Possible tasks for reviewing the learning content of the "Data detectives at work" lesson series

This document contains tasks that can be used in a possible test or class assignment. The data intentionally refers to a different data set.

Task 1: Assign

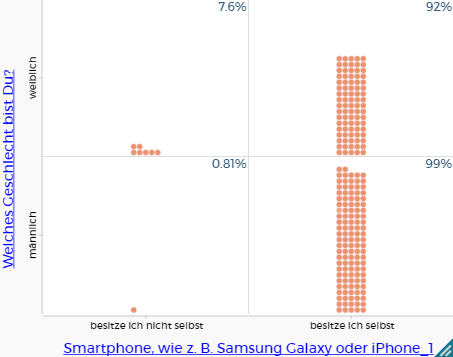
1. Match the following terms correctly and connect them with dashes!

|  |  |
| --- | --- |
| Numerical characteristic  Categorical characteristic  Characteristic value | Smartphone\_Possession  Hair color  Age  blond  15 years  Gender  Male |

1. Name another numerical characteristic: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
   And two possible characteristics: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)  
    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (2)
2. Name another categorical characteristic: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
   And two possible characteristics: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)  
    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (2)

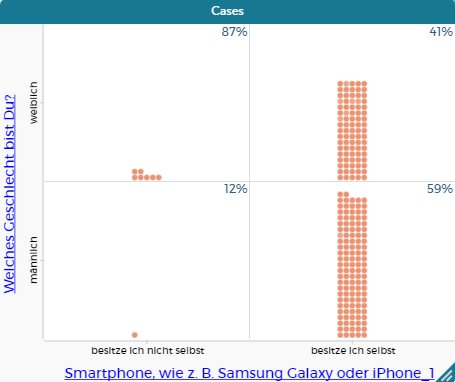
Task 2: Row and column percentages

1. Fill in the blanks using the diagram.

\_\_\_\_\_% of the girls surveyed own their own smartphone.

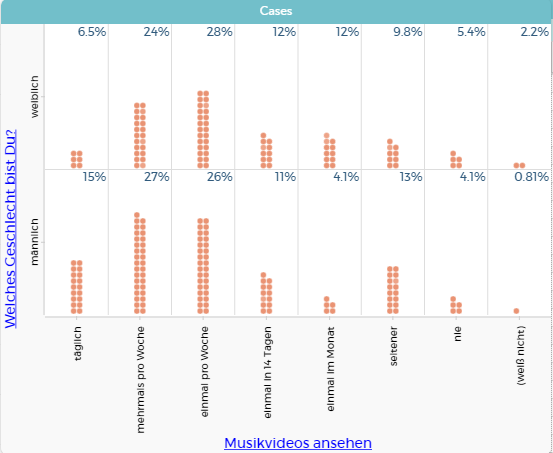
\_\_\_\_\_% of the boys surveyed own their own smartphone.

This means that in this data set, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (girls or boys?) are more likely to have their own smartphone than \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 (girls or boys?).

1. Fill in the blanks using the diagram.

\_\_\_\_\_% of smartphone owners are girls.

\_\_\_\_\_% of smartphone owners are boys.

1. Why can it happen that, for example, in the graph in b) the percentages in the first column do not add up to 100%?
2.   
   Overall, \_\_\_\_\_\_ % of the girls surveyed watch music videos daily or several times a week.

28% of girls watch music videos \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (how often?).

\_\_\_\_\_\_ % of the girls surveyed watch music videos less than once a month.

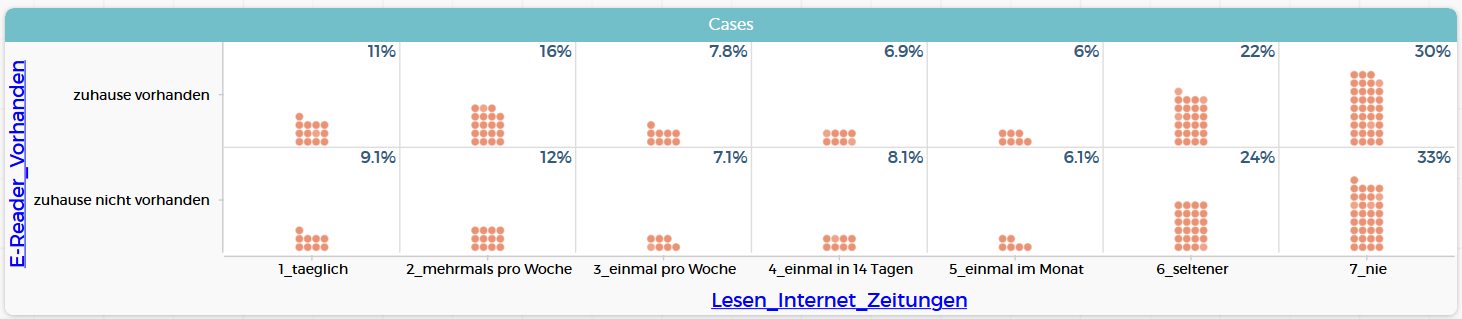
What is the situation with boys? Overall, \_\_\_\_\_\_ % of the boys surveyed watch music videos daily or several times a week.

