# Worksheet 1: Observational Studies and Experiments

1. For the dataset below, answer the following questions
   1. What is the unit of observation?
   2. How many observations are there?
   3. How many variables are there?
   4. For each of the variables, say whether it is quantitative or qualitative. If it is quantitative, say whether it is continuous or discrete.

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| **Rank** | **Title** | **Distributor** | **Worldwide gross** | **Genre** |
| 1 | Captain America: Civil War | Disney | $1,146,531,448 | Action |
| 2 | Zootopia | Disney | $1,012,687,356 | Animation |
| 3 | The Jungle Book | Disney | $924,040,123 | Children's |
| 4 | Batman v Superman | Warner Bros. | $872,662,631 | Action |
| 5 | Deadpool | 20th Century Fox | $778,617,348 | Action |
| 6 | The Mermaid | Columbia | $553,810,228 | Sci-Fi |
| 7 | Kung Fu Panda 3 | 20th Century Fox | $518,636,496 | Animation |
| 8 | X-Men: Apocalypse | 21st Century Fox | $515,121,596 | Action |
| 9 | Warcraft | Universal | $382,371,529 | Action/Sci-Fi |
| 10 | The Angry Birds Movie | Columbia | $329,114,793 | Comedy |

1. For each of the following variables, state whether it is quantitative or qualitative. If it is quantitative, state whether it is continuous or discrete. Then say what kind of scale would be most appropriate: nominal, ordinal, or interval and what the units of measurement would be.
   1. Hair color
   2. Height
   3. Year in school
   4. GPA (grade point average)
   5. SAT math score
   6. Number of siblings
   7. Birth order (e.g. first, second, etc)
   8. Annual income

## Additional Problems:

1. Make a dataset using yourself and a few of your classmates as the observations. Use at least one quantitative and one qualitative variable, and do not use any of the variables used in the questions above.

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| **Name or ID** | **Variable 1** | **Variable 2** |  |  |
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