prep resources available is very helpful ." [- Tokens: 45 - Sentence-Labels: {'label': [POSITIVE (0.999)]}]

POSITIVE

Sentence: "Make sure they are clear at communicating due dates for assignments ." [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9932)]}]

POSITIVE

Sentence: "Create organized modules that includes lecture videos and lecture slides if doing prerecorded lectures . Preferably host office hours on the days where there are n't lectures (for mon,wed,fri lectures classes) since some people like to only watch lecture videos on the scheduled class times and having office hours there would be a conflict ." [- Tokens: 57 - Sentence-Labels: {'label': [POSITIVE (0.9983)]}]

POSITIVE

Sentence: "Give 0 assigned readings in the textbook" [- Tokens: 7 - Sentence-Labels: {'label': [NEGATIVE (0.9997)]}]

NEGATIVE

Sentence: "I really appreciate professors that are consistent with the course format and due dates . It makes it easier to keep track of things if I know that every week there are these assignments that are due on the same day . I also think making announcements and having a well organized canvas page has also been helpful ." [- Tokens: 59 - Sentence-Labels: {'label': [POSITIVE (0.9891)]}]

POSITIVE

Sentence: "Give students an announcement on what concepts and tasks that ought to be done every week" [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9787)]}]

POSITIVE

Sentence: "I would appreciate practice quizzes for every lecture to give more practice . Spend less time of long equation derivations that are not necessary to know ." [- Tokens: 27 - Sentence-Labels: {'label': [NEGATIVE (0.9994)]}]

NEGATIVE

Sentence: "One action that my professors can take is to provide more practice problems that are similar to those asked on the exams ." [- Tokens: 23 - Sentence-Labels: {'label': [POSITIVE (0.814)]}]

POSITIVE

Sentence: "I like asynchronous learning and appreciate when videos are posted before their intended lecture date so I can watch them whenever is most convenient . With a lot of classes it can be really hard to keep track of when I can watch which lectures , so if the more I have access to the better ." [- Tokens: 57 - Sentence-Labels: {'label': [POSITIVE (0.999)]}]

POSITIVE

Sentence: "One action my professors at UW can take to best support me is to offer flexible time schedules to their students . For example , if your class section is scheduled for 8:30 am-9:30 am , you should exercise the option of doing recorded lectures (like M E 230) so people can attend at their leisure . This is critical . As in many people have different schedules while home or in a different country and would benefit by this more flexible scheduling ." [- Tokens: 86 - Sentence-Labels: {'label': [POSITIVE (0.9909)]}]

POSITIVE

Sentence: "Professors can provide more than one practice exam to help study for exams ." [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9867)]}]

POSITIVE

Sentence: "Supplementary resources or highlighted practice problems to help with

semi independent learning ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.961)]}]

POSITIVE

Sentence: "I am sometimes unable to attend office hours , and so it would be of much great help if such zoom sessions were recorded and uploaded ." [- Token s: 27 - Sentence-Labels: {'label': [NEGATIVE (0.7518)]}]

NEGATIVE

Sentence: "Posting practice problems and old exams helps me get a better understand ing of what to foc0 on when I 'm studying ." [- Tokens: 22 - Sentence-Labe ls: {'label': [POSITIVE (0.9912)]}]

POSITIVE

Sentence: "Keep 0 very well updated with deadlines , schedules , and everything that is going on" [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.88 48)]}]

POSITIVE

Sentence: "record video and give explanations" [- Tokens: 5 - Sentence-Label s: {'label': [NEGATIVE (0.6587)]}]

NEGATIVE

Sentence: "Being clear with what is due and when (providing an overview of what all assignments are) ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9944)]}]

POSITIVE

Sentence: "Provide a clear schedule with deadlines and provide material in a rou tine manner . The classes that have translated best have a pattern to when assig nments are available , when topics are disc0sed (over zoom meetings) and when assignments are due ." [- Tokens: 44 - Sentence-Labels: {'label': [NEGATIVE (0.9981)]}]

NEGATIVE

Sentence: "Be available and be organized so we can find where everything is loca ted on the canvas" [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.99 79)]}]

POSITIVE

Sentence: "Organizing the class canvas page to be as concise and simple to navig ate as possible . By this I mean have only necessary tabs for items needed in cl ass and format each link web in a way where it is easy to navigate . Have all fi les go in a files tab and organize the files by topic at hand . For video lesson s try to keep the videos as short as possible and get straight to the point ." [- Tokens: 80 - Sentence-Labels: {'label': [POSITIVE (0.9906)]}]

POSITIVE

Sentence: "Offer live lectures , I find it much easier to learn when classes are live and recorded for students who cannot make live lectures ." [- Tokens: 25 - Sentence-Labels: {'label': [POSITIVE (0.8821)]}]

POSITIVE

Sentence: "Give detailed lectures and supporting materials such as practice quiz es , practice midterms ." [- Tokens: 14 - Sentence-Labels: {'label': [POSITI VE (0.9886)]}]

POSITIVE

Sentence: "Provide more practice problems w / clear step by step solutions" [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9431)]}]

POSITIVE

Sentence: "give examples from different kinds of problems" [- Tokens: 7 - Sen tence-Labels: {'label': [NEGATIVE (0.5964)]}]

NEGATIVE

Sentence: "I think that recording lecture would help a lot ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.85)]}]

POSITIVE

Sentence: "A recording of the lecture would be better for those students who are not in the same time zone ." [- Tokens: 20 - Sentence-Labels: {'label': [NEGA TIVE (0.9999)]}]

NEGATIVE

Sentence: "I think it 'd be helpful if professors started using Panopto . Using Panopto would allow me to review old lectures , and allow me to focus more on t he point the professor is trying to make , as opposed to having to worry about t aking notes ." [- Tokens: 48 - Sentence-Labels: {'label': [NEGATIVE (0.522 3)]}]

NEGATIVE

Sentence: "Keep an updated Canvas page , with information about quizzes , class materials , and exams posted online ." [- Tokens: 19 - Sentence-Labels: {'label': [NEGATIVE (0.923)]}]

NEGATIVE

Sentence: "Provide good extracurricular resources" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9904)]}]

POSITIVE

Sentence: "Provide more review material" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.8589)]}]

POSITIVE

Sentence: "The professor could start posting his notes onto canvas . He already has premade notes going into lecture I do n't see why he could n't just post these ." [- Tokens: 30 - Sentence-Labels: {'label': [NEGATIVE (0.9999)]}]

NEGATIVE

Sentence: "Post additional supplemental material online , that helps review each lecture ." [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.855)]}]

POSITIVE

Sentence: "Post lecture notes" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.7673)]}]

POSITIVE

Sentence: "If he posts the lecture note after the class would help a lot since we can get more chance to follow him attentively ." [- Tokens: 24 - Sentence-Labels: {'label': [POSITIVE (0.5024)]}]

POSITIVE

Sentence: "It would have been helpful to have access to an exam archive , one practice exam was not enough exposure to the format of questions ." [- Tokens: 26 - Sentence-Labels: {'label': [NEGATIVE (0.9997)]}]

NEGATIVE

Sentence: "Post scans of lecture material" [- Tokens: 5 - Sentence-Labels: {'label': [NEGATIVE (0.9904)]}]

NEGATIVE

Sentence: "Provide clear lecture notes online . Students missed spoken points / did n't have time to digest the lecture content and what professors were saying when focusing on rushing to copy everything down or when wasting time figuring out the handwriting ." [- Tokens: 42 - Sentence-Labels: {'label': [NEGATIVE (0.9984)]}]

NEGATIVE

Sentence: "Posting their lectures / slides for review" [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.7614)]}]

POSITIVE

Sentence: "Upload lecture notes online ." [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.7927)]}]

POSITIVE

Sentence: "Giving exam review materials ." [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.7763)]}]

POSITIVE

Sentence: "Post good lecture slides / notes on canvas" [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.683)]}]

POSITIVE

Sentence: "Have a supplementary notes for homework . Like example of how it 's done similarly to the homework problems or give answers but not the work ." [- Tokens: 27 - Sentence-Labels: {'label': [NEGATIVE (0.9015)]}]

NEGATIVE

Sentence: "Scan his lecture notes and post them on canvas afterwards ." [- Tokens: 11 - Sentence-Labels: {'label': [NEGATIVE (0.5837)]}]

NEGATIVE

Sentence: "Posting lecture notes would be useful - sometimes I have trouble writing everything down fast enough . It would be helpful to have a reference to look back on ." [- Tokens: 30 - Sentence-Labels: {'label': [NEGATIVE (0.9966)]}]

NEGATIVE

Sentence: "Put out more applicable practice material earlier before tests" [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.746)]}]

POSITIVE

Sentence: "Posting an overview of what was discussed in class would be helpful .

I do n't usually miss class , and I know that the teachers want students to attend class , but having access to notes about the day 's lecture will be extremely useful , even if they are not very detailed ." [- Tokens: 55 - Sentence-Labels: {'label': [POSITIVE (0.9984)]}]

POSITIVE

Sentence: "Providing lecture materials online (for students who miss class due to illness or emergencies)" [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9564)]}]

POSITIVE

Sentence: "Post notes online ! My God , it 's infuriating when I accidentally write something down in a confusing way in my lecture notes and have no easy way to verify it when studying or doing homework . It 's easy to say " just look it up in the textbook " , but when lectures tend to greatly vary in pacing and organization from the textbook , how are we supposed to know what parts of the textbook we 're expected to understand and which parts are of less importance ? Even if I attend all lectures and take notes on every one of them , , it still greatly enhances my learning experience to have easy access to records of what you taught us ." [- Tokens: 127 - Sentence-Labels: {'label': [NEGATIVE (0.6443)]}]

NEGATIVE

Sentence: "An action professors can take to support me in my classes is to recommend supplemental material that is directly relevant to the course . This would be especially beneficial if certain content in a class has been historically difficult ." [- Tokens: 40 - Sentence-Labels: {'label': [NEGATIVE (0.9192)]}]

NEGATIVE

Sentence: "If our professor had slides from lecture online so students could go back and forth during class or prepare beforehand for lecture , that would be really helpful ." [- Tokens: 29 - Sentence-Labels: {'label': [NEGATIVE (0.9976)]}]

NEGATIVE

Sentence: "Upload class notes so it is easier to follow along in class" [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9212)]}]

POSITIVE

Sentence: "Have homework that helps with understanding the material and have clear expectations for tests ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9971)]}]

POSITIVE

Sentence: "Providing examples for any concepts that are taught in or out of class ." [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9503)]}]

POSITIVE

Sentence: "Prepare more general practice exams or worksheets that allow students to assess their understanding of topics throughout the quarter . We 're usually given 1 or 2 practice exams a couple weeks before a midterm , so it 's not always clear what we are expected to focus on or practice doing up to that first midterm . It 's also been the case that students can acquire more past practice exams than other students if they are in a sorority / fraternity or a special club , so that becomes unfair to some students ." [- Tokens: 96 - Sentence-Labels: {'label': [NEGATIVE (0.9553)]}]

NEGATIVE

Sentence: "Record lectures" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.9951)]}]

POSITIVE

Sentence: "My professor could provide video examples for each Solidworks lecture . That would help me go back and reference anything I did n't originally understand or forgot ." [- Tokens: 28 - Sentence-Labels: {'label': [POSITIVE (0.9972)]}]

POSITIVE

Sentence: "Providing enough study materials is needed . A few professors I 've had over the years did n't provide any study material outside of the homework . This gives advantage to " smarter " people or people with test banks instead of people who study as much as they can ." [- Tokens: 51 - Sentence-Labels: {'label': [POSITIVE (0.9905)]}]

POSITIVE

Sentence: "Provide extra practice problems and examples for exams and quizzes ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9531)]}]

POSITIVE

Sentence: "Giving more example of each concept will definitely help me with understanding and during exams . Examples for us to solve and her explanation ." [- Tokens: 25 - Sentence-Labels: {'label': [POSITIVE (0.9979)]}]

POSITIVE

Sentence: "They can provide lots and lots of review material ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9566)]}]

POSITIVE

Sentence: "The professor can make sure the syllabus is related to the lab . For the first few weeks , I could n't understand the relation between the lecture and lab ." [- Tokens: 31 - Sentence-Labels: {'label': [NEGATIVE (0.9999)]}]

NEGATIVE

Sentence: "Provide the examples related to the lecture and also the project . The professor should provide the 3D object to student to see if that 3D object is taught in the lecture ." [- Tokens: 33 - Sentence-Labels: {'label': [POSITIVE (0.9295)]}]

POSITIVE

Sentence: "My professor could upload the powerpoint used in class in addition to the existing panaptos to help me understand what goes on in each class , and to help reviewing for tests ." [- Tokens: 33 - Sentence-Labels: {'label': [POSITIVE (0.9969)]}]

POSITIVE

Sentence: "One action they can do is clearly define what they academically expect to be able to do . For example , this might be giving us practice exams or giving us a lot of example type of problems because sometimes professors will give us the " tools " to solve problems , but we do n't know what type of problems and we often get accustomed to problems being one way or another ." [- Tokens: 74 - Sentence-Labels: {'label': [POSITIVE (0.9782)]}]

POSITIVE

Sentence: "Provide ample practice exam material , since I learn by doing . For ME 123 , there were three lab exam practice and that was good , lecture exam practice was slightly lacking . Physics classes only provide two practice exams , which not enough for me , and Math always has enough which is good ." [- Tokens: 57 - Sentence-Labels: {'label': [POSITIVE (0.8308)]}]

POSITIVE

Sentence: "I find it is very useful if they give a large source of practice problems because it is difficult for me to study by reviewing lectures of books , it is easier for me to simply try to work out a problem and figure out what I do n't know , or do n't understand right ." [- Tokens: 57 - Sentence-Labels: {'label': [POSITIVE (0.6914)]}]

POSITIVE

Sentence: "Give relevant examples in class of ideas or concepts being taught in a course ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9921)]}]

POSITIVE

Sentence: "The professors can provide more practices problems and support document about the class . Like PPT and related assignment ." [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.5072)]}]

POSITIVE

Sentence: "The professor does well in my opinion , although I would like a few more resources for exams especially for the multiple choice problems ." [- Tokens: 25 - Sentence-Labels: {'label': [POSITIVE (0.9733)]}]

POSITIVE

Sentence: "One action that my professors take to best support the students in the class is to give us resources to learn better , for example some of my profs provide extra practice problems outside of homework or practice exams to help you feel more prepared for the tests ." [- Tokens: 49 - Sentence-Labels: {'label': [POSITIVE (0.7566)]}]

POSITIVE

Sentence: "I really like the style of the lectures , except that there have been times when she talks about some slides super fast that I ca n't follow up . But this is not a problem since we have Ponapto Recording ." [- Tokens: 42 - Sentence-Labels: {'label': [POSITIVE (0.9971)]}]

POSITIVE

Sentence: "Provide clarity in expectations from the start , a timeline of the quarter / what topics will be covered" [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9884)]}]

POSITIVE
 Sentence: "Be specific about the material that will be taught and covered as well as what will be tested on ." [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.9273)]}]

