You submitted this quiz on **Thu 14 Nov 2013 11:55 AM PST**. You got a score of **8.00** out of **8.00**.

In this assignment, you need to aggregate data at several grain-sizes, such as you would do if you were planning to build a detector at those grain-sizes, using the data in data file Data-Subset-Pardos-et-al-2013-actions.csv and Data-Subset-Pardos-et-al-2013-observations.csv. This data is a small subset of the data set used to build the affect detectors in

Pardos, Z.A., Baker, R.S.J.d., San Pedro, M.O.C.Z., Gowda, S.M., Gowda, S.M. (2013) Affective states and state tests: Investigating how affect throughout the school year predicts end of year learning outcomes. Proceedings of the 3rd International Conference on Learning Analytics and Knowledge, 117-124.

This paper can be found at http://www.columbia.edu/~rsb2162/LAK\_2013\_Affect\_ZBSGG\_camera\_ready\_rev4.pdf

A description of many of the variables can be found in that paper.

Note that the observations are not be set up in the same fashion as reported in that paper. The data is drawn from the ASSISTments system, a formative assessment and online learning system used by over 40,000 students a year. https://www.assistments.org/

### **Question 1**

Aggregate the data to develop detectors at the student-level. Which student has the highest percentage of gaming? (Hint: One way to do this is to create a dummy variable for each observation, 1 if gaming, 0 if not gaming, and then make a pivot table)

#### You entered:

39769525

Your Answer		Score	Explanation
39769525	<b>~</b>	1.00	

Total 1.00 / 1.00

# **Question 2**

Aggregate the data to develop detectors at the student-level. How many students were never bored in any observation?

#### You entered:

117

Your Answer		Score	Explanation
117	~	1.00	
Total		1.00 / 1.00	

## **Question 3**

Aggregate the data to develop detectors at the day-level. What percentage of the time was student 30314880 gaming on 10/15? (Give just the first four digits, rounding down -- e.g. for 22.33%, type 22.33)

#### You entered:

16.66

Your Answer		Score	Explanation
16.66	<b>~</b>	1.00	
Total		1.00 / 1.00	

# **Question 4**

Why are problem-level detectors not useful for this data set?

Your Answer		Score	Explanation
There's usually only one observation per student per problem	<b>~</b>	1.00	
There aren't enough distinct problems in the data set			
Problem-level detection is always a bad idea			
There aren't enough repeated problems in the data set			
Total		1.00 /	
		1.00	

# **Question 5**

On the average, how many actions occur in an observation? (Each action is a row in the actions data set) (Give just the first four digits, rounding down)

#### You entered:

2.469

Your Answer		Score	Explanation
2.469	~	1.00	
Total		1.00 / 1.00	

## **Question 6**

Note that there are two observations with way more actions than other observations. These

might be logging errors, but they also might be a student repeatedly hitting enter really, really fast. If you eliminate these two observations, then on the average, how many actions occur in an observation? (Each action is a row in the actions data set) (Give just the first four digits, rounding down)

#### You entered:

2.204			

Your Answer		Score	Explanation
2.204	~	1.00	
Total		1.00 / 1.00	

## **Question 7**

Aggregate the data to develop detectors at the observation-level. If you create a feature of the average timeTaken during an observation, what is the average timeTaken for MFDTT-mathasst-9-at\_12:58:03-79? (Give just the first four digits, rounding down)

#### You entered:

5.921

Your Answer		Score	Explanation
5.921	<b>~</b>	1.00	
Total		1.00 / 1.00	

## **Question 8**

Aggregate the data to develop detectors at the observation-level. If you create a feature of the maximum timeTaken during an observation, what is the maximum timeTaken for EGMDH-

math\_assistments-4-at\_10:34:30-9? (Give just the first four digits, rounding down)

### You entered:

22.86			

Your Answer		Score	Explanation
22.86	<b>~</b>	1.00	
Total		1.00 / 1.00	