4. Exercise: Hypothesis testing versus estimation

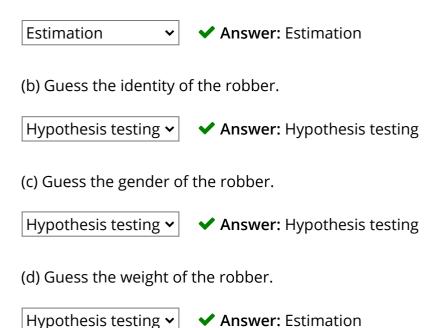Exercises due Apr 8, 2020 05:29 IST   *Completed*

Exercise: Hypothesis testing versus estimation

4/4 points (graded)
For each one of the following situations, state whether it corresponds to a hypothesis testing or estimation problem.

A grocery store was robbed yesterday morning. The police have determined that the robber was one of the five customers who visited a nearby bank earlier that morning. For those customers, the police know their identity as well as the time that they visited the bank. The police want to:

(a) Guess the time at which the grocery store was robbed.

| Estimation ▾ | ✔ **Answer:** Estimation

(b) Guess the identity of the robber.

| Hypothesis testing ▾ | ✔ **Answer:** Hypothesis testing

(c) Guess the gender of the robber.

| Hypothesis testing ▾ | ✔ **Answer:** Hypothesis testing

(d) Guess the weight of the robber.

| Hypothesis testing ▾ | ✔ **Answer:** Estimation

Grading note: Since there is some ambiguity in this problem. We will give credit to all answers in this problem.

Solution:

In parts (a) and (d), we are trying to guess a numerical quantity, and we want a precise estimate, without a hope of guessing that quantity with perfect accuracy. These are estimation problems.

In parts (b) and (c), we are trying to choose between a small number of alternatives, so these are hypothesis testing problems.

Submit	You have used 1 of 1 attempt

ⓘ Answers are displayed within the problem

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💬 [STAFF]Please don't give us more 1-shot questions with vague wordings
So far I've been loving the course and all the problems given, but this problem is really bad. If there are …   **7**

❓ [STAFF, bug] Answer on (d)?
I forgot to check the solution earlier, and now I'm seeing conflicting solution messages … I answered esti…   **7**

💬 Question (a)
Beg to disagree with the given answer. If the police already knows the identity of the five suspects, as we…   4 new

💬 hypothesis testing…
doesn't ever prove anything as true. A hypothesis can only be rejected or nullified. You can presume so…   **3**

❓ e) guess the age of the robber?
Just to have fun. In my view is estimation because it's a numerical quantity and we don't have possible v…   **3**

💬 Are hypothesis testing and estimation equivalent to classification and regression?
The definitions of hypothesis testing and estimation seem very similar to the definitions of classification …   **3**