

#### Question 4.1

Describe a situation or problem from your job, everyday life, current events, etc., for which a clustering model would be appropriate. List some (up to 5) predictors that you might use.

I used to intern at a marketing division for a major airline and we would use clusters to target flight specials to specific regions of the country/world. Some predictors we would/could use are:

1. Shopping history – If shopping for ski jackets, target them with flights to colder/mountainous climates. If shopping for swimsuits, send them to warmer climates
2. Time of year – many travelers have specific climates they prefer in warmer/cooler times of year
3. Flight path history – Target regions that they fly to frequently
4. Historical average ticket price – Do they typically spend more/less money on flights (indicating they may be interested in first class/economy cabins)
5. Purchase time before flight – Do they typically buy flights well in advance or a few days before (don't target spontaneous buyers with flights months out/and vice versa)