Math 58B, Spring 2023 Jo Hardin WU # 2 Thursday, 1/19/2023

Your Name: _____

Names of people you worked with: _____

Task: For each of the following research questions identify the following:

- (a) The explanatory variable.
- (b) The response variable.
- (c) A potential confounding variable.
- 1. Are there effects of second-hand smoke on the health of children?
- 2. Do people tend to spend more money in stores located next to food outlets with pleasing smells?
- 3. Does cell phone use increase the rate of automobile accidents?

Solution:

- 1. Are there effects of second-hand smoke on the health of children?
 - (a) explanatory: amount of second-hand smoke
 - (b) response: some health metric
 - (c) confounding: if parents smoke, maybe there are other home variables which are associated with poor health (low exercise, processed food, etc.)
- 2. Do people tend to spend more money in stores located next to food outlets with pleasing smells?
 - (a) explanatory: whether or not the store is located to a food outlet with a pleasing smell
 - (b) response: amount of money spent
 - (c) confounding: the type of mall where the stores are located
- 3. Does cell phone use increase the rate of automobile accidents?
 - (a) explanatory: cell phone use / not
 - (b) response: automobile accident / not
 - (c) confounding: other distractions in the car (kids, music, etc.)