POSITIVE
 Sentence: "Professors can provide more study materials for exams ." [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.5295)]}]

POSITIVE
 Sentence: "I think that one of the most helpful things that a professor can do to help support student is to pick practice problems and provide many practice tests" [- Tokens: 28 - Sentence-Labels: {'label': [POSITIVE (0.9758)]}]

POSITIVE
 Sentence: "Offer more resources for studying such as previous tests (and answers) as well as study guides ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.8156)]}]

POSITIVE
 Sentence: "Giving more examples and worksheets to aid in drawing pictorials" [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9863)]}]

POSITIVE
 Sentence: "Have many extra study resources online like practice tests" [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.9736)]}]

POSITIVE
 Sentence: "Post all notes , slides , and lectures so that we can review and study for the course easiest ." [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.9753)]}]

POSITIVE
 Sentence: "Use slides with relevant information from the book to teach and post the slides for the students' review purposes" [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.8775)]}]

POSITIVE
 Sentence: "be clear and consistent with amount / difficulty and due date of homework , exams , etc" [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.985)]}]

POSITIVE
 Sentence: "Provide lot of practice exams" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9898)]}]

POSITIVE
 Sentence: "Uploading notes" [- Tokens: 2 - Sentence-Labels: {'label': [NEGATIVE (0.6583)]}]

NEGATIVE
 Sentence: "Practice exams that are an accurate representation of what we can expect on a real exam ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9998)]}]

POSITIVE
 Sentence: "Post lecture notes on canvas" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.6488)]}]

POSITIVE
 Sentence: "Provide extra resources for practice outside of graded homework assignments ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9951)]}]

POSITIVE
 Sentence: "They can help by providing plenty of practice opportunities / problems ." [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9822)]}]

POSITIVE
 Sentence: "provide panopto recordings ." [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9813)]}]

POSITIVE
 Sentence: "Provide as many additional practice materials as possible available on Canvas (old exams , recommended problems , etc .)" [- Tokens: 21 - Sentence-Labels: {'label': [POSITIVE (0.9973)]}]

POSITIVE
 Sentence: "The way he assigns homework working very well this quarter he provides extra suggested problems ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9946)]}]

POSITIVE
 Sentence: "Clearly write down the equations that are specifically associated with"

h the chapter that 's needed for the exam ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9721)]}]
 POSITIVE
 Sentence: "I think what helps me out a lot is when the professor posts the in class notes online because that resource is a helpful reference to when struggling on a subject . In addition , the professor 's notes tend to me more cohesive than the notes that I take ." [- Tokens: 51 - Sentence-Labels: {'label': [POSITIVE (0.9985)]}]
 POSITIVE
 Sentence: "I think providing a lot of extra practice is very helpful . This can be in the form of providing practice midterms , suggested problems from the book and lots of them . After all , college is a place where people who can take tests succeed , not people who can learn and apply knowledge to their lives ." [- Tokens: 60 - Sentence-Labels: {'label': [POSITIVE (0.5082)]}]
 POSITIVE
 Sentence: "more examples" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.9395)]}]
 POSITIVE
 Sentence: "in-class note and he will upload it" [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9984)]}]
 POSITIVE
 Sentence: "Provide Panopto" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.9831)]}]
 POSITIVE
 Sentence: "Provide practice material , particularly for exams ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9927)]}]
 POSITIVE
 Sentence: "offer additional practice problems outside of homework" [- Tokens: 7 - Sentence-Labels: {'label': [NEGATIVE (0.5303)]}]
 NEGATIVE
 Sentence: "Post more practice material with worked out solutions . An exam question with a one number answer does n't help me study" [- Tokens: 22 - Sentence-Labels: {'label': [NEGATIVE (0.9986)]}]
 NEGATIVE
 Sentence: "Providing additional resources so that students can have more opportunities to practice material that they learned ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9961)]}]
 POSITIVE
 Sentence: "Use panopto recordings so I can rewatch difficult concepts explained in lecture ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9993)]}]
 POSITIVE
 Sentence: "Be more clear and specific to what is expected to be known / covered on exams and tests ." [- Tokens: 19 - Sentence-Labels: {'label': [NEGATIVE (0.9228)]}]
 NEGATIVE
 Sentence: "Practice problems and midterms" [- Tokens: 4 - Sentence-Labels: {'label': [NEGATIVE (0.9865)]}]
 NEGATIVE
 Sentence: "Provide extra homework examples ." [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9122)]}]
 POSITIVE
 Sentence: "It is very helpful when teachers make it clear what type of problems we should focus on reviewing for midterms and finals . As a STEM student , I don't have enough time to sift through every single bit of material we covered only to not need to know a lot of it for a test . We take too many time consuming classes for that so it would be nice to have a more comprehensive review sheet to study from ." [- Tokens: 83 - Sentence-Labels: {'label': [POSITIVE (0.9843)]}]
 POSITIVE
 Sentence: "Give an equation sheet at the beginning of the quarter so we do not have to search though all of our notes to find the correct equation for the situation . It is all just on one sheet for us to use ." [- Tokens: 43 - Sentence-Labels: {'label': [NEGATIVE (0.9886)]}]
 NEGATIVE

Sentence: "Provide equation sheet" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.948)]}]
 POSITIVE

Sentence: "Have a panapto recording so that we can review the notes and listen to the lecture to understand more if we need to ." [- Tokens: 24 - Sentence-Labels: {'label': [POSITIVE (0.9132)]}]
 POSITIVE

Sentence: "Having enough conceptually challenging questions (in the homework , or past midterms) as practice ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9963)]}]
 POSITIVE

Sentence: "Provide as much extra study material as possible . Students should not have to take measures such as joining fraternities or other SRO 's or pay money online to gain additional study material . If the student is willing to put in their time and effort to master the material , they should be provided enough material to do so . One practice midterm or final is not enough ." [- Tokens: 70 - Sentence-Labels: {'label': [POSITIVE (0.9683)]}]
 POSITIVE

Sentence: "Make class resources clear , easily accessible , and readily available . EG : The ME 230 syllabus contains basic information about office hours , and how many midterms there are . It does not explain how grading works . ME also does not have a set list of concepts that need to be known before each midterm . ME does offer practice tests well ahead of time ." [- Tokens: 69 - Sentence-Labels: {'label': [POSITIVE (0.9849)]}]
 POSITIVE

Sentence: "Give us practice exam ." [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9631)]}]
 POSITIVE

Sentence: "Do n't assign homework right before the test ; give us that time to study instead of have to learn new concepts ." [- Tokens: 23 - Sentence-Labels: {'label': [POSITIVE (0.9819)]}]
 POSITIVE

Sentence: "Give more practice exams ." [- Tokens: 5 - Sentence-Labels: {'label': [NEGATIVE (0.9708)]}]
 NEGATIVE

Sentence: "Provide helpful links from other sources (Youtube , Khan Academy , etc) that explain topics we are going over in class if we need more review for them . Instructor verified alternate sources of information" [- Tokens: 37 - Sentence-Labels: {'label': [NEGATIVE (0.9985)]}]
 NEGATIVE

Sentence: "Offer multiple practice tests , along with their solutions , during midterm seasons" [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9958)]}]
 POSITIVE

Sentence: "Outline the class beforehand so I can supplement lecture teachings to outside learning . (Textbook chapters , topics to be covered , etc)" [- Tokens: 25 - Sentence-Labels: {'label': [POSITIVE (0.9195)]}]
 POSITIVE

Sentence: "Record the lectures ." [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9935)]}]
 POSITIVE

Sentence: "Panapto Recordings" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.9998)]}]
 POSITIVE

Sentence: "Provide lots of worked examples to practice with ." [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.9991)]}]
 POSITIVE

Sentence: "Providing more practice exams and materials to study for midterms and finals" [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9887)]}]
 POSITIVE

Sentence: "Work with TA 's to create synchronous curriculum . Often the material in lab / section is very disjointed from lectures in classes ." [- Tokens: 24 - Sentence-Labels: {'label': [NEGATIVE (0.9824)]}]
 NEGATIVE

Sentence: "Provide the resources we need to excel in the classes such as practic

e tests and problems and providing solutions for those as well ." [- Tokens: 24 - Sentence-Labels: {'label': [POSITIVE (0.9891)]}]
 POSITIVE
 Sentence: "more practice material , like practice tests" [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9332)]}]
 POSITIVE
 Sentence: "Providing lots of review material (practice problems with worked solutions , previous quarter 's midterms , etc)" [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9701)]}]
 POSITIVE
 Sentence: "Provide references to textbook chapters so it is easy to self study at home ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.7912)]}]
 POSITIVE
 Sentence: "Include excess practice problems / exams on canvas" [- Tokens: 8 - Sentence-Labels: {'label': [NEGATIVE (0.9983)]}]
 NEGATIVE
 Sentence: "Online resources ; post more notes on line" [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.947)]}]
 POSITIVE
 Sentence: "Online resources" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.9939)]}]
 POSITIVE
 Sentence: "It would be better if we can have an equation sheet" [- Tokens: 11 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]
 NEGATIVE
 Sentence: "Be specific as to what will be asked for on the exam" [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.8324)]}]
 POSITIVE
 Sentence: "Email class notes after every class ." [- Tokens: 7 - Sentence-Labels: {'label': [NEGATIVE (0.804)]}]
 NEGATIVE
 Sentence: "While most professors already do this , I can not overstate the importance of lecture recordings to the quality online learning ." [- Tokens: 22 - Sentence-Labels: {'label': [POSITIVE (0.9989)]}]
 POSITIVE
 Sentence: "To best support students , Professor Chen 's approach of interactive labs and recorded lectures proved most helpful , as other EE classes simply just go over notes ." [- Tokens: 29 - Sentence-Labels: {'label': [POSITIVE (0.9201)]}]
 POSITIVE
 Sentence: "Recording the lectures was extremely helpful . With the ability to revisit the lecture , I am able to re-enforce key concepts . In most cases , observing a lecture can be like drinking from a fire hydrant . Its difficult to think of questions until putting it in practice with homework ." [- Tokens: 53 - Sentence-Labels: {'label': [POSITIVE (0.9992)]}]
 POSITIVE
 Sentence: "Provide easily accessible recordings in a timely manner (ideally same-day) ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9979)]}]
 POSITIVE
 Sentence: "They can post supplemental notes for the class in Latex or other typed format . This helps make the class more clear . In addition , they can post a schedule of what sections in the book the class has covered each lecture and a short description ." [- Tokens: 48 - Sentence-Labels: {'label': [POSITIVE (0.9921)]}]
 POSITIVE
 Sentence: "They can encourage us to reach out to them more . Being online , it is a lot easier to fall behind in a class ." [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.9577)]}]
 POSITIVE
 Sentence: "Be open to help with any questions , and be quick to respond to emails on school days at reasonable hours ." [- Tokens: 22 - Sentence-Labels: {'label': [POSITIVE (0.726)]}]
 POSITIVE
 Sentence: "I think they can just provide as much outside help such as office hours and emails as possible to help students easier ." [- Tokens: 23 - Sentence

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-Labels: {'label': [NEGATIVE (0.759)]}]
NEGATIVE
Sentence: "Make weekly adjustments to the course structure as we go , according to feedback from students . I feel like everyone , the professors and the student s , is still trying to figure out the best way to teach / learn , and having constant feedback from students is certainly helpful ." [- Tokens: 52 - Sentence
-Labels: {'label': [POSITIVE (0.9992)]}]
POSITIVE
Sentence: "Conducting more office hours at different times ... I had trouble making it to this quarter 's office hours because it 's the same time every day and I had a class that was exactly the same time as well" [- Tokens: 40 - Sentence
ce-Labels: {'label': [NEGATIVE (0.9942)]}]
NEGATIVE
Sentence: "Being available to answer questions a little after lecture or during office hours" [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.988
6)]}]
POSITIVE
Sentence: "Professors could frequently survey students and alter their teaching based on students' feedback . For example , if students like or dislike the professors' current way of instruction , it would be helpful for the professors to know and adjust accordingly . Secondly , laboratory alternatives should be offered to students . Classes like EE 235 are less impacted by online instruction since the labs are Python programming assignments , but for classes that involve hardware , students should be offered the opportunity to obtain the lab kits and do the experiments at home , instead of using simulation software ." [- Tokens:
101 - Sentence-Labels: {'label': [NEGATIVE (0.9583)]}]
NEGATIVE
Sentence: "Ability to answer questions . While delivering fantastic lectures would be great , I understand that in this trying time it might be a difficult format for professors , delivering lectures through an online format is difficult , so it 's difficult to expect that . One thing that all professors should be capable of , and thankfully , all of my current professors have been capable of , is simply being available for questions , be it during zoom meetings , through email , or some other format . This way they can supplement their lectures as needed ." [- Tokens: 100 - Sentence-Labels: {'label': [POSITIVE (0.9999)]}]
POSITIVE
Sentence: "I think additional office hours would help as well as being a little more lenient on due dates would be helpful . I experienced my fair share of technical difficulties this quarter especially with the labs ." [- Tokens: 37 -
Sentence-Labels: {'label': [NEGATIVE (0.998)]}]
NEGATIVE
Sentence: "Having an abundance of office hours is very helpful . I think Tai Chen is going above & beyond in that department & it is really helping my education to have many opportunities for extra help . I also think the weekly quizzes is a better testing system during online classes to make sure students are really staying up to date on their studies ." [- Tokens: 65 - Sentence-Labels: {'label': [POSITIVE (0.9762)]}]
POSITIVE
Sentence: "have multiple office hours throughout the week and assign less homework than usual because a lot of time is already spent at the computer watching lectures" [- Tokens: 26 - Sentence-Labels: {'label': [NEGATIVE (0.9932)]}]
NEGATIVE
Sentence: "Offer similar opportunities to in person classes as much as possible ( ability to discuss with others , discuss with TAs , attend office hours , etc. ) . In addition , being understanding of where differences in grading or assignments may need to occur ." [- Tokens: 46 - Sentence-Labels: {'label': [POSITIVE (0.9662)]}]
POSITIVE
Sentence: "Just make it clear exactly which topics will be covered when an exam is coming . The offering of private office hours ( like when people wanted to talk about their grade after exam 2 ) was really helpful for people who did not want to barge in at office hours . The practice exams also felt REALLY tame compared to the actual exams . I am not sure if this was done on purpose , but I never felt truly prepared once I hit any of the exams . On the first exam , we covered Karnaugh maps on Tuesday , and the exam which was about 40 % Karnaugh maps wa

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s on Thursday . The following homework also had a lot to do with Karnaugh maps . I think this was a decision made by this class , but it was a poor one . On many of the exams , students could have done much better overall if the exam was just pushed passed the next homework . Please consider this in future exam planning . " [- Tokens: 179 - Sentence-Labels: {'label': [NEGATIVE (0.9998)]}]

NEGATIVE

Sentence: "Being flexible with office hours , and making homework applicable and reasonably long ." [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9967)]}]

POSITIVE

Sentence: "The most recent example I can think of : 1. Long term : A professor came up to me and showed me a internship opportunity . After I applied he wrote a recommendation letter & followed up on the entire process . Even though it might not pan out , knowing someone believes in me enough to do this means a lot . 2.

