[**Experimental design and A/B testing**](https://courses.thinkful.com/dsbc-exp-des-ab-test-v1/course/0)

**Assignments**

For each of the following questions, outline how you could use an A/B test to find an answer. Be sure to identify all five key components of an A/B test we outlined above.

* Does a new supplement help people sleep better?
  + running two versions against each other.
  + Sample should be randomly chosen to try the supplement and without supplement to study the sleep quality.
  + Hypothesis: I expect the quality of sleep for sample taking supplement to improve.
  + Key metric to measure: REM should be around 20%-25% of total sleep.
  + Study can be grouped by ages as older individual requires less sleep. Run the second test version afterwards to compare the winners.
* Will new uniforms help a gym's business?
  + Collect data before and after the use of uniform.
  + Sample should be randomly chosen to try the uniform and without uniform to study the gym membership size.
  + Hypothesis: I expect with the new uniform; the business membership total should increase.
  + Key metric to measure: Membership total.
  + Study should also investigate the membership retention period for sustainability and business growth.
* Will a new homepage improve my online exotic pet rental business?
  + running two versions of the website at the same time.
  + Sample should be randomly chosen to be re-routed to the new webpage.
  + Hypothesis: I expect with the new webpage; improve the pet rental.
  + Key metric to measure: Number of clicks, time spent on each webpage.
  + Study should include total visitors on both page against the total of successful rental.
* If I put 'please read' in the email subject will more people read my emails?
  + sending two versions of the emails to random group of recipients. One with the “please read” on the subject and another without it.
  + Sample should be randomly chosen to include internal and external group of people. Internal meaning within the office or workplace.
  + Hypothesis: I expect the email with the “please read” in the subject will have more response.
  + Key metric to measure: Number of recipients that open the email.
  + Study can include any response received.