AMI23B – Business Intelligence Lab2

Task1: Beauty Pageant Ranking Dashboard

You have been approached by the organisers of a Beauty Pageant who described the difficulties they faced in last years' contests to you. All the scoring was done manually; this caused significant delays and ran the risks of manual errors.

The organisers continue to describe their requirements for a system they would like to use for this year's show. They require a system that can let them:

- Easily input scores as the judges enter them.
- Calculate weighted scores and rankings quickly and accurately based on multiple criteria.

You instantly think a **Pivot Table** would do the job, and you come up with the following sketch as the organisers explain their requirements for the system in detail.

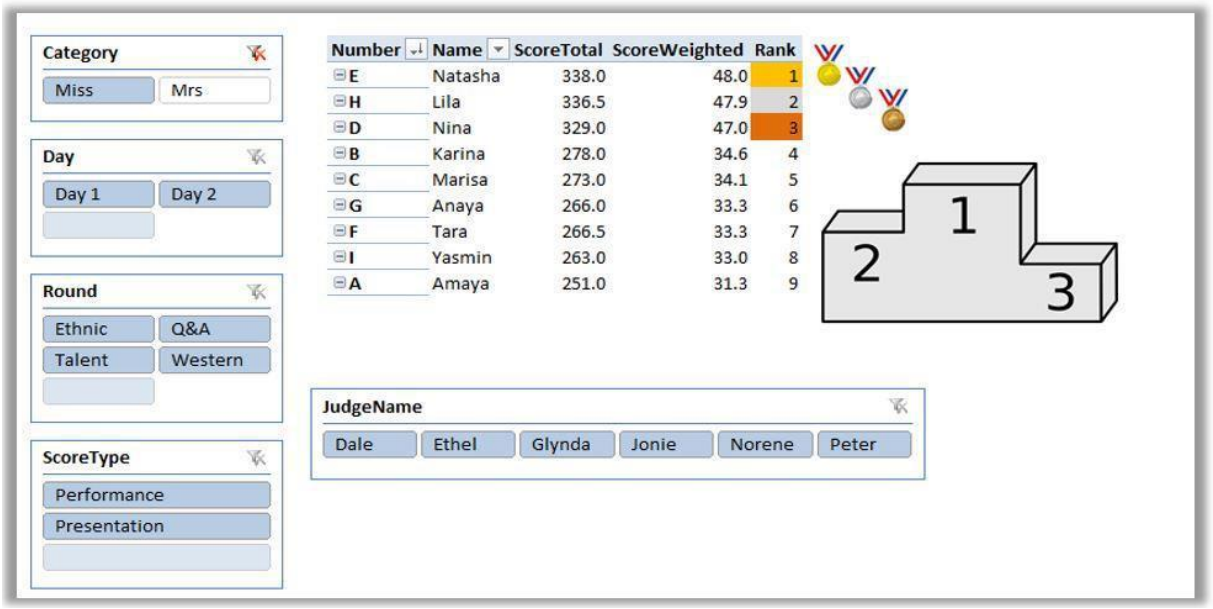

Figure 1. Desired Output

Where the pivot table has:

- Measures: ScoreTotal, ScoreWeighted, Rank *(Measures in Power Pivot are calculations used in data analysis.)*
- Slicers: Category (Miss, Mrs), Day (Day1, Day2), Round, ScoreType *(Slicers are visual filters in the form of an interactive button).*

It will allow the organisers to determine quickly:

a) Which contestants advance to the final round?
b) Who are the overall winners after the final round?
c) Who gets specific awards like Miss Talent (based on the scores in the Talent Round)?

You then proceed to come up with the following data tables:

- Judges: We have six judges.
- Contestants: We have two groups of contestants (Miss, Mrs categories); a number identifies each contestant that the judges will use for scoring.
- Rounds: We have multiple rounds on day one and day two. Each round receives separate scores for presentation and performance. The top three contestants from each category would go on to the Q&A round, where the final winners would be decided.
- Scoring sheets: Judges enter the scores on paper scoring sheets, which would need to be collected and quickly entered into our data model.

Now they have left you to get to work!

Please find the Excel file named *beauty_pageant_score_data,* which includes the above data tables. Using Power Query and Power Pivot, mould your data in Excel so you can explore and visualise it with Pivot Tables creating the desired output shown in *Fig. 1*.

Create a document describing your solution (the steps taken and the reasoning behind each step), also include a diagram view of your data model and report the winners from each of the Miss and Mrs categories (1st, 2nd and 3rd place rankings).

"If you torture the data long enough, it will confess." ~ Ronald H. Coase

Task2: Reporting and Visualisation with Power BI

In this task, you will be trained in Power BI's typical workflow:

- Bring data into the Power BI Desktop, and create a report.
- Publish the report to the Power BI Service, where you can create new visualisations or build dashboards.
- Share your dashboard to share business insights with the decision-makers.

For a quick overview of what you will be doing, watch these two videos:

- Getting Started with Power BI Desktop
- Intro to Power BI Service

Your task is to get creative!

You are to assume the role of a data analyst working for a sunglasses retailer. Your client has approached you asking to provide a solution to aid them in targeting sunglasses sales where the sun shines most frequently.

You will begin your work in Power BI Desktop (download) in which you will:

1. Connect to data, including multiple data sources.
2. Shape the data with queries that build insightful, compelling data models.
3. Use the data models to create visualisations and reports.
4. Publish your reports on the Power BI Service.

You then move on to the Power BI Service, in which you will create a dashboard of your reports that you will share with your client to aid them in their business decisions.

What do you need to do?

- Follow this tutorial - Get started with Power BI Desktop to accomplish steps 1 – 4 above (you will find the data in the tutorial).
- Then take a look at this - Get started creating in the Power BI service (**do not follow the tutorial**, instead, go through it for guidance on creating dashboards).
- Create a few more visualisations (at least 2 more) that you find interesting and helpful to your clients. You can do this either in Desktop or Service.
- Submission: share the link to your dashboard.