 Name _____ ID _____

The answers must be handwritten. Use extra sheets of paper if needed.
Exercise 6 (performance evaluation) – 1 page, 14 points

Two classifiers are used to classify 30 movie reviews into positive, negative, and neutral sentiment. Their confusion matrices are

Classifier 1

	Predicted positive	Predicted negative	Predicted neutral
Actual positive	8	1	0
Actual negative	1	12	0
Actual neutral	0	2	6

Classifier 2

	Predicted positive	Predicted negative	Predicted neutral
Actual positive	7	2	0
Actual negative	0	13	0
Actual neutral	0	1	7

1. Which classifier has higher overall accuracy rate ?

2. Calculate precision, recall, and F-measure of predicting **positive sentiment** by each classifier

Classifier 1	(2.1) precision	(2.2) recall	(2.3) F-measure
Classifier 2	(2.4) precision	(2.5) recall	(2.6) F-measure

2.7 Based on the measurements in (2.1)-(2.6), which classifier is better at predicting **positive** ?

3. Calculate FP rate and FN rate of predicting **negative sentiment** by each classifier

Classifier 1	(3.1) FP rate	(3.2) FN rate
Classifier 2	(3.3) FP rate	(3.4) FN rate

3.5 Based on the measurements in (3.1)-(3.4), which classifier is more bias <u>toward</u> **negative** ?

3.6 Based on the measurements in (3.1)-(3.4), which classifier is more bias <u>against</u> **negative** ?