11% of the boys surveyed watch music videos \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (how often?).

\_\_\_\_\_\_ % of the boys surveyed watch music videos less than once a month.

1. Fill in and justify: This means that in this data set, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (girls or boys?) tend to watch music videos more often than the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (girls or boys?).  
   Justification:

Task 3: Reading multi-field tables

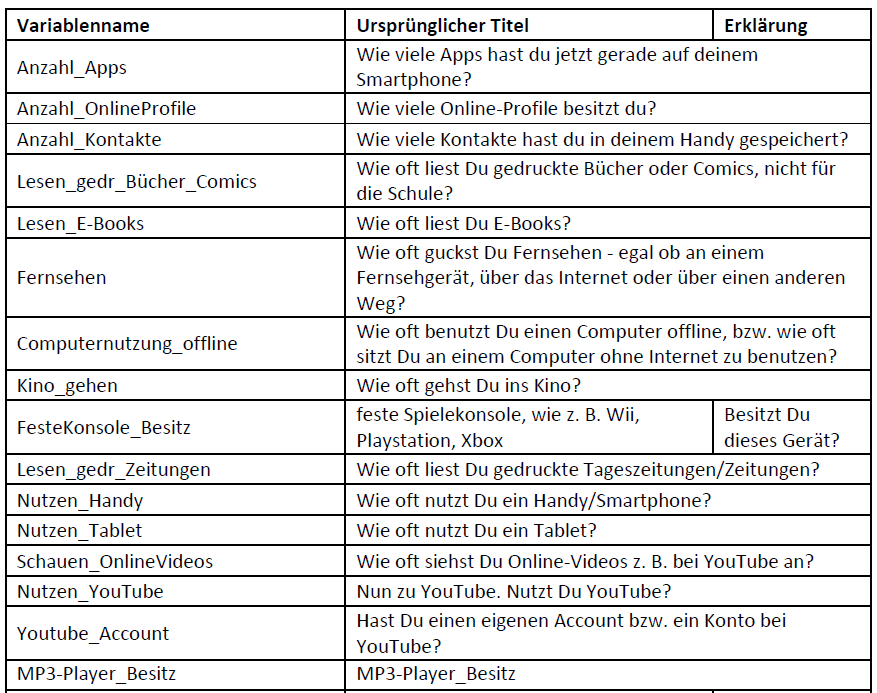


1. Look at the graph. For the following statements, mark whether they are true, false or cannot be assessed on the basis of the data.

|  |  |  |  |
| --- | --- | --- | --- |
| **Statement** | **true** | **wrong** | **cannot be judged** |
| Those who have an e-reader at home read newspapers online more frequently (i.e. at least once a week) than those who do not have an e-reader at home. |  |  |  |
| 11% of those who have an e-reader at home say they read newspapers online every day. |  |  |  |
| 33% of those who say they never read newspapers online do not have an e-reader at home. |  |  |  |
| Of all respondents, 20.1% read newspapers on the Internet every day. |  |  |  |
| Those who say they read newspapers online once a week also read printed newspapers at least once a week. |  |  |  |
| 6% of all respondents read newspapers online once a month and have an e-reader at home. |  |  |  |

1. Formulate a statistically correct statement for the diagram above to explain the value 16%.
2. Let's look at the "middle group", i.e. those who read newspapers online at least once a month and at most once a week. What percentage of those who have an e-reader at home belong to this group? Calculate.

