Quiz 8:

1. Randomisation can be used to control for confounding in analytic observational studies.
Answer: False

2. In an experiment studying the effects of diets & salt-intake, the subjects were randomly assigned to the different treatments. What is the most important reason for the random assignment?
- Random assignment is a good way to create groups of subjects that are roughly equivalent at the beginning of the experiment.

3. Corn variety 1 yielded 140 bushels per acre last year at a research farm. This year, corn variety 2, planted at the same location, yielded only 110 bushels per acre. Based on these results, is it reasonable to conclude that corn variety 1 is more productive than corn variety 2?
- No, because there may be other differences between the two years besides the corn variety.

4. Employees at a video streaming website suspect that users on desktop computers spend more time on their website that users on mobile devices. They plan on taking a large random sample of users to see if their suspicious are correct.
- An observational study where type of device is the explanatory variable.

5. A grocery store wonders if their sales will be better if they play ambient music or no music at all. Each day for 2 months, the manager flips a coin to determine whether or not the store will play music that day. At the end of 2 months, the manager finds on average sales were better on days where music was playing.
- Playing music caused better sales.

6. In a well designed randomized experiment, _____
- the subjects chosen to participate in the study are randomly assigned to either the treatment or the control group.

7. In a completely randomized experimental study, the randomization tends to reduce the _____
- effect of confounding variables, since these variables will likely be present on both groups.

8. A study is said be an observational study if _____
- the researchers only observe the variables of interest without controlling the process being observed.