Short term : I forgot to turn in my first online homework for this ME class , when I contacted the professor she went waayyy out of her way to allow me to turn it in . It helps seeing that these people are willing to help you out and to understand you ." [- Tokens: 118 - Sentence-Labels: {'label': [POSITIVE (0.5808)]}]

POSITIVE

Sentence: "Giving as much feedback on assignments and tests as they can with lots of opportunities to get help ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9861)]}]

POSITIVE

Sentence: "Actively ensure the concepts are understood and review accordingly . Fair , relevant exam material ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9714)]}]

POSITIVE

Sentence: "Offer more one-on-one time outside classes to make up for large class size . Create tests more in-line with the practice material they provide , and we 'll as tests that do n't average around 40 %" [- Tokens: 37 - Sentence-Labels: {'label': [POSITIVE (0.6302)]}]

POSITIVE

Sentence: "Provide consistent weekly office hours for face time with the prof in order to clear up confusion on lectures and homework . I like Professor Zhanzhan 's approach of having office hours during the designated lecture hours so that it is at a time when student 's have already committed to being available ." [- Tokens: 54 - Sentence-Labels: {'label': [POSITIVE (0.9971)]}]

POSITIVE

Sentence: "Making accommodations / appointments to me when I can't go to assigned office hours . Allowing time during lectures for students to ask questions For larger classes / lectures , repeating student questions out loud then answering them Simplifying textbook content that are typically more complicated to understand and adding more info with their own knowledge and does n't just teach by the book . Having very organized notes / lectures with clear objectives per lectures sessions . Especially if they already have a pre-planned list of topics that we are expected to learn for the entire quarter Only having us read parts of textbooks that won't be covered in class or will provide clearer clarification than that during lecture instead of having us read whole chapters of textbooks and waste time reading irrelevant info we 'll most likely just forget anyway ." [- Tokens: 145 - Sentence-Labels: {'label': [POSITIVE (0.9791)]}]

POSITIVE

Sentence: "Offering extra office hours or time during class to ask questions about confusing topics . Also stopping frequently during lecture to ask if any questions have come up because it is awkward to interrupt the professor if you have a question ." [- Tokens: 42 - Sentence-Labels: {'label': [POSITIVE (0.9982)]}]

POSITIVE

Sentence: "The best thing a professor can do is be helpful through consistent communication with students through office hours and questions in class . Asking questions and staying involved in the material is how a student learns , and the professor 's ability to meet the demand by providing the knowledge is important . Office hours and class sessions online is not the same as in-person , but I do not believe that they are less for it . The students who go and take advantage of this will succeed , and the students who do n't (like me) will fail through

no fault of the professor ." [- Tokens: 109 - Sentence-Labels: {'label': [POSITIVE (0.9982)]}]

POSITIVE

Sentence: "office hours and flexibility" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9986)]}]

POSITIVE

Sentence: "Being available for office hours . Being more lenient and understanding because we are living through a pandemic" [- Tokens: 18 - Sentence-Labels: {'label': [NEGATIVE (0.5015)]}]

NEGATIVE

Sentence: "Remaining flexible to the dynamic environment that is online learning . Maintaining a willingness to work one-on-one with students who are struggling in the class (more often than if the classes were in-person) is possibly the largest form of support a teacher can offer right now ." [- Tokens: 49 - Sentence-Labels: {'label': [POSITIVE (0.9994)]}]

POSITIVE

Sentence: "Deliver lecture in good structure and organization and hold office hours for questions ." [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9965)]}]

POSITIVE

Sentence: "The best thing they can do is to be enthusiastic about the subject matter and willing / enthusiastic about giving extra support ." [- Tokens: 23 - Sentence-Labels: {'label': [POSITIVE (0.9501)]}]

POSITIVE

Sentence: "Try to have the schedule and grading scheme figured out by the beginning of the quarter : eg. when homeworks will be due throughout the quarter , when quizzes and exams will take place and what they will look like (eg. timed on Zoom or take home) , what the grading scheme will look like including what the curve is set to , what is the late policy if any . Obviously some things are necessarily subject to change , but having that kind of clarity is really helpful , especially in an online environment where things can be confusing . Have good online communication (eg. sending out emails or canvas announcements) about these things" [- Tokens: 119 - Sentence-Labels: {'label': [NEGATIVE (0.9883)]}]

NEGATIVE

Sentence: "I think they should offer more office hours or some added list of resources (TAs , websites , etc.) that we can go to get help . One of the hardest things about online classes is feeling like you don't have enough support , like friends in the class or tutoring centers , to be able to succeed . Lectures shouldn't be the only way we're expected to learn the format ; I think some effective redundancy with optional readings or something would be really beneficial in helping concepts stick . Discussion sections with the TA where we go over the concepts of the week with a more student perspective have been THE MOST HELPFUL THING EVER ! ! !" [- Tokens: 124 - Sentence-Labels: {'label': [NEGATIVE (1.0)]}]

NEGATIVE

Sentence: "Record all lectures and give a lot of examples to support topics in class . Also , be available for homework and / or lecture questions" [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.592)]}]

POSITIVE

Sentence: "Hold more office hours online for students to ask questions and provide additional lecture notes for students to learn the material more in-depth ." [- Tokens: 24 - Sentence-Labels: {'label': [POSITIVE (0.9265)]}]

POSITIVE

Sentence: "Availability in terms of office hours or additional / alternative resources for learning" [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.999)]}]

POSITIVE

Sentence: "Having additional resources and recordings for format that is hard to teach without being side-by-side , as well as additional office hours and an ability to share screens to work through such concepts ." [- Tokens: 34 - Sentence-Labels: {'label': [POSITIVE (0.9996)]}]

POSITIVE

Sentence: "I think the only teachers could do is provide more office hours and maybe annotated lecture slides but not much being online ." [- Tokens: 23 - Sentence-Labels: {'label': [NEGATIVE (0.8735)]}]

NEGATIVE

Sentence: "I appreciate it when professors have accessible office hours to ask questions , especially when the class is prerecorded on Panopto . And if lectures are prerecorded , it is ideal when they are posted before the typical class section time , because I like to watch them during the typical time . It 's also easier for me if the Canvas page is organized . Some classes have everything on the main page as a bunch of links and it 's difficult to find things ." [- Tokens: 87 - Sentence-Labels: {'label': [POSITIVE (0.9985)]}]

POSITIVE

Sentence: "Having review section before the midterms always help , also , Panopto should be recorded for every lecture since the materials now are very hard and we often do n't get it the first time ." [- Tokens: 36 - Sentence-Labels: {'label': [POSITIVE (0.9881)]}]

POSITIVE

Sentence: "Stay organized and communicative with the class as a whole . For example , making sure all of the course materials are posted in an organized and timely fashion and making sure students understand exactly what is expected from them in each class . In addition , taking feedback from students and tailoring their teaching style appropriately ." [- Tokens: 58 - Sentence-Labels: {'label': [POSITIVE (0.9956)]}]

POSITIVE

Sentence: "If professors can host more office hours , it can be really helpful . Personally , I think professors should provide more practice exams before the midterm because some students like me need a lot of practices to fully understand the materials ." [- Tokens: 43 - Sentence-Labels: {'label': [POSITIVE (0.6854)]}]

POSITIVE

Sentence: "office hours and panapto" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9986)]}]

POSITIVE

Sentence: "Be available to make clarifications on content , making previous content available online" [- Tokens: 13 - Sentence-Labels: {'label': [NEGATIVE (0.787)]}]

NEGATIVE

Sentence: "Put up lecture slides before class and have Panopto . Send an email of a summary of what happened in class ." [- Tokens: 22 - Sentence-Labels: {'label': [POSITIVE (0.9211)]}]

POSITIVE

Sentence: "I feel that when I go to office hours there are lot of people and sometimes it can become difficult to ask for help . Possibly organize office hours differently . It would be nice if there were review sessions as one of the office hours that would serve as supplemental lecture for topics that are still confusing . Maybe having more practice material in office hours would be beneficial for others as well ." [- Tokens: 75 - Sentence-Labels: {'label': [NEGATIVE (0.9985)]}]

NEGATIVE

Sentence: "offering extra credit , multiple chances , office hours , practice exams" [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9886)]}]

POSITIVE

Sentence: "Professors at UW can hold exam reviews and provide practice exams to help support . A lot of struggle in college can come from not knowing what the professors are looking for on exams ." [- Tokens: 35 - Sentence-Labels: {'label': [POSITIVE (0.7721)]}]

POSITIVE

Sentence: "I suppose everyone is doing the best they can . Possibly more office hour times ? Or maybe assigning people groups where they can study weekly ." [- Tokens: 27 - Sentence-Labels: {'label': [POSITIVE (0.9658)]}]

POSITIVE

Sentence: "I think having Office Hours and maybe being online more and responding more to students questions (response rate at like maybe half an hour) ." [- Tokens: 27 - Sentence-Labels: {'label': [NEGATIVE (0.975)]}]

NEGATIVE

Sentence: "Have accessible office hours and be very responsive to emails ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9932)]}]

POSITIVE

Sentence: "I believe that professor can best support their students during remote learning by being responsive when it comes to email . Remote learning limits peer-to-peer interaction so forming a study group is hard , th0 there is a greater dependence on the professor 's support . By increasing office hours and being responsive to students' emails can help support the students better . (My prof did a great job btw)" [- Tokens: 72 - Sentence-Labels: {'label': [POSITIVE (0.8268)]}]

POSITIVE

Sentence: "Make themselves available for office hours (& maybe mention that if those hours do n't work for someone , they can arrange something over email)" [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.8307)]}]

POSITIVE

Sentence: "More team projects and weekly check-ins" [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.8422)]}]

POSITIVE

Sentence: "Extra office hour or if possible providing a one on one meeting with student to answer some question using google form to sign up ." [- Tokens: 25 - Sentence-Labels: {'label': [POSITIVE (0.99)]}]

POSITIVE

Sentence: "Frequent communication and more office hours ." [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9918)]}]

POSITIVE

Sentence: "Answering questions via Email or giving office hours ." [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.7868)]}]

POSITIVE

Sentence: "Providing more office hours , be responsive over class time , reachable by emails , maybe try to be more friendly and caring" [- Tokens: 23 - Sentence-Labels: {'label': [POSITIVE (0.6035)]}]

POSITIVE

Sentence: "Being accessible and responsive is the most helpful thing during online teaching ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9961)]}]

POSITIVE

Sentence: "Being available to help outside of class whether that be having frequent office hours , homework help , or actively responding to emails . The hardest part about online classes was the difficulty in being able to access as many resources for help in classes ." [- Tokens: 46 - Sentence-Labels: {'label': [POSITIVE (0.524)]}]

POSITIVE

Sentence: "Holding office hours and being readily available to answer questions by email ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9933)]}]

POSITIVE

Sentence: "They can offer availability like office hours , zoom meetings , or answer emails to answer any questions , offer help / resources or answer any concerns" [- Tokens: 27 - Sentence-Labels: {'label': [POSITIVE (0.8454)]}]

POSITIVE

Sentence: "Providing interactive lectures , discussion / participation sections , and lots of available TA office hours ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9949)]}]

POSITIVE

Sentence: "Having as many office hours as possible . The breakout rooms were also pretty useful in meeting new students ." [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.9962)]}]

POSITIVE

Sentence: "To be readily available for answering students' questions and hold lots of study sessions in preparation of an exam" [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9938)]}]

POSITIVE

Sentence: "I believe that being available as possible is one of the most helpful things a professor can do for their students . Whether it be having frequent office hours or just quickly responding to emails , communication with professors is always beneficial for students ." [- Tokens: 45 - Sentence-Labels: {'label': [POSITIVE (0.9898)]}]

POSITIVE

Sentence: "Provide office hours and review sessions and practice tests" [- Tok

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ens: 9 - Sentence-Labels: {'label': [POSITIVE (0.991)]}
POSITIVE
Sentence: "Choose catalyst or canvas , not both . Lab groups should be assigned based on leveling the field . Pairing confident students with those who are not ." [- Tokens: 28 - Sentence-Labels: {'label': [NEGATIVE (0.8362)]}]
NEGATIVE
Sentence: "Have flexible office hours online where the professor can answer questions one on one since it 's harder to ask questions during an online lecture ." [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.9937)]}]
POSITIVE
Sentence: "Holding more online office hours which allows us to interact with them ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9961)]}]
POSITIVE
Sentence: "Having convenient office hours and being willing to try and make time or discuss problems over email if someone can not attend regular offices ." [- Tokens: 25 - Sentence-Labels: {'label': [POSITIVE (0.9988)]}]
POSITIVE
Sentence: "I think they may want to consider students in different time zones around the world to be more supportive , like try not holding office hours and exam time at one fixed time , which is a little unfair for students in some time zones that is not so convenient ." [- Tokens: 51 - Sentence-Labels: {'label': [NEGATIVE (0.9998)]}]
NEGATIVE
Sentence: "have reasonably accessible online office hours" [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9968)]}]
POSITIVE
Sentence: "More group work" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.99)]}]
POSITIVE
Sentence: "be easy to reach out to over email ." [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.9383)]}]
POSITIVE
Sentence: "The professors can be more diligent about responding to emails ." [- Tokens: 11 - Sentence-Labels: {'label': [NEGATIVE (0.9951)]}]
NEGATIVE
Sentence: "Hold regular office hours" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9963)]}]
POSITIVE
Sentence: "Be available outside of class for additional help and office hours ." [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.544)]}]
POSITIVE
Sentence: "Being extra accommodating & realizing how much more difficult it is to successfully complete a STEM course online is important . Having multiple office hours a week would definitely be a smart move * one of my other professors had 4 a week , an hour after every lecture which was so helpful ) . Students most likely will need extra help when we do n't have any face time with classes , so being there to give extra help is necessary ." [- Tokens: 83 - Sentence-Labels: {'label': [POSITIVE (0.9977)]}]
POSITIVE
Sentence: "Creating multiple avenues to easily ask small questions , these types of questions are normally the ones I would ask about homework after class which is no longer possible in an online setting ." [- Tokens: 34 - Sentence-Labels: {'label': [POSITIVE (0.9706)]}]
POSITIVE
Sentence: "Having flexible office hours to answer questions from students ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9975)]}]
POSITIVE
Sentence: "Be more responsive to feedback" [- Tokens: 5 - Sentence-Labels: {'label': [NEGATIVE (0.9852)]}]
NEGATIVE
Sentence: "Assigning as study groups can be helpful , since it 's hard to meet someone from online classes ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.5453)]}]
POSITIVE
Sentence: "Hold extra office hours" [- Tokens: 4 - Sentence-Labels: {'label':

