

## Assignment #1: Spreadsheets and Basic Data Visualization Sample Solution

*(Note that there are multiple ways to arrive at an answer)*

### Part 1: Spreadsheet Data Analysis (3 Points per problem)

#### AGGREGATION

**Problem 1. Which was the project with the smallest goal? State the name of the project and the goal amount, then explain briefly how you arrived at the answer.**

**Answer:** SUPER SQUARE CHAOS, goal amount = 0.80137323

**Explanation:**

- Filter view -> sort by goal to obtain Name and Goal Amount.

**Problem 2. What is the total sum of goal amounts for projects where the pledged amount was greater or equal than the goal amount? State the total sum and explain briefly how you manipulated the spreadsheet to get the answer.**

**Answer:** 2221286.75559

**Explanation:**

- First create a column “**difference**” formula = **pledged - goal**.
- =sumif(**difference column**, “>=0”, **goal column**)

Or

- Use filter feature to get the values in “**difference**” column where **pledged** >= **goal**, so where difference >= 0.
- Sum the **Goal** column in the filtered view.

**Problem 3. Which was the most ambitious project (highest goal) where the pledged amount was greater or equal than the goal amount? State the project’s name and goal amount, then explain briefly how you manipulated the spreadsheet to get the answer.**

**Answer:**

- Project Name: “Finders Keepers - a stranger than fiction documentary”
- Goal Amount: 80000

**Explanation:**

1. First create a column “**difference**” formula = **pledged - goal**.
2. Use filter feature to get all the values in “**difference**” column where **pledged** >= **goal**.

3. Sort by Goal from top to bottom to obtain Name and Goal Amount.

### GROUP AGGREGATION

**Problem 4. Which country has the highest percentage of successful projects (status = successful)? State the country's name and the percentage rate of success, then explain briefly how you manipulated the spreadsheet to get the answer.**

**Answer:** Switzerland, Success rate of 100%.

**Explanation:**

1. Pivot Table (Rows: Group by Country) (Columns: Group by status) (Values: name, summarize by COUNTA)
2. Get the Success rate for all countries by dividing successful column by the sum of the row for that country.

**Problem 5. Which are the top 5 most popular categories (From highest to lowest) in terms of number of backers? List out the 5 categories along with the number of backers for each category, then explain briefly how you manipulated the spreadsheet to get the answer.**

**Answer:**

- Tabletop Games - 17108, Product Design - 11912, Documentary - 6245, Video Games - 4741, DIY Electronics - 3258

**Explanation:**

1. Pivot Table (Rows: Group by Category) (Values: backers\_count, summarize by sum)
2. Sort Category by backers\_count

### JOIN + GROUP AGGREGATION

**Problem 6. What is the average pledge amount by continent? State the average pledge amount for Europe, North America and Oceania.**

**Answer:**

- Europe - 10739.82692
- North America - 11749.35276
- Oceania - 9509.594167

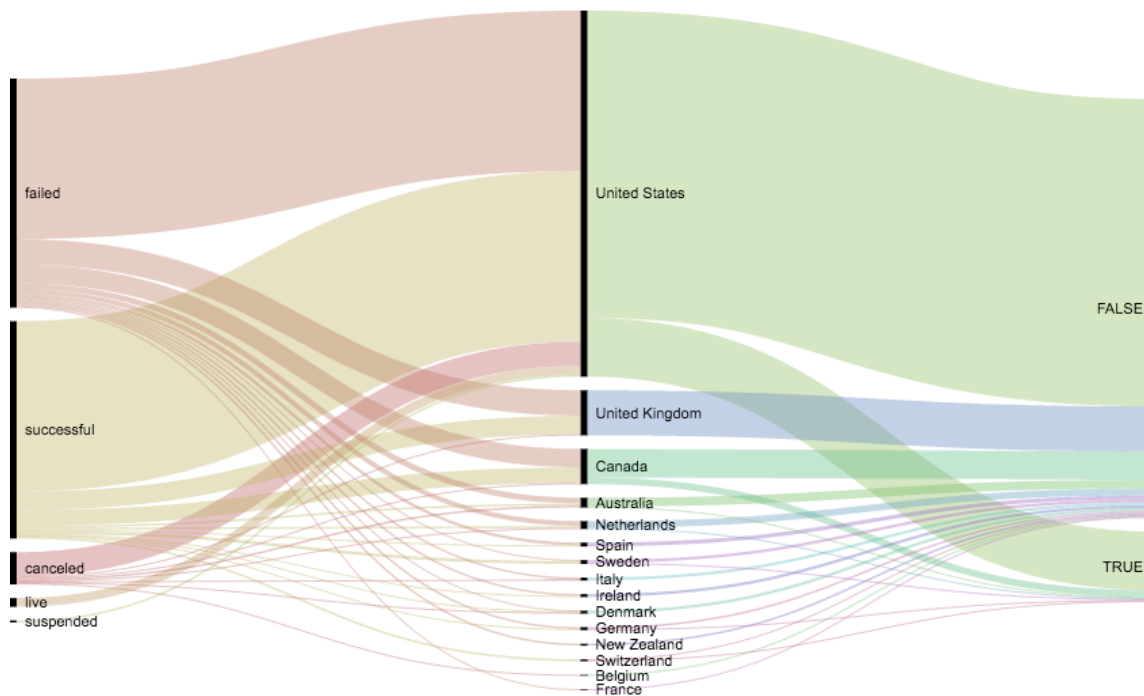
**Explanation:**

1. Create Continent Column
  - a. =VLOOKUP(country column, country - continent columns, index of column continent (3) ,false)
2. Pivot Table (Rows: Group by Continent) (Values: pledged, summarize by AVERAGE)

**Part 2: Data Visualization (3 Points per problem)**

**Problem 7. Build an alluvial diagram (<http://app.rawgraphs.io/>) to visualize status, country and staff\_pick. Copy the diagram onto your submission.**

**Answer:**



**Problem 8. Come up with an interesting visualization of your own, using Google Sheets, then label and describe it.**

**Problem 9. Come up with an interesting visualization of your own, using rawgraphs, then label and describe it.**