# 13.4 Bias and A/A testing

1. You're testing advertising emails for a bathing suit company and you test one version of the email in February and the other in May.
   * Bathing suit sales likely change seasonally as people begin to plan and go on summer vacations. This is assuming that you are not in a tropical location with year-round warm weather or that the emails are suited for particular seasons IE wetsuits or indoor swimming. The best way to resolve this would be to test the emails on different populations at the same time of year.
2. You open a clinic to treat anxiety and find that the people who visit show a higher rate of anxiety than the general population.
   * Of course, they would, because people don’t seek treatment for ailments they do not have. So people visiting the clinic would likely be suffering from Anxiety.
3. You launch a new ad billboard based campaign and see an increase in website visits in the first week.
   * You need to be able to confirm correlation and causation. Where the visits near areas where billboards are located? How much did it increase Could this be noise or the result of non-customers visiting your site for example employees of the billboard company.
4. You launch a loyalty program but see no change in visits in the first week.
   * What does the loyalty program offer? Do customers need to sign up? It takes a while to build a loyal customer base. Perhaps customers don’t need the service more than once a week.