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[POSITIVE (0.9976)]]
POSITIVE
Sentence: "Office hours" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.9975)]}]
POSITIVE
Sentence: "Have flexible office hours for when I have time outside of normal classes" [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.9967)]}]
POSITIVE
Sentence: "Reply to emails quickly" [- Tokens: 4 - Sentence-Labels: {'label': [NEGATIVE (0.9633)]}]
NEGATIVE
Sentence: "One way my professor can help better support me in my classes is make email announcements anytime something changes throughout the week , in addition to the one that briefs over the week ." [- Tokens: 34 - Sentence-Labels: {'label': [POSITIVE (0.9375)]}]
POSITIVE
Sentence: "I would say more discussion sections where the professor or TA will do problems similar to the homework or exam ." [- Tokens: 21 - Sentence-Labels: {'label': [NEGATIVE (0.8022)]}]
NEGATIVE
Sentence: "Send reminders or check-in emails regularly . Give a preview of what 's coming and what 's due , and maybe some resources to help ." [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.6564)]}]
POSITIVE
Sentence: "Since online , the teaching may not be as good as in-class , so holding more office hours would be a big help" [- Tokens: 23 - Sentence-Labels: {'label': [NEGATIVE (0.9707)]}]
NEGATIVE
Sentence: "Provide multiple office hours at different times . I feel like being online , students have more questions with how to do things , and by having multiple office hours , it ensures that a lot of people can come in and ask their questions ." [- Tokens: 46 - Sentence-Labels: {'label': [POSITIVE (0.9947)]}]
POSITIVE
Sentence: "Do recitation sessions and upload the recording of the session . Recitation sessions as in going over examples and lecture materials ." [- Tokens: 22 - Sentence-Labels: {'label': [POSITIVE (0.8017)]}]
POSITIVE
Sentence: "more office hours as holding office hours is actually easily online ." [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9101)]}]
POSITIVE
Sentence: "Hold an online review session before the exam ." [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.9048)]}]
POSITIVE
Sentence: "Offer quiz review sessions that covers common mistakes or challenging problems ." [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9219)]}]
POSITIVE
Sentence: "It 's imperative that professors get student feedback in real time so that they can make updates to the course delivery in real time . Professors should promote discussion , and they should provide the online support needed to cope in learning in an online environment ." [- Tokens: 47 - Sentence-Labels: {'label': [POSITIVE (0.9881)]}]
POSITIVE
Sentence: "I think it would best if professors were be able to j0t lecture as normal , but allow students to schedule zoom meetings as office hours . This is going to ask a lot , but having a mini lecture if a lot of students are struggling with certain topics ." [- Tokens: 51 - Sentence-Labels: {'label': [NEGATIVE (0.9993)]}]
NEGATIVE
Sentence: "Professors can offer more office hours than Oual ." [- Tokens: 9 - Sentence-Labels: {'label': [NEGATIVE (0.5937)]}]
NEGATIVE
Sentence: "Providing more office hour times than Oual as material is typically harder to grasp in the online setting ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9734)]}]
POSITIVE
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Sentence: "Additional office hours , if possible , would be great . Also , I think the flipped classroom is really helpful . It allows 0 to solve more problems and ask questions during class . It also helps that the slides and latex notes are posted ." [- Tokens: 47 - Sentence-Labels: {'label': [POSITIVE (0.9941)]}]

POSITIVE

Sentence: "Offer a lot of office hours . More than 0ual would be very nice . Providing example tests really really helps (I really appreciated the one that Professor Kirschen posted for the midterm) ." [- Tokens: 36 - Sentence-Labels: {'label': [POSITIVE (0.9942)]}]

POSITIVE

Sentence: "More office hours" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9925)]}]

POSITIVE

Sentence: "Answering questions that I have after the class (over email , etc .)" [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.8503)]}]

POSITIVE

Sentence: "Hold extra office hours" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9976)]}]

POSITIVE

Sentence: "More Office Hours" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9925)]}]

POSITIVE

Sentence: "Gather input from students , such as where they are , so that they can find times for office hours that works for most ." [- Tokens: 25 - Sentence-Labels: {'label': [POSITIVE (0.9882)]}]

POSITIVE

Sentence: "Professors can provide extra opportunity to answer questions on assignments and for clarifications about the course ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9578)]}]

POSITIVE

Sentence: "By sending out weekly updates with reminders of assignments and what is expected for the course during that week ." [- Tokens: 20 - Sentence-Labels: {'label': [NEGATIVE (0.5921)]}]

NEGATIVE

Sentence: "Task check-ups for projects have helped me a lot . It sets aside a time for the professor to help students if they are going in the wrong direction and do n't know it ." [- Tokens: 35 - Sentence-Labels: {'label': [POSITIVE (0.9986)]}]

POSITIVE

Sentence: "Lots of office hours" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9968)]}]

POSITIVE

Sentence: "being in communication with students boosts confidence is students asking for help when they need it . This could mean providing as many avenues for students to reach professors . For example , one of my professors is very active on Facebook which allows me to be in close / live communication online through instant messaging , instead of only emails or office hours . it depends on what the subject taught in the class is ." [- Tokens: 77 - Sentence-Labels: {'label': [NEGATIVE (0.5292)]}]

NEGATIVE

Sentence: "They can be available to respond to email questions quickly . This has been helpful because it 's harder to ask professors questions in the online format ." [- Tokens: 28 - Sentence-Labels: {'label': [POSITIVE (0.9104)]}]

POSITIVE

Sentence: "I think it might be helpful if professors were to make discussion groups within their class (whether that be on Canvas or somewhere else) where students can ask questions and organize study groups ." [- Tokens: 36 - Sentence-Labels: {'label': [NEGATIVE (0.9311)]}]

NEGATIVE

Sentence: "Be communicative of goals and workflow of the class , along with due dates and how you can get help if you are struggling in a class , along with having plenty of resources available ." [- Tokens: 36 - Sentence-Labels: {'label': [POSITIVE (0.9886)]}]

POSITIVE

Sentence: "Have lots of office hours to go to" [- Tokens: 8 - Sentence-Label s: {'label': [POSITIVE (0.9975)]}]
 POSITIVE
 Sentence: "Check in with students who do n't do well on tests . J0t to see if th ere 's anything they can do ." [- Tokens: 23 - Sentence-Labels: {'label': [NE GATIVE (0.6329)]}]
 NEGATIVE
 Sentence: "I felt disconnected from the rest of my classmates , so maybe more di sc0sion sessions , or what one of my teachers did was a google sheets for studen ts to enter their availability and contact info to arrange study groups ." [- Tokens: 41 - Sentence-Labels: {'label': [POSITIVE (0.7313)]}]
 POSITIVE
 Sentence: "Holding online office hours has helped me to understand concepts in M E 230 . During office hours , going over complex practice problems from class or homework or other challenging concepts is particularly helpful ." [- Tokens: 3 5 - Sentence-Labels: {'label': [POSITIVE (0.9989)]}]
 POSITIVE
 Sentence: "I think all classes should have quiz sections to do practice problems ." [- Tokens: 13 - Sentence-Labels: {'label': [NEGATIVE (0.755)]}]
 NEGATIVE
 Sentence: "Office hours at varied times throughout the week so that everyone can join depending on their schedules . Office hours have been a big help ." [- To kens: 26 - Sentence-Labels: {'label': [POSITIVE (0.9982)]}]
 POSITIVE
 Sentence: "Have plenty of office hours , not once a week but several" [- Token s: 12 - Sentence-Labels: {'label': [POSITIVE (0.9988)]}]
 POSITIVE
 Sentence: "Have extra office hours , have in person zoom classes with like a pre -lecture video but we still go over that material in the pre lectures" [- To ke ns: 26 - Sentence-Labels: {'label': [NEGATIVE (0.7376)]}]
 NEGATIVE
 Sentence: "They could hold more office hours ." [- Tokens: 7 - Sentence-Label s: {'label': [POSITIVE (0.9918)]}]
 POSITIVE
 Sentence: "Offering many opportunities to ask questions , like zoom sessions" [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9958)]}]
 POSITIVE
 Sentence: "Professors should offer office hours to accommodate as many students as possible ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.980 3)]}]
 POSITIVE
 Sentence: "office hours frequently" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9927)]}]
 POSITIVE
 Sentence: "make more announcements on canvas maybe ? things are pretty good with this class in particular though ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.9906)]}]
 POSITIVE
 Sentence: "Live Q & A sessions (office hours)" [- Tokens: 9 - Sentence-Labe ls: {'label': [POSITIVE (0.9969)]}]
 POSITIVE
 Sentence: "They can reach out to their students and form genuine relationships . It is very hard to take classes where professors do n't seem to know your name o r care about you as a person ." [- Tokens: 36 - Sentence-Labels: {'label': [P OSITIVE (0.9973)]}]
 POSITIVE
 Sentence: "They can have multiple office hours to allow as many students as poss ible to come ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.993 4)]}]
 POSITIVE
 Sentence: "Answering emails quickly" [- Tokens: 3 - Sentence-Labels: {'labe l': [NEGATIVE (0.9306)]}]
 NEGATIVE
 Sentence: "I would like professor to hold more office hours" [- Tokens: 9 - S entence-Labels: {'label': [POSITIVE (0.9843)]}]

POSITIVE

Sentence: "Just be as informative and communicative as possible . Many students have a hard time just following classes if they cant physical go to class so trying to ensure they know what is going on is essential ." [- Tokens: 38 - Sentence-Labels: {'label': [POSITIVE (0.9538)]}]

POSITIVE

Sentence: "Making extra office hours before assignments were due and for upcoming tests . I struggled a lot with the material and it really helped to talk it through and receive extra help ." [- Tokens: 33 - Sentence-Labels: {'label': [POSITIVE (0.8778)]}]

POSITIVE

Sentence: "Professors can best support me at the UW simply by providing opportunity to converse with them about class topics and areas of interest in my potential field . A willingness to communicate with individuals who are interested in a topic without being pretentious or unwittingly haughty is much appreciated ."

[- Tokens: 50 - Sentence-Labels: {'label': [POSITIVE (0.99)]}]

POSITIVE

Sentence: "more office hours around class time , i.e. right after or right before class" [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.8655)]}]

POSITIVE

Sentence: "The one thing professors can do is expand office hours . While AA 210 is fine , most of my other classes have office hours that conflict with other classes , which is a bit of an issue when I 'm trying to get extra help ." [- Tokens: 47 - Sentence-Labels: {'label': [NEGATIVE (0.962)]}]

NEGATIVE

Sentence: "Considerable amount of office hours ." [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9944)]}]

POSITIVE

Sentence: "I think one action that professors can take to best support me in my classes is to have consistent office hours that are flexible for students ."

[- Tokens: 27 - Sentence-Labels: {'label': [POSITIVE (0.9677)]}]

POSITIVE

Sentence: "Direct involvement in student 's learning . Showing up to lab , section , etc ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9983)]}]

POSITIVE

Sentence: "Have more office hours" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.987)]}]

POSITIVE

Sentence: "Be available for office hours often" [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9839)]}]

POSITIVE

Sentence: "Have accessible office hours and do lots of examples in class ." [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9957)]}]

POSITIVE

Sentence: "Office hour" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.9941)]}]

POSITIVE

Sentence: "Variety of office hours , more time to reach out to those obviously struggling ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9912)]}]

POSITIVE

Sentence: "Give more help about HW ." [- Tokens: 6 - Sentence-Labels: {'label': [NEGATIVE (0.8754)]}]

NEGATIVE

Sentence: "To be available through office hours , emails , etc ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.7858)]}]

POSITIVE

Sentence: "Encourage students to collaborate and form study networks with people outside their friend circles ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9962)]}]

POSITIVE

Sentence: "Provide more office hours ." [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9342)]}]

POSITIVE

Sentence: "Evaluate their teaching methods and improve upon major consensus complaints ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.934)]}]

POSITIVE

Sentence: "I think it definitely will help if they provide more office hours , e specially for classes that have help at CLUE ." [- Tokens: 22 - Sentence-Labels: {'label': [POSITIVE (0.9808)]}]

POSITIVE

Sentence: "Create optional study groups that take place once a week ." [- Toke ns: 11 - Sentence-Labels: {'label': [POSITIVE (0.9036)]}]

POSITIVE

Sentence: "One action that my professors at UW can take to best support my educa tion is to make themselves available and accessible to ask questions . One way t o do this is to schedule office hours at a time that is convenient for the major ity of students ." [- Tokens: 47 - Sentence-Labels: {'label': [POSITIVE (0.99 41)]}]

POSITIVE

Sentence: "holding office hours and be available when I need help" [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9792)]}]

POSITIVE

Sentence: "Perhaps adding a section to give more explanations on the lecture mat erials ." [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.5489)]}]

POSITIVE

Sentence: "Accessible outside of class" [- Tokens: 4 - Sentence-Labels: {'lab el': [POSITIVE (0.9777)]}]

POSITIVE

Sentence: "Having office hours at various times is helpful . It 's always frustr ating when the only office hours are during one of my classes , which conflicts all quarter ." [- Tokens: 30 - Sentence-Labels: {'label': [NEGATIVE (0.969 5)]}]

NEGATIVE

Sentence: "Holding office hours and answering questions about current assignment s in class ." [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.997 8)]}]

POSITIVE

Sentence: "Sometimes , I want to go to the professor 's office hour but I do not know what kinds of questions should I ask and do not know how to build up a clos er relationship with the professor . One thing that professor can do is talk bri efly about their research and some of their background on the first day of class . If the student is interested in his / her research , the student can go into t he professor 's office hour and have a closer touch with the professor ." [- T okens: 93 - Sentence-Labels: {'label': [POSITIVE (0.569)]}]

POSITIVE

Sentence: "Be as available as possible to help outside of the classroom" [- To kens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9356)]}]

POSITIVE

Sentence: "Responding to emails promptly ." [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9954)]}]

POSITIVE

Sentence: "Be available over email for questions regarding homework and / or stu dy material . Office hours are helpful , but email is much quicker and effective I feel ." [- Tokens: 29 - Sentence-Labels: {'label': [NEGATIVE (0.9202)]}]

NEGATIVE

Sentence: "The professors could address common questions they get in office hour s while in lecture . Or they could put up a survey to figure out when works best for them and the students for office hours ." [- Tokens: 37 - Sentence-Label s: {'label': [POSITIVE (0.9516)]}]

POSITIVE

Sentence: "Be available for help and questions , preferably in the form of offic e hours ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.8369)]}]

POSITIVE

Sentence: "More office hours" [- Tokens: 3 - Sentence-Labels: {'label': [POSI TIVE (0.9925)]}]

POSITIVE

Sentence: "Open as many office hours as possible , able to make appointments as well ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9919)]}]