Task 4: Variables

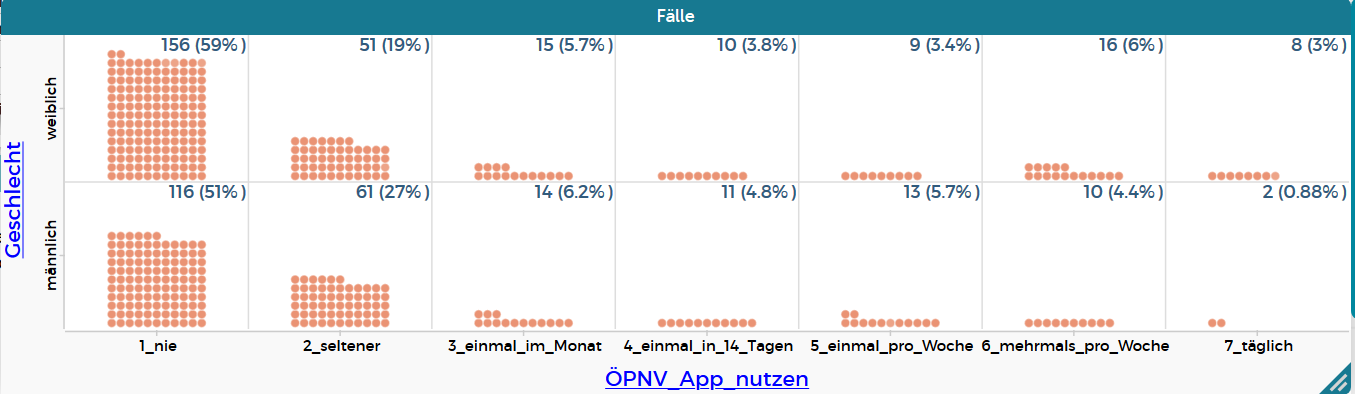


Here you can see a section of the variable list for a data record.

Which variables do you need to answer the following questions? Please note that some questions require more than one variable. Write down the variable names that are needed to answer questions a)-d).

1. Are those who use YouTube more likely to have more apps on their smartphone or those who don't use YouTube?
2. Do those who have an MP3 player tend to go to the movies?
3. What percentage of respondents use their cell phone or smartphone at least once a week?
4. Are there more respondents who have a fixed games console and frequently use a tablet or more respondents who do not have a fixed games console and frequently use a tablet?

Task 5: Distribution comparison



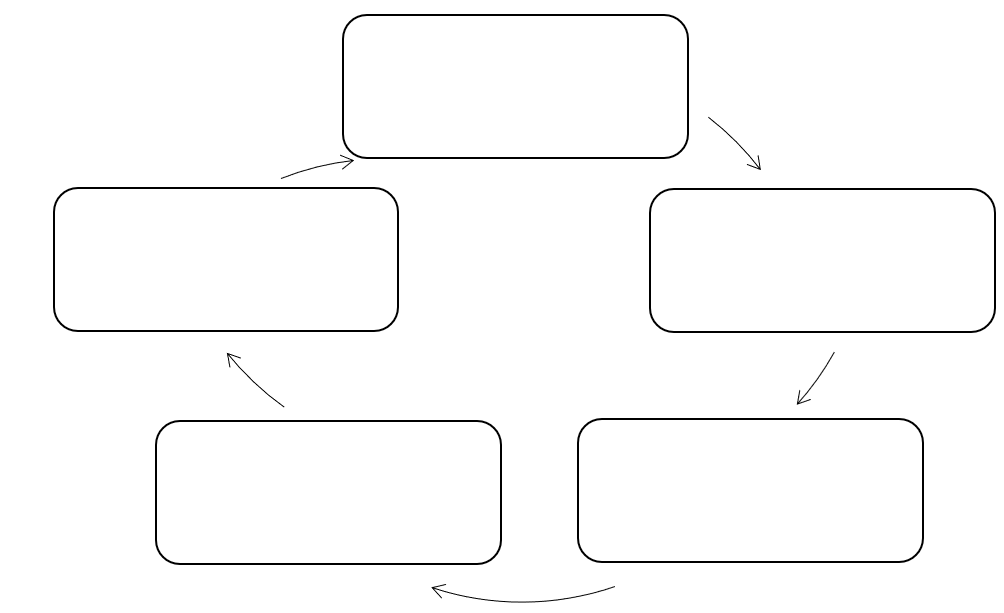
Tom looks at the two distributions and claims: "Girls use a public transport app more often". Comment on this statement and formulate more precisely than Tom how girls and boys differ in their use of a public transport app. Identify two user groups and use the corresponding values for your explanation.

(Possible note: Distinguish between "heavy users" and "light users")

Task 6: The data analysis cycle

1. Enter the following terms that belong to a data analysis project in a meaningful order in the diagram!

Analysis, data, conclusion, problem, plan



Conclusion

1. Briefly describe what you do in the "Analysis" phase.
2. Briefly describe what you do in the "Problem" phase.
3. Name two aspects of a good statistical question.