**Tutorial on statistical testing**

After having collected 42 questionnaires, Alex and Nicole receive a huge pile of completed questionnaires. Nicole thinks the pile is suspicious and proposes conducting a statistical test to assess its credibility.





**Questions :**

1. What do you think will be Alex and Nicole's conclusion?
2. Imagine that in panel 16, Alex counted 20 identical digits side by side instead of 7. Would that have changed anything?
3. What are your thoughts on the 42 questionnaires that Alex and Nicole already had? Is knowing that they are genuinely filled the only thing that matters? Consider how these questionnaires have been collected.
4. What is the purpose of what Alex and Nicole are doing in panels 5 to 13? Is it necessary to do all of that in general when conducting a statistical test? Why is it necessary in their case?
5. Can you draw a parallel between the formal statistical tests you have learned in class and what Alex and Nicole just did:
   * + - 1. What are their null hypothesis (H0) and alternative hypothesis (H1)?
         2. What is their test statistic? What is its observed value?
         3. Can you say something about their significance level and the associated rejection region?
         4. Can you provide an estimate of the p-value of their test?