POSITIVE

Sentence: "Helping outside of lecture" [- Tokens: 4 - Sentence-Labels: {'labe

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l': [POSITIVE (0.9895)]}]
POSITIVE
Sentence: "Help the TAs make better quality quiz sections" [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9512)]}]
POSITIVE
Sentence: "Extra review sessions that is outside of class" [- Tokens: 8 - Sentence-Labels: {'label': [NEGATIVE (0.7634)]}]
NEGATIVE
Sentence: "Office hours are very helpful , but convenience is often a problem for me . Hours right before or after a lecture / quiz section would be helpful if it was consistently planned that way . Not a major concern , it would just help prevent walking to campus or from a library just to get a question answered ."
[- Tokens: 60 - Sentence-Labels: {'label': [POSITIVE (0.6108)]}]
POSITIVE
Sentence: "Providing office hours ." [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9952)]}]
POSITIVE
Sentence: "Give a review before the exam that will insure students understand the material for the exam" [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9385)]}]
POSITIVE
Sentence: "Having office hour" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9952)]}]
POSITIVE
Sentence: "Lots of office hours available" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9946)]}]
POSITIVE
Sentence: "Make tutorial sections more structured" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9959)]}]
POSITIVE
Sentence: "Hold extra review sessions before tests that are just dedicated to answering student questions . I had one teacher do this for CEE 220 and it helped prepare us a lot for the tests and understand the concepts better than the teacher just reviewing concepts in class ." [- Tokens: 48 - Sentence-Labels: {'label': [POSITIVE (0.9955)]}]
POSITIVE
Sentence: "Hold a review session . An amazing professor that does this is Peter Mackenzie-HeInwein for CEE220 . He sets aside more than 3 hours during a midterm week , outside of class , to go through everyone 's questions and worries ."
[- Tokens: 42 - Sentence-Labels: {'label': [POSITIVE (0.9993)]}]
POSITIVE
Sentence: "Hold more office hours" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.998)]}]
POSITIVE
Sentence: "I think the best support is providing office hours that are longer than an hour on a certain day . That way we can go in before / after class since usually I have 2 hour blocks of class and if office hours fall in that time , I can't go" [- Tokens: 52 - Sentence-Labels: {'label': [POSITIVE (0.5378)]}]
POSITIVE
Sentence: "Answer my questions timely" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9764)]}]
POSITIVE
Sentence: "I would like to see more optional review sessions that can help us ."
[- Tokens: 14 - Sentence-Labels: {'label': [NEGATIVE (0.993)]}]
NEGATIVE
Sentence: "Be more knowledgeable on the homework . I went to office hours once to get help on a hw problem that I did but did n't fully understand and I wanted him to just go over the whole thing but instead he asked me which specific part I was confused on so he could read that one part instead of reading through the whole problem . But he should have already known what the hw was about and should have been able to fully walk me through the whole thing" [- Tokens: 90 - Sentence-Labels: {'label': [NEGATIVE (0.9978)]}]
NEGATIVE
Sentence: "Have office hours" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9966)]}]

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POSITIVE
 Sentence: "Offer an abundance of office hours ." [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9977)]}]

POSITIVE
 Sentence: "Email updates of weekly class lecture notes and agenda" [- Tokens: 9 - Sentence-Labels: {'label': [NEGATIVE (0.7752)]}]

NEGATIVE
 Sentence: "Variety of office hours so that all can get help when needed" [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9958)]}]

POSITIVE
 Sentence: "Taking evrey opportunity possible to connect individually with the students ... through office hours , etc ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9952)]}]

POSITIVE
 Sentence: "Have office hours where students can speak to the professors face to face to clarify questions and work through examples ." [- Tokens: 21 - Sentence-Labels: {'label': [POSITIVE (0.9979)]}]

POSITIVE
 Sentence: "Have frequency review sessions and office hours" [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9953)]}]

POSITIVE
 Sentence: "A lot of emails and messages updating and reminding everyone about assignments that are due" [- Tokens: 15 - Sentence-Labels: {'label': [NEGATIVE (0.7619)]}]

NEGATIVE
 Sentence: "More office hours over zoom would be helpful" [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.5898)]}]

POSITIVE
 Sentence: "Be regularly available online through the provided forms of communication , such as email , online office hours , and discussion boards (i.e. panopto)." [- Tokens: 27 - Sentence-Labels: {'label': [POSITIVE (0.9848)]}]

POSITIVE
 Sentence: "I would appreciate if professors held more office hours during the week because emailing back and forth can be tedious ." [- Tokens: 21 - Sentence-Labels: {'label': [NEGATIVE (0.98)]}]

NEGATIVE
 Sentence: "Encourage students to work together in groups ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9972)]}]

POSITIVE
 Sentence: "I think having more office hours would be very helpful ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.5142)]}]

POSITIVE
 Sentence: "Holding as many office hours as possible" [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9982)]}]

POSITIVE
 Sentence: "I hope the school could offer students EE learning center ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.8716)]}]

POSITIVE
 Sentence: "the class material pdf" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.8923)]}]

POSITIVE
 Sentence: "Make class smaller" [- Tokens: 3 - Sentence-Labels: {'label': [NEGATIVE (0.9927)]}]

NEGATIVE
 Sentence: "Teach well" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.9767)]}]

POSITIVE
 Sentence: "Provide quality lectures that try their best to avoid technical issues and make it easy to absorb the information ." [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.9983)]}]

POSITIVE
 Sentence: "An action that can be done is recording lectures , and having the voice come clear ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9971)]}]

POSITIVE

Sentence: "I guess try to streamline material a bit more ? Honestly , I think yo u guys are doing everything you can . One small thing is that sometimes the came ra sometimes unfoc0es on the whiteboard and I ca n't tell what 's on the board ." [- Tokens: 46 - Sentence-Labels: {'label': [POSITIVE (0.6317)]}]

POSITIVE

Sentence: "more interactions during lecture time , like polls ." [- Tokens: 9 - Sentence-Labels: {'label': [POSITIVE (0.8911)]}]

POSITIVE

Sentence: "Polls and in-class questions (for participation) . It would be help ful to do problems in class , and then answer 0ing the poll feature in Zoom ." [- Tokens: 29 - Sentence-Labels: {'label': [NEGATIVE (0.9155)]}]

NEGATIVE

Sentence: "Use more interactive lecturing , such as poll everywhere , or even ju st asking you to work with your neighbors on a practice problem . I find it easi er to pay attention when something is asked of you , rather than sitting back an d watching somebody else ." [- Tokens: 48 - Sentence-Labels: {'label': [NEGAT IVE (0.9317)]}]

NEGATIVE

Sentence: "Organized , thorough , neat handwritten notes . Also posted online ." [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9991)]}]

POSITIVE

Sentence: "Have good audio for pre-recorded lectures . Have more office hours an d reflexible with office hours" [- Tokens: 16 - Sentence-Labels: {'label': [P OSITIVE (0.9932)]}]

POSITIVE

Sentence: "Be familiar with canvas , zoom , or any applications while present in class . Also it 's recommended to have access to good internet connection , and have good electronic lecture notes or handwritten on paper ." [- Tokens: 38 - Sentence-Labels: {'label': [POSITIVE (0.9421)]}]

POSITIVE

Sentence: "Professors' good equipment / internet for online class ." [- Token s: 9 - Sentence-Labels: {'label': [POSITIVE (0.9766)]}]

POSITIVE

Sentence: "Ensure camera and mic quality . I also recommend 0ing a tablet instea d of whiteboards / paper ." [- Tokens: 18 - Sentence-Labels: {'label': [POSIT IVE (0.9957)]}]

POSITIVE

Sentence: "Upload higher quality lectures . 240p is not acceptable ." [- Token s: 10 - Sentence-Labels: {'label': [NEGATIVE (0.9963)]}]

NEGATIVE

Sentence: "Good quality of connection for on-line class without having technical issue . My EE 215 professor have recorded the lecture but voice is so small ." [- Tokens: 26 - Sentence-Labels: {'label': [POSITIVE (0.9815)]}]

POSITIVE

Sentence: "Disc0sion boards this quarter have been really helpful (cse 143 had a very active question board on ed and that was really resourceful) . Being ab le to ask questions and having TA 's be responsible for answering them , if not other students , and they are always there for when you need to go back and rev iew them ." [- Tokens: 62 - Sentence-Labels: {'label': [POSITIVE (0.9956)]}]

POSITIVE

Sentence: "To make sure they have stable internet connection to prevent laggy or disconnecting from the lectures" [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.994)]}]

POSITIVE

Sentence: "I wish they were equipped with better technology" [- Tokens: 8 - S entence-Labels: {'label': [NEGATIVE (0.9998)]}]

NEGATIVE

Sentence: "0e poll everywhere in lecture to make sure students are understanding concepts and following along ." [- Tokens: 16 - Sentence-Labels: {'label': [N EGATIVE (0.9565)]}]

NEGATIVE

Sentence: "Since they are online anyways , make them more interactive through zo om and interactive demonstrations (i.e send 0 a Wolfram Mathematica demonstrati on or online demonstration)" [- Tokens: 27 - Sentence-Labels: {'label': [POSITIVE (0.8858)]}]

POSITIVE

Sentence: "Having a good quality microphone for lectures makes a big difference in online classes ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9988)]}]

POSITIVE

Sentence: "Better audio setup" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9979)]}]

POSITIVE

Sentence: "I think we can do more polls in classes . For example , as we take some time to do in-lecture problems , do polls to know how many students can solve , still work , or get lost for this problem . I believe that would be good feedbacks to let professors know how well the students master the materials ." [- Tokens: 62 - Sentence-Labels: {'label': [NEGATIVE (0.8102)]}]

NEGATIVE

Sentence: "Disc0sion board to ask questions / have questions answered by TA 's or professor . I think in general asynchronous format works better for online classes , I do n't think I get much out of having a live lecture vs. having recordings & it is easier to have questions when you can ask them at any time like on a disc0sion board vs. asking them during a Zoom meeting ." [- Tokens: 71 - Sentence-Labels: {'label': [NEGATIVE (0.9965)]}]

NEGATIVE

Sentence: "I think it is more helpful when the professors provide clean , computer made notes or powerpoints and 0e those while going through lectures rather than hand writing notes as they are explaining things ." [- Tokens: 35 - Sentence-Labels: {'label': [POSITIVE (0.8516)]}]

POSITIVE

Sentence: "If she can have a subtitle for her video that would be awesome" [- Tokens: 13 - Sentence-Labels: {'label': [NEGATIVE (0.9908)]}]

NEGATIVE

Sentence: "Including video of professor speaking as well as writing notes improves my ability to pay attention ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.6416)]}]

POSITIVE

Sentence: "Do an online poll about student 's understanding of the material at the start of each class ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.8721)]}]

POSITIVE

Sentence: "It would be really helpful if assignments and rubrics were in PDF format , and not Microsoft Word format ." [- Tokens: 20 - Sentence-Labels: {'label': [NEGATIVE (0.9998)]}]

NEGATIVE

Sentence: "Using powerpoint slides for their lectures would be nice . Writing out the lecture on paper is sometimes hard to see from the back , and , in my opinion , is slower for me to learn the new topics ." [- Tokens: 41 - Sentence-Labels: {'label': [NEGATIVE (0.9994)]}]

NEGATIVE

Sentence: "writing on the paper for the notes which gave us time to copy" [- Tokens: 13 - Sentence-Labels: {'label': [POSITIVE (0.6734)]}]

POSITIVE

Sentence: "The doc cam is a lot better than the whiteboards as the classrooms in the ee building can make it hard to see the front . Perhaps turning the paper landscape might help instead of having to move the paper up constantly" [- Tokens: 42 - Sentence-Labels: {'label': [POSITIVE (0.992)]}]

POSITIVE

Sentence: "Presentation in Slides instead of writing during class and posting the slides before class ." [- Tokens: 15 - Sentence-Labels: {'label': [NEGATIVE (0.8829)]}]

NEGATIVE

Sentence: "Post clear lecture slides / have legible handwriting if using written slides" [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9063)]}]

POSITIVE

Sentence: "Take notes and display them to a screen as they 're written rather than reading off a lecture slide . So a chalkboard , projected sheet of paper , or tablet / laptop with stylus ." [- Tokens: 36 - Sentence-Labels: {'label': [NEGATIVE (0.6794)]}]

NEGATIVE

Sentence: "Better handwriting ; hard to follow lecture slides some times" [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.7573)]}]

POSITIVE

Sentence: "Provide consistent direction to TAs such that quiz sections are helpful and teach information ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9921)]}]

POSITIVE

Sentence: "Write down as many things as you can in your notes including things you say out loud" [- Tokens: 17 - Sentence-Labels: {'label': [NEGATIVE (0.8813)]}]

NEGATIVE

Sentence: "1) Provide interactive lectures 2) Hold multiple office hours throughout the week at reasonable , varying hours 3) Be organized and planned about what will be taught and when , so students have a clear understanding of the course expectations" [- Tokens: 43 - Sentence-Labels: {'label': [POSITIVE (0.9981)]}]

POSITIVE

Sentence: "Office hours that do n't conflict with other classes are helpful . I like when professors write on the white board too because it gives students more time to ask questions ." [- Tokens: 32 - Sentence-Labels: {'label': [POSITIVE (0.9959)]}]

POSITIVE

Sentence: "Provide practice exams for EE 235 to improve time management . I feel as if the last two midterms were really long ." [- Tokens: 23 - Sentence-Labels: {'label': [POSITIVE (0.7704)]}]

POSITIVE

Sentence: "Emotional lectures" [- Tokens: 2 - Sentence-Labels: {'label': [POSITIVE (0.9549)]}]

POSITIVE

Sentence: "Better / more hours for office hours . I usually can't make the section they set up ." [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9992)]}]

POSITIVE

Sentence: "Good slide presentations for visual learners and lectures that are well outlined for the quarter with supported reading notes and NOT diverting from the discussion topic for the lecture" [- Tokens: 29 - Sentence-Labels: {'label': [POSITIVE (0.7612)]}]

POSITIVE

Sentence: "Observe what material the students have learned well , and what material they have n't . Using this information , deciding what information is absolutely necessary to understand fundamental EE topics , and pursue the teaching of those topics . In other words , be efficient ." [- Tokens: 47 - Sentence-Labels: {'label': [POSITIVE (0.9989)]}]

POSITIVE

Sentence: "Have clear , focused lectures with supplementary materials such as lecture notes and practice problems available ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9946)]}]

POSITIVE

Sentence: "To focus on what the students need help on ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9844)]}]

POSITIVE

Sentence: "Paying attention to students with lower grades , and maybe try to offer solution / support in order for them to do well in this class ." [- Tokens: 27 - Sentence-Labels: {'label': [POSITIVE (0.9328)]}]

POSITIVE

Sentence: "Provide sample exams and solutions" [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9886)]}]

POSITIVE

Sentence: "Do some specific practice questions in class ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.9876)]}]

POSITIVE

Sentence: "Examples , being reachable" [- Tokens: 4 - Sentence-Labels: {'label': [POSITIVE (0.9979)]}]

