***MAS DSE 201 Homework: Sales Cube***

***Milestone II [due Feb 18 midnight]***

*Write the following queries:*

1. *Show the total sales (quantity sold and dollar value) for each customer.*

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1. *Show the total sales for each state.*

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1. *Show the total sales for each product, for a given customer. Only products that were actually bought by the given customer are listed. Order by dollar value.*

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1. *Show the total sales for each product and customer. Order by dollar value.*

*A screen shot of a computer

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1. *Show the total sales for each product category and state.*

*A flat screen tv

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1. *For each one of the top 20 product categories and top 20 customers, return a tuple (top product, top customer, quantity sold, dollar value)*

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***MAS DSE 201 Homework: 201Cats***

***Milestone II [due Feb 18 at midnight]***

*201Cats offers to the logged-in user X many options for controlling how the Top-10 cat videos are selected.*

* *Option “Overall Likes”: The Top-10 cat videos are the ones that have collected the highest numbers of likes, overall.*

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* *Option “Friend Likes”: The Top-10 cat videos are the ones that have collected the highest numbers of likes from the friends of X.*

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* *Option “Friends-of-Friends Likes”: The Top-10 cat videos are the ones that have collected the highest numbers of likes from friends and friends-of-friends.*

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* *Option “My kind of cats”: The Top-10 cat videos are the ones that have collected the most likes from users who have liked at least one cat video that was liked by X.*

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* *Option “My kind of cats – with preference (to cat aficionados that have the same tastes)”: The Top-10 cat videos are the ones that have collected the highest sum of weighted likes from every other user Y (i.e., given a cat video, each like on it, is multiplied by a weight).*

*The weight is the log cosine lc(X,Y) defined as follows: Conceptually, there is a vector vU for each user U, including the logged-in user X. The vector has as many elements as the number of cat videos. Element i is 1 if U liked the ith cat video; it is 0 otherwise. For example, if 201Cats has five cat videos and user 21 liked only the 1st and the 4th, then v21=<1,0,0,1,0>, i.e., v21[1]=v21[4]=1 and v21[2]= v21[3]=v21[5]=0. Assuming there are N cat videos, the log cosine lc(X, Y) is*

*Each of the options is essentially a query that finds top-10 cat videos. Write and submit the queries.*

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