POSITIVE

Sentence: "Hold a discussion section outside of class , or a review section before any midterm ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9658)]}]
 POSITIVE
 Sentence: "Care about their students ." [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9964)]}]
 POSITIVE
 Sentence: "Giving us " pop quizzes " that have questions that would be similar difficulty to the exams , but do n't count towards our grade . Then , go over it during class or quiz section ." [- Tokens: 37 - Sentence-Labels: {'label': [NEGATIVE (0.9441)]}]
 NEGATIVE
 Sentence: "The easiest thing that my professors could do is release homework answers sooner after the due date . At least for EE 235 , the professor does not release the answers for weeks , even with imminent midterms . It would be incredibly helpful for me to be able to check my answers to homeworks relevant to the exam before the exam . I understand that some people may turn in homework late only to use the solutions , but realistically the loss of points from lateness is not fixed by having perfect homework answers ." [- Tokens: 96 - Sentence-Labels: {'label': [NEGATIVE (0.9996)]}]
 NEGATIVE
 Sentence: "The examples in lectures ." [- Tokens: 5 - Sentence-Labels: {'label': [POSITIVE (0.9917)]}]
 POSITIVE
 Sentence: "Using examples in explaining concepts ." [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9972)]}]
 POSITIVE
 Sentence: "Have different resources available (extra homework problems , review sessions , practice exams , etc)" [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.7215)]}]
 POSITIVE
 Sentence: "Discuss lab section a little more in lectures , so they are better correlated" [- Tokens: 14 - Sentence-Labels: {'label': [NEGATIVE (0.9392)]}]
 NEGATIVE
 Sentence: "Be more approachable with broader office hours , review sessions , etc" [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.5892)]}]
 POSITIVE
 Sentence: "Assign projects . Projects help me understand the coursework by seeing a concrete example ." [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9986)]}]
 POSITIVE
 Sentence: "Avoid talking about things unrelated to course content ." [- Tokens: 9 - Sentence-Labels: {'label': [NEGATIVE (0.9997)]}]
 NEGATIVE
 Sentence: "Providing multiple times for office hours , and extra office hours during weeks of tests ." [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9986)]}]
 POSITIVE
 Sentence: "I feel like more practice problems in lectures is always helpful" [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9434)]}]
 POSITIVE
 Sentence: "She gave many examples to help me to describe how the system works . She explain very details when we solve a problem ." [- Tokens: 24 - Sentence-Labels: {'label': [POSITIVE (0.9945)]}]
 POSITIVE
 Sentence: "more examples instead only concepts" [- Tokens: 5 - Sentence-Labels: {'label': [NEGATIVE (0.9525)]}]
 NEGATIVE
 Sentence: "Provide an appropriate workload . I think an appropriate workload means reasonable in length , testing concepts which have already been explicitly taught ." [- Tokens: 24 - Sentence-Labels: {'label': [POSITIVE (0.9982)]}]
 POSITIVE
 Sentence: "Be enthusiastic about their work ." [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9836)]}]
 POSITIVE

Sentence: "Provide review material for exams ." [- Tokens: 6 - Sentence-Label: {'label': [POSITIVE (0.7903)]}]
 POSITIVE

Sentence: "Adjust the temperature in the classroom to a comfortable degree . Illustrate knowledge as intuitive as possible" [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9995)]}]
 POSITIVE

Sentence: "Go over more examples during class instead of derivations" [- Tokens: 9 - Sentence-Labels: {'label': [NEGATIVE (0.7329)]}]
 NEGATIVE

Sentence: "Record lectures . Currently , I am out of town for a club sport and the only way for me to catch up is through lecture slides . Sometimes professors mention important details in class that are not in the slides , so a recorded lecture would be useful ." [- Tokens: 50 - Sentence-Labels: {'label': [POSITIVE (0.9916)]}]
 POSITIVE

Sentence: "Be able to answer students questions with an adequate answer . More often than not , the professor does n't understand their own material enough to explain it in an easy to understand way ." [- Tokens: 35 - Sentence-Labels: {'label': [NEGATIVE (0.9992)]}]
 NEGATIVE

Sentence: "Focus less on teaching us the math , and more on how / why it works for electrical engineering ." [- Tokens: 20 - Sentence-Labels: {'label': [NEGATIVE (0.8892)]}]
 NEGATIVE

Sentence: "have discussion sessions and a proper TA section apart from the labs in classes like EE235" [- Tokens: 16 - Sentence-Labels: {'label': [POSITIVE (0.9796)]}]
 POSITIVE

Sentence: "Have more energy while teaching . For this reason , I really like Eldridge 's discussion sessions ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.9912)]}]
 POSITIVE

Sentence: "Ask and implement students' feedback on how course can be improved both during and after the quarter ." [- Tokens: 18 - Sentence-Labels: {'label': [POSITIVE (0.9632)]}]
 POSITIVE

Sentence: "Professors should take time to specifically address student questions in lecture , rather than moving on to save time ." [- Tokens: 20 - Sentence-Labels: {'label': [NEGATIVE (0.8935)]}]
 NEGATIVE

Sentence: "Ensure that everything we are required to know in the course is available on canvas in a usable form . (Prof. Bushnell 's lecture notes are excellent) If you can skip all the lectures and just read the material available on canvas and still do above average then the professor did it right . The second action would be to ensure that the assigned work is within the expectations given the course credits ." [- Tokens: 76 - Sentence-Labels: {'label': [POSITIVE (0.902)]}]
 POSITIVE

Sentence: "Give detailed examples of topic ." [- Tokens: 6 - Sentence-Labels: {'label': [POSITIVE (0.9774)]}]
 POSITIVE

Sentence: "To give abstract examples for topics before going to examples ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.7825)]}]
 POSITIVE

Sentence: "Lecture with examples" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9929)]}]
 POSITIVE

Sentence: "Be organized with teaching material / resources" [- Tokens: 7 - Sentence-Labels: {'label': [POSITIVE (0.9868)]}]
 POSITIVE

Sentence: "giving in class problems to work through" [- Tokens: 7 - Sentence-Labels: {'label': [NEGATIVE (0.9717)]}]
 NEGATIVE

Sentence: "Holding extra office hours" [- Tokens: 4 - Sentence-Labels: {'label': [NEGATIVE (0.9817)]}]

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l': [POSITIVE (0.9976)]}
POSITIVE
Sentence: "I like teachers that engage the class more and also take feedback wel
l ." [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9887)]}]
POSITIVE
Sentence: "Give engaging lectures" [- Tokens: 3 - Sentence-Labels: {'label':
[POSITIVE (0.9969)]}]
POSITIVE
Sentence: "Caring more that we are learn the material . It helps having an excit
ing atmosphere , rather than one where tests are made impossibly difficult . Pro
fessor John Sahr is the best teacher when it comes to this ." [- Tokens: 39 -
Sentence-Labels: {'label': [POSITIVE (0.9981)]}]
POSITIVE
Sentence: "Professors can have office hours / discussion sessions or bring up th
e topic in the class where she would discuss some of the mistakes that students
make and practice some of the good questions ." [- Tokens: 35 - Sentence-Lab
els: {'label': [NEGATIVE (0.6846)]}]
NEGATIVE
Sentence: "Provide realworld context for the material we are covering and relate
how that will be useful for us in the future ." [- Tokens: 22 - Sentence-Labe
ls: {'label': [POSITIVE (0.9997)]}]
POSITIVE
Sentence: "Holding or having experienced TAs hold extra voluntary tutoring sessi
ons ." [- Tokens: 11 - Sentence-Labels: {'label': [POSITIVE (0.9888)]}]
POSITIVE
Sentence: "Often STEM classes get sidetracked by silly questions , usually eithe
r about simple math that the student really should know by now or what seems to
me as a student trying to show off how smart they are . Disregarding these inst
ead of wasting class time would be nice , it 's happened a lot to me where we 'v
e ended up rushing or I 've had to teach myself content on my own that we did
n't have time to cover because so much class time was taken up with these ."
[- Tokens: 93 - Sentence-Labels: {'label': [NEGATIVE (0.9922)]}]
NEGATIVE
Sentence: "Provide resources to use outside of class . ( Ex. uploading notes / s
lides , textbook )" [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.
852)]}]
POSITIVE
Sentence: "Provide practice tests to help students know what to study . Be more
organized in class because it can sometimes be hard to follow an example when t
hey are jumping around from thought to thought all over the whiteboard ." [- T
okens: 40 - Sentence-Labels: {'label': [POSITIVE (0.9678)]}]
POSITIVE
Sentence: "Make lecture as interesting as possible" [- Tokens: 6 - Sentence-L
abels: {'label': [POSITIVE (0.9981)]}]
POSITIVE
Sentence: "nan" [- Tokens: 1 - Sentence-Labels: {'label': [NEGATIVE (0.675
4)]}]
NEGATIVE
Sentence: "Create an easy to follow structure for every week so we know what to
expect" [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9974)]}]
POSITIVE
Sentence: "Go through lots of examples , and when they do , explain your though
process . Do n't skip steps assuming students know you did a minipulation or us
ed an identity . We 're learning something new and it 's hard enough to follow w
ithout you doing something we might not pick up on immediately ." [- Tokens: 5
6 - Sentence-Labels: {'label': [POSITIVE (0.8405)]}]
POSITIVE
Sentence: "Talk about the WHY of things . Be a little bit more detailed . Talk a
bout the application side of things to spark interest . Deliver the lecture in a
more succinct manner yet covering all the usefull topics and key points . Before
teaching a concept which uses an idea that we have learnt in the past , write th
e key points from that concept so that the lecture is delivered smoothly and stu
dents can easily related to what is being taught ." [- Tokens: 84 - Sentence-
Labels: {'label': [POSITIVE (0.9912)]}]
POSITIVE

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Sentence: "They can try their best to make sure that the students who really care about their grade will be able to succeed ." [- Tokens: 23 - Sentence-Labels: {'label': [POSITIVE (0.8775)]}]
 POSITIVE

Sentence: "Organize the course where all the information is easy to access ." [- Tokens: 12 - Sentence-Labels: {'label': [POSITIVE (0.9988)]}]
 POSITIVE

Sentence: "yes" [- Tokens: 1 - Sentence-Labels: {'label': [POSITIVE (0.9918)]}]
 POSITIVE

Sentence: "My professor came into a lab to check out our lab demonstrations on a saturday night . enough said" [- Tokens: 19 - Sentence-Labels: {'label': [POSITIVE (0.9068)]}]
 POSITIVE

Sentence: "Clear understanding of what is expected of us in reports , homework , and exams . In class instruction to help specifically delineate what we should be turning for class ." [- Tokens: 31 - Sentence-Labels: {'label': [POSITIVE (0.9967)]}]
 POSITIVE

Sentence: "Give students time to absorb the material they just taught . Often professors fly through topics with no time given for the students to review and learn . Or when professors teach a new topic then give an exam on that topic in the same week . It does not give me enough time to learn ." [- Tokens: 57 - Sentence-Labels: {'label': [NEGATIVE (0.9992)]}]
 NEGATIVE

Sentence: "One thing I find the most helpful in classes is when the professor provides sample exams with in-depth solutions . I understand that those require a lot of time to make ; however , even if its just one , they are very helpful . If not exams , providing many examples throughout the course is also helpful as it helps me understand exactly what the topic is through application ." [- Tokens: 71 - Sentence-Labels: {'label': [POSITIVE (0.9952)]}]
 POSITIVE

Sentence: "Providing a weekly extra lab session for verilog coding ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9963)]}]
 POSITIVE

Sentence: "Be well versed in the subject being taught , and host lots of office hours" [- Tokens: 15 - Sentence-Labels: {'label': [POSITIVE (0.9906)]}]
 POSITIVE

Sentence: "If a required topic for the class is not extensively covered in class , provide comprehensive support materials that are easy to access to supplement students learning ." [- Tokens: 28 - Sentence-Labels: {'label': [POSITIVE (0.9278)]}]
 POSITIVE

Sentence: "Be more interactive with students . Lectures are very hard to follow when words are being thrown at you without regard as to whether students understand the material ." [- Tokens: 29 - Sentence-Labels: {'label': [NEGATIVE (0.9999)]}]
 NEGATIVE

Sentence: "I think that if Dr. Wilson can spend a little more time talking about course materials relevant to the homework before they are assigned that would really benefit the students and make them feel less stressed ." [- Tokens: 37 - Sentence-Labels: {'label': [NEGATIVE (0.997)]}]
 NEGATIVE

Sentence: "Being more engaging in lecture" [- Tokens: 5 - Sentence-Labels: {'label': [NEGATIVE (0.5219)]}]
 NEGATIVE

Sentence: "Give a review section before the exam ." [- Tokens: 8 - Sentence-Labels: {'label': [POSITIVE (0.6404)]}]
 POSITIVE

Sentence: "Show examples of what we learned in a way relevant to the problems we will be asked to solve ." [- Tokens: 20 - Sentence-Labels: {'label': [POSITIVE (0.9988)]}]
 POSITIVE

Sentence: "being considerate & supportive for problems faced by students (more lenient grading)" [- Tokens: 14 - Sentence-Labels: {'label': [POSITIVE (0.9999)]}]

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858)]}]
POSITIVE
Sentence: "Give more information on how to do assignments and labs before assigning them" [- Tokens: 13 - Sentence-Labels: {'label': [NEGATIVE (0.8296)]}]
NEGATIVE
Sentence: "To explain a topic first and then give multiple examples to show how they are applied ." [- Tokens: 17 - Sentence-Labels: {'label': [POSITIVE (0.9981)]}]
POSITIVE
Sentence: "Get better TAs . I personally had a horrible experience with the TA Niveditha Kalavakonda , and her attitude . I do n't know how much power the professors have on choosing their TAs , but they should really" [- Tokens: 39 - Sentence-Labels: {'label': [POSITIVE (0.6545)]}]
POSITIVE
Sentence: "I think before final , lecture note , and problem was not on the canvas .... ." [- Tokens: 17 - Sentence-Labels: {'label': [NEGATIVE (0.9934)]}]
NEGATIVE
Sentence: "provide more verilog / lab help during lecture time . have a better understanding of how to design projects in verilog ." [- Tokens: 22 - Sentence-Labels: {'label': [NEGATIVE (0.849)]}]
NEGATIVE
Sentence: "Encourage more collaborative work , without penalty . This encourages active connection with the material , without being afraid of consequences . The labs in this class were very isolated and debugging alone is difficult ." [- Tokens: 36 - Sentence-Labels: {'label': [POSITIVE (0.999)]}]
POSITIVE
Sentence: "One action that my professors take to best support me is by being interactive with the class as much as possible . I learn more the more interactive the class is instead of being purely a lecture based class ." [- Tokens: 40 - Sentence-Labels: {'label': [POSITIVE (0.9384)]}]
POSITIVE
Sentence: "Make wider availability of lecture Panopto recordings and notes ." [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9901)]}]
POSITIVE
Sentence: "I would recommend reviewing the past terms' finals and midterms of the class they teach . By doing that , professors will see the topics that students struggle with the most . Hence , they use better methods in teaching the hard topics and provide more resources for help ." [- Tokens: 50 - Sentence-Labels: {'label': [NEGATIVE (0.9999)]}]
NEGATIVE
Sentence: "Give as much office hours as possible and outside help" [- Tokens: 10 - Sentence-Labels: {'label': [POSITIVE (0.9854)]}]
POSITIVE
Sentence: "Providing detailed lecture notes is extremely helpful . I often try to take notes in class , but the professor is presenting faster than I can write , so I go through their published notes after class ." [- Tokens: 38 - Sentence-Labels: {'label': [POSITIVE (0.9963)]}]
POSITIVE
Sentence: "giving practice exams" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9491)]}]
POSITIVE
Sentence: "Make classes interactive" [- Tokens: 3 - Sentence-Labels: {'label': [POSITIVE (0.9992)]}]
POSITIVE
Sentence: "Be more clear on what they want when grading assignments ." [- Tokens: 11 - Sentence-Labels: {'label': [NEGATIVE (0.9633)]}]
NEGATIVE
Sentence: "When giving assignments , clarification on exact expectations would be great ." [- Tokens: 12 - Sentence-Labels: {'label': [NEGATIVE (0.7533)]}]
NEGATIVE
Sentence: "Give sample exams" [- Tokens: 3 - Sentence-Labels: {'label': [NEGATIVE (0.7232)]}]
NEGATIVE
Sentence: "Being there for students outside of class , whether it 's through email or office hours . When a professor is there for me and is willing to help , I

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feel that they are giving me support ." [- Tokens: 39 - Sentence-Labels: {'label': [POSITIVE (0.9938)]}]
POSITIVE
Sentence: "Make sure that the assignments and tests given in the class cover the same material as what was taught in lecture ." [- Tokens: 22 - Sentence-Labels: {'label': [POSITIVE (0.9678)]}]
POSITIVE

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```
In [12]: sentence = flair.data.Sentence(str(df.SA1[0]))
flair_sentiment.predict(sentence)
total_sentiment = sentence.labels
str(sentence.labels[0]).split()[0]
```

```
Out[12]: 'POSITIVE'
```

```
In [13]: new_table2 = []
for i in range(df.shape[0]):
    s2 = str(df.SA1[i])
    if str(s2):
        sentence = flair.data.Sentence(s2)
        flair_sentiment.predict(sentence)
        new_row2 = [str(sentence.labels[0]).split()[0]]
        new_table2.append(new_row2)

new_df2 = pd.DataFrame(new_table2, columns=[ 'Sentiments' ])
```

```
In [14]: result2 = pd.concat([result1, new_df2], axis=1)
result2
```

	RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
0	2 EE233_Spring2020	Spring	2020		2		1	2018	2022
1	2 EE233_Spring2020	Spring	2020		4		1	2018	2022
2	2 EE235_Spring2020	Spring	2020		2		1	2018	2022
3	2 EE331_Spring2020	Spring	2020		3		1	2018	2022
4	2 EE233_Spring2020	Spring	2020		2		1	2018	2022
...

RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
1148	1 EE271_Spring2018	Spring	2018	2	1	2016	2019	19
1149	1 EE271_Spring2018	Spring	2018	2	1	2016	2020	19
1150	1 EE271_Spring2018	Spring	2018	2	1	2016	NaN	20
1151	1 EE271_Spring2018	Spring	2018	3	1	2017	2020	18
1152	1 EE271_Spring2018	Spring	2018	4	1	2014	2018	22

1153 rows × 27 columns

```
In [15]: result3 = result2.loc[result2.B2_Gender == '2']
result3
```

RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
0	2 EE233_Spring2020	Spring	2020	2	1	2018	2022	20
2	2 EE235_Spring2020	Spring	2020	2	1	2018	2022	19
4	2 EE233_Spring2020	Spring	2020	2	1	2018	2022	19
5	2 EE235_Spring2020	Spring	2020	2	1	2018	2022	20
7	2 EE332_Spring2020	Spring	2020	4	1	2018	2020	22
...

RemoteTrad		Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
1146	1	EE271_Spring2018	Spring	2018	2		1	2016	2020
1147	1	EE271_Spring2018	Spring	2018	3		1	2016	2020
1148	1	EE271_Spring2018	Spring	2018	2		1	2016	2019
1149	1	EE271_Spring2018	Spring	2018	2		1	2016	2020
1150	1	EE271_Spring2018	Spring	2018	2		1	2016	NaN

840 rows × 27 columns

```
In [16]: result4 = result2.loc[result2.B2_Gender == '1']
result4
```

RemoteTrad		Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
1	2	EE233_Spring2020	Spring	2020	4		1	2018	2022
3	2	EE331_Spring2020	Spring	2020	3		1	2018	2022
6	2	EE331_Spring2020	Spring	2020	2		1	2018	2022
9	2	ME230_Spring2020	Spring	2020	2		6	2018	2022
13	1	ME230_Spring2018	Spring	2018	3		6	2015	2020
...

	RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
1128	1	EE271_Spring2018	Spring	2018	4	1	2015	2019	20
1131	1	EE271_Spring2018	Spring	2018	3	7	2017	2019	20
1139	1	EE271_Spring2018	Spring	2018	3	1	2015	2019	21
1151	1	EE271_Spring2018	Spring	2018	3	1	2017	2020	18
1152	1	EE271_Spring2018	Spring	2018	4	1	2014	2018	22

303 rows × 27 columns

```
In [17]: Asian = result2.loc[result2['B4.1_Race'] == '1']
Asian
```

	RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
1	2	EE233_Spring2020	Spring	2020	4	1	2018	2022	19
3	2	EE331_Spring2020	Spring	2020	3	1	2018	2022	19
4	2	EE233_Spring2020	Spring	2020	2	1	2018	2022	19
5	2	EE235_Spring2020	Spring	2020	2	1	2018	2022	20

	RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
6	2	EE331_Spring2020	Spring	2020	2	1	2018	2022	20
...
1146	1	EE271_Spring2018	Spring	2018	2	1	2016	2020	20
1147	1	EE271_Spring2018	Spring	2018	3	1	2016	2020	19
1148	1	EE271_Spring2018	Spring	2018	2	1	2016	2019	19
1150	1	EE271_Spring2018	Spring	2018	2	1	2016	NaN	20
1151	1	EE271_Spring2018	Spring	2018	3	1	2017	2020	18

485 rows × 27 columns

```
In [18]: Black = result2.loc[result2['B4.1_Race'] == '2']
Black
```

	RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
60	2	EE341_Spring2020	Spring	2020	4	1	2016	2020	21
113	2	EE235_Spring2020	Spring	2020	4	1	2016	2021	22
183	2	EE331_Spring2020	Spring	2020	3	1	2019	2021	20
194	2	ME123_Spring2020	Spring	2020	4	2	2020	2020	23

RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
216	2 EE271_Spring2020	Spring	2020	3	1	2017	2022	21
236	1 EE233_Winter2017	Winter	2017	3	6	2014	2018	21
260	1 ME123_Spring2018	Spring	2018	3	2	2017	2019	25
388	2 EE341_Spring2020	Spring	2020	3	1	2019	2021	20
404	2 EE332_Spring2020	Spring	2020	4	1	2016	2021	23
437	1 EE233_Winter2017	Winter	2017	1	1	2016	2019	19
474	2 EE331_Spring2020	Spring	2020	4	1	2018	2021	23
503	1 EE233_Winter2017	Winter	2017	3	1	2016	2018	21
508	1 ME230_Spring2018	Spring	2018	2	2	2016	2020	19
536	1 ME230_Spring2018	Spring	2018	4	2	2013	2020	21
714	1 AA210_Spring2018	Spring	2018	4	4	2017	2019	21
721	1 EE233_Winter2017	Winter	2017	3	1	2016	2018	36
864	1 ME123_Spring2018	Spring	2018	4	2	2017	2019	23
903	2 EE235_Spring2020	Spring	2020	5	1	2016	2021	24

RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
909	2 EE331_Spring2020	Spring	2020	5	1	2016	2020	24
937	2 ME230_Spring2020	Spring	2020	3	2	2019	2022	18
948	2 ME230_Spring2020	Spring	2020	3	6	2018	2022	20
986	1 ME230_Spring2018	Spring	2018	3	2	2017	2020	21
1004	1 ME230_Spring2018	Spring	2018	2	6	2016	2020	19
1023	2 EE233_Spring2020	Spring	2020	4	1	2016	2021	22
1052	1 EE233_Winter2017	Winter	2017	3	1	2014	2018	22
1085	1 EE235_Spring2018	Spring	2018	3	1	2015	2020	21
1131	1 EE271_Spring2018	Spring	2018	3	7	2017	2019	20

27 rows × 27 columns

```
In [19]: Latino = result2.loc[result2['B4.1_Race'] == '3']
Latino
```

RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
20	2 EE331_Spring2020	Spring	2020	3	1	2017	2021	21
39	2 EE215_Spring2020	Spring	2020	3	1	2017	2022	20
58	2 EE332_Spring2020	Spring	2020	4	1	2016	2021	22

RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
72	2 ME123_Spring2020	Spring	2020	1	6	2019	2023	19
144	1 ME230_Spring2018	Spring	2018	3	6	2016	2020	20
159	1 ME123_Spring2018	Spring	2018	2	2	2016	2021	20
180	2 EE235_Spring2020	Spring	2020	2	1	2018	2020	20
206	2 ME230_Spring2020	Spring	2020	3	5	2018	2022	20
248	1 ME123_Spring2018	Spring	2018	3	6	2014	2019	22
269	1 ME123_Spring2018	Spring	2018	1	2	2017	2021	19
281	1 ME230_Spring2018	Spring	2018	2	6	2016	2020	20
307	1 ME230_Spring2018	Spring	2018	2	6	2017	2020	20
322	1 ME230_Spring2018	Spring	2018	2	5	2016	2020	19
390	2 EE215_Spring2020	Spring	2020	2	1	2018	2022	20
411	2 ME123_Spring2020	Spring	2020	4	1	2018	2020	28
443	1 ME123_Spring2018	Spring	2018	3	6	2015	2019	20
465	1 ME123_Spring2018	Spring	2018	2	6	2016	2020	20

RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
530	2 ME230_Spring2020	Spring	2020	1	5	2019	2022	18
605	2 EE215_Spring2020	Spring	2020	1	6	2019	2023	19
697	2 ME230_Spring2020	Spring	2020	3	2	2019	2022	19
700	2 ME230_Spring2020	Spring	2020	2	5	2018	2022	20
718	1 EE233_Winter2017	Winter	2017	3	1	2014	2018	21
735	1 EE233_Winter2017	Winter	2017	4	1	2014	2018	20
747	1 ME123_Spring2018	Spring	2018	1	2	2017	2021	19
777	1 ME230_Spring2018	Spring	2018	3	5	2016	2020	20
804	1 ME230_Spring2018	Spring	2018	4	5	2016	2020	20
821	2 EE332_Spring2020	Spring	2020	4	1	2016	2021	22
830	2 EE235_Spring2020	Spring	2020	2	1	2018	2022	20
863	1 ME123_Spring2018	Spring	2018	4	7	2017	2018	20

RemoteTrad		Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
874	2	EE235_Spring2020	Spring	2020	2	1	2018	2022	19
894	2	EE215_Spring2020	Spring	2020	4	6	2016	2020	22
896	2	EE215_Spring2020	Spring	2020	2	1	2018	2022	20
1003	1	ME230_Spring2018	Spring	2018	2	2	2016	2020	20
1060	1	EE235_Spring2018	Spring	2018	4	1	2017	2019	27

34 rows × 27 columns

```
In [20]: Native_American = result2.loc[result2['B4.1_Race'] == '4']
Native_American
```

RemoteTrad		Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
537	1	ME123_Spring2018	Spring	2018	3	2	2017	2019	22
888	1	EE215_Fall2016	Fall	2016	3	5	2016	2018	20

2 rows × 27 columns

```
In [21]: Pacific_Islander = result2.loc[result2['B4.1_Race'] == '5']
Pacific_Islander
```

RemoteTrad		Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
227	1	AA210_Spring2018	Spring	2018	3	6	2015	2020	21

RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
262	1 ME123_Spring2018	Spring	2018	3	6	2016	2020	19

2 rows × 27 columns

```
In [22]: NonHispanic_White = result2.loc[result2['B4.1_Race'] == '6']
NonHispanic_White
```

Out[22]:	RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
0	2 EE233_Spring2020	Spring	2020	2	1	2018	2022	20	
8	2 EE215_Spring2020	Spring	2020	2	1	2018	2021	20	
9	2 ME230_Spring2020	Spring	2020	2	6	2018	2022	19	
15	1 ME230_Spring2018	Spring	2018	3	5	2015	2020	20	
24	2 ME230_Spring2020	Spring	2020	2	2	2018	2022	20	
...
1133	1 EE271_Spring2018	Spring	2018	3	1	2016	2020	19	
1140	1 EE271_Spring2018	Spring	2018	2	1	2016	2020	18	
1144	1 EE271_Spring2018	Spring	2018	4	1	2016	2020	20	

RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
1145	1 EE271_Spring2018	Spring	2018	3	1	2016	2020	20
1152	1 EE271_Spring2018	Spring	2018	4	1	2014	2018	22

473 rows × 27 columns

```
In [31]: Other_race = result2.loc[result2['B4.1_Race'] == '7']
Other_race
```

RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
12	1 ME123_Spring2018	Spring	2018	3	7	2015	2019	21
80	2 ME230_Spring2020	Spring	2020	2	5	2019	2020	20
103	1 ME123_Spring2018	Spring	2018	5	4	2015	2018	24
114	2 ME230_Spring2020	Spring	2020	2	6	2018	2022	21
135	1 ME230_Spring2018	Spring	2018	2	6	2016	2020	19
186	2 EE332_Spring2020	Spring	2020	3	1	2018	2021	21
214	2 ME230_Spring2020	Spring	2020	3	5	2018	2022	19
240	1 EE233_Winter2017	Winter	2017	3	1	2016	2019	20

RemoteTrad	Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
246	1 ME123_Spring2018	Spring	2018	2	2	2017	2020	19
305	1 ME230_Spring2018	Spring	2018	2	6	2016	2020	20
317	1 ME230_Spring2018	Spring	2018	3	5	2016	2020	20
327	2 ME230_Spring2020	Spring	2020	2	5	2018	2022	19
375	1 ME123_Spring2018	Spring	2018	2	2	2016	2020	19
430	2 EE271_Spring2020	Spring	2020	3	1	2018	2022	20
467	2 EE331_Spring2020	Spring	2020	3	1	2017	2021	21
505	1 ME123_Spring2018	Spring	2018	3	7	2017	2020	19
593	2 EE271_Spring2020	Spring	2020	4	1	2017	2020	34
621	2 EE235_Spring2020	Spring	2020	2	1	2018	2022	20
651	2 EE351_Spring2020	Spring	2020	4	1	2018	2020	21
716	1 AA210_Spring2018	Spring	2018	2	2	2017	2021	19
741	1 ME123_Spring2018	Spring	2018	2	2	2016	2020	17

RemoteTrad		Class	Quarter	Year	A1_Status	A2_Major	A4.2	A5.2	B1_Age
746	1	ME123_Spring2018	Spring	2018	3	6	2014	2019	22
781	1	ME230_Spring2018	Spring	2018	2	2	2016	2020	19
839	1	ME123_Spring2018	Spring	2018	3	6	2016	2019	21
847	2	EE235_Spring2020	Spring	2020	2	1	2018	2020	20
956	1	AA210_Spring2018	Spring	2018	3	1	2016	2020	20
997	1	ME230_Spring2018	Spring	2018	2	2	2016	2020	17
1096	1	EE235_Spring2018	Spring	2018	3	1	2018	2019	20
1111	1	EE235_Spring2018	Spring	2018	3	1	2016	2019	20
1129	1	EE271_Spring2018	Spring	2018	3	1	2018	2019	20
1143	1	EE271_Spring2018	Spring	2018	3	1	2018	2019	22

31 rows × 27 columns

```
In [43]: mixed_race = result2.loc[result2['B4.1_Race'] == '8','9', '10','11','12','13']
mixed_race
```

```
-----
IndexError                                 Traceback (most recent call last)
<ipython-input-43-c9f38061a249> in <module>
----> 1 mixed_race = result2.loc[result2['B4.1_Race'] == '8','9', '10','11','12',
      , '13']
      2 mixed_race
```

```

/opt/anaconda3/lib/python3.8/site-packages/pandas/core/indexing.py in __getitem__
_(self, key)
    887                     # AttributeError for IntervalTree get_value
    888                     return self.obj._get_value(*key, takeable=self._take
able)
--> 889                     return self._getitem_tuple(key)
    890             else:
    891                 # we by definition only have the 0th axis

/opt/anaconda3/lib/python3.8/site-packages/pandas/core/indexing.py in __getitem_t
uple(self, tup)
    1061
    1062             # no multi-index, so validate all of the indexers
-> 1063             self._has_valid_tuple(tup)
    1064
    1065             # ugly hack for GH #836

/opt/anaconda3/lib/python3.8/site-packages/pandas/core/indexing.py in _has_valid
_tuple(self, key)
    718                 Check the key for valid keys across my indexer.
    719                 """
--> 720                 self._validate_key_length(key)
    721                 for i, k in enumerate(key):
    722                     try:

/opt/anaconda3/lib/python3.8/site-packages/pandas/core/indexing.py in _validate_
key_length(self, key)
    759             def _validate_key_length(self, key: Sequence[Any]) -> None:
    760                 if len(key) > self.ndim:
--> 761                     raise IndexingError("Too many indexers")
    762
    763             def _getitem_tuple_same_dim(self, tup: Tuple):

```

`IndexingError: Too many indexers`

```

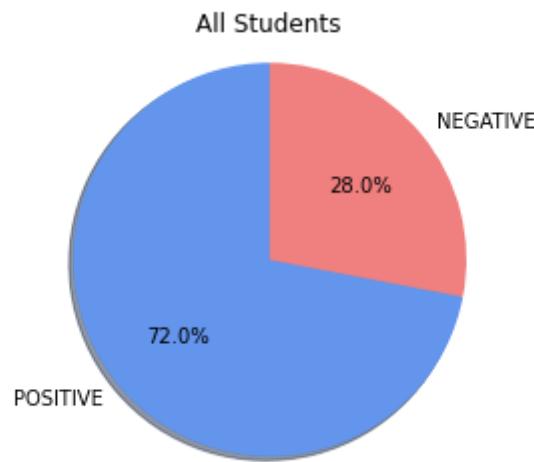
In [58]: import matplotlib.pyplot as plt

# Pie chart, where the slices will be ordered and plotted counter-clockwise:
labels = result2.Sentiments.unique()
sizes = result2.Sentiments.value_counts()

fig1, ax1 = plt.subplots()
ax1.pie(sizes, labels=labels, autopct='%1.1f%%', colors=['cornflowerblue', 'light
green'])
ax1.axis('equal') # Equal aspect ratio ensures that pie is drawn as a circle.
plt.title('All Students')

plt.show()

```

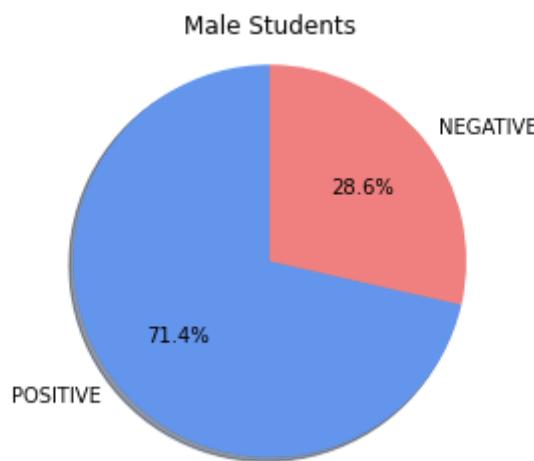


```
In [59]: import matplotlib.pyplot as plt
```

```
# Pie chart, where the slices will be ordered and plotted counter-clockwise:
labels = result3.Sentiments.unique()
sizes = result3.Sentiments.value_counts()

fig1, ax1 = plt.subplots()
ax1.pie(sizes, labels=labels, autopct='%1.1f%%', colors=['cornflowerblue', 'lightcoral'])
ax1.axis('equal') # Equal aspect ratio ensures that pie is drawn as a circle.
plt.title('Male Students')

plt.show()
```

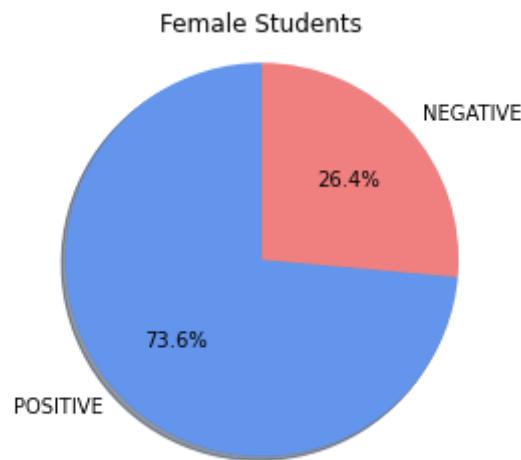


```
In [60]: import matplotlib.pyplot as plt
```

```
# Pie chart, where the slices will be ordered and plotted counter-clockwise:
labels = result4.Sentiments.unique()
sizes = result4.Sentiments.value_counts()

fig1, ax1 = plt.subplots()
ax1.pie(sizes, labels=labels, autopct='%1.1f%%', colors=['cornflowerblue', 'lightcoral'])
ax1.axis('equal') # Equal aspect ratio ensures that pie is drawn as a circle.
plt.title('Female Students')

plt.show()
```

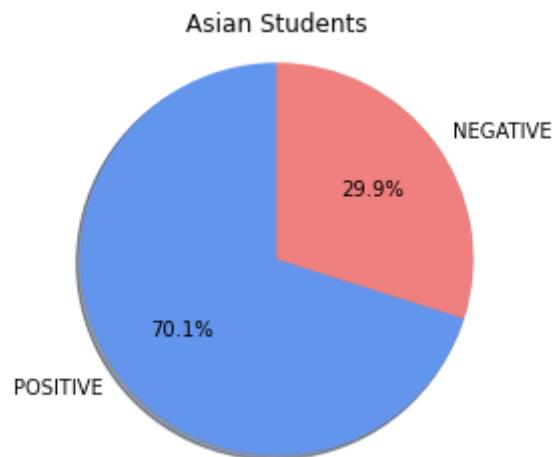


```
In [61]: import matplotlib.pyplot as plt
```

```
# Pie chart, where the slices will be ordered and plotted counter-clockwise:
labels = Asian.Sentiments.unique()
sizes = Asian.Sentiments.value_counts()

fig1, ax1 = plt.subplots()
ax1.pie(sizes, labels=labels, autopct='%1.1f%%', colors=['cornflowerblue', 'lightcoral'])
ax1.axis('equal') # Equal aspect ratio ensures that pie is drawn as a circle.
plt.title('Asian Students')

plt.show()
```

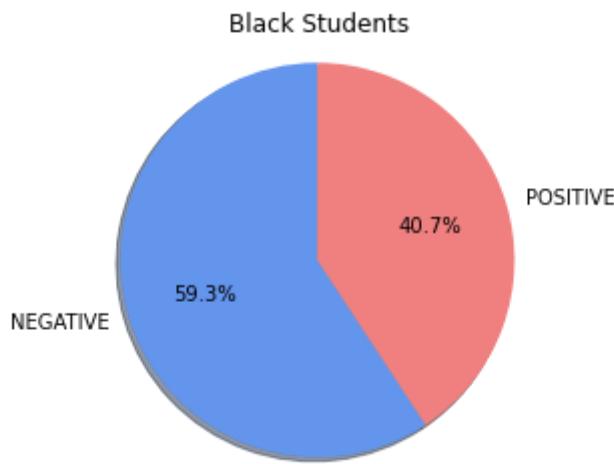


```
In [62]: import matplotlib.pyplot as plt
```

```
# Pie chart, where the slices will be ordered and plotted counter-clockwise:
labels = Black.Sentiments.unique()
sizes = Black.Sentiments.value_counts()

fig1, ax1 = plt.subplots()
ax1.pie(sizes, labels=labels, autopct='%1.1f%%', colors=['cornflowerblue', 'lightcoral'])
ax1.axis('equal') # Equal aspect ratio ensures that pie is drawn as a circle.
plt.title('Black Students')

plt.show()
```

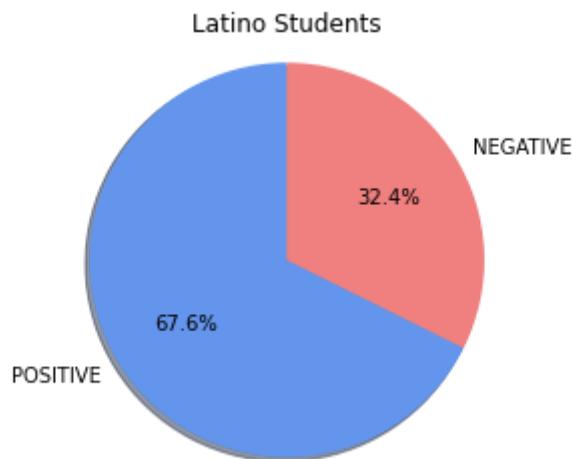


```
In [63]: import matplotlib.pyplot as plt
```

```
# Pie chart, where the slices will be ordered and plotted counter-clockwise:
labels = Latino.Sentiments.unique()
sizes = Latino.Sentiments.value_counts()

fig1, ax1 = plt.subplots()
ax1.pie(sizes, labels=labels, autopct='%1.1f%%', colors=['cornflowerblue', 'lightcoral'])
ax1.axis('equal') # Equal aspect ratio ensures that pie is drawn as a circle.
plt.title('Latino Students')

plt.show()
```

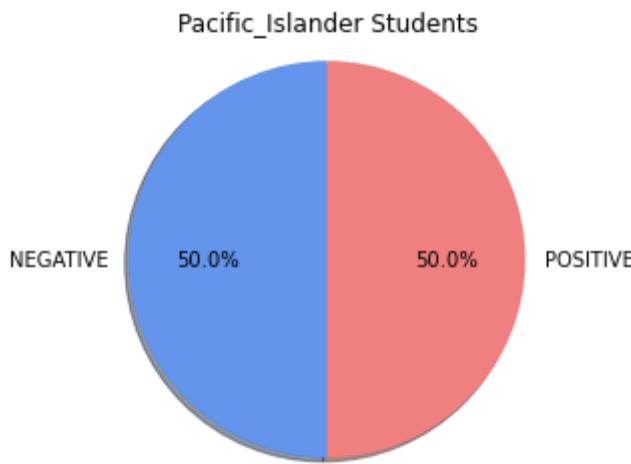


```
In [64]: import matplotlib.pyplot as plt
```

```
# Pie chart, where the slices will be ordered and plotted counter-clockwise:
labels = Pacific_Islander.Sentiments.unique()
sizes = Pacific_Islander.Sentiments.value_counts()

fig1, ax1 = plt.subplots()
ax1.pie(sizes, labels=labels, autopct='%1.1f%%', colors=['cornflowerblue', 'lightcoral'])
ax1.axis('equal') # Equal aspect ratio ensures that pie is drawn as a circle.
plt.title('Pacific_Islander Students')

plt.show()
```

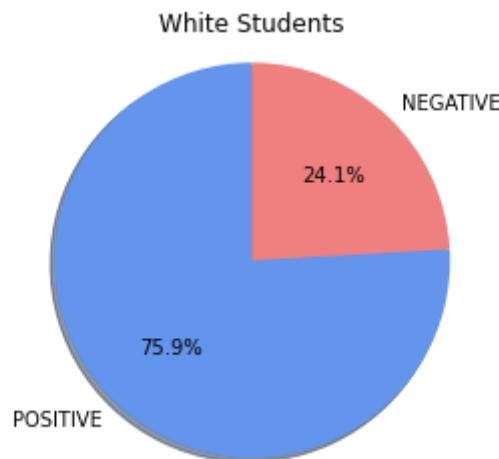


```
In [65]: import matplotlib.pyplot as plt
```

```
# Pie chart, where the slices will be ordered and plotted counter-clockwise:
labels = NonHispanic_White.Sentiments.unique()
sizes = NonHispanic_White.Sentiments.value_counts()

fig1, ax1 = plt.subplots()
ax1.pie(sizes, labels=labels, autopct='%1.1f%%', colors=['cornflowerblue', 'lightcoral'])
ax1.axis('equal') # Equal aspect ratio ensures that pie is drawn as a circle.
plt.title('White Students')

plt.show()
```

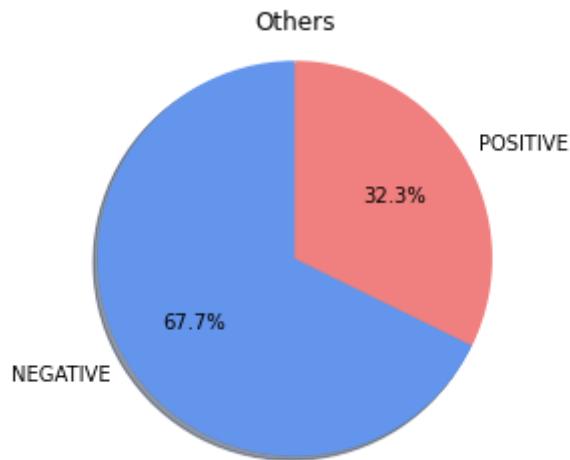


```
In [66]: import matplotlib.pyplot as plt
```

```
# Pie chart, where the slices will be ordered and plotted counter-clockwise:
labels = Other_race.Sentiments.unique()
sizes = Other_race.Sentiments.value_counts()

fig1, ax1 = plt.subplots()
ax1.pie(sizes, labels=labels, autopct='%1.1f%%', colors=['cornflowerblue', 'lightcoral'])
ax1.axis('equal') # Equal aspect ratio ensures that pie is drawn as a circle.
plt.title('Others')

plt.show()
```



Reference:<https://medium.com/@b.terryjack/nlp-pre-trained-sentiment-analysis-1eb52a9d742c>