Identify basic Power BI components

25. Describe Power BI Desktop and the Power BI service

Power BI Desktop	Power BI Service
When creating a new report, can connect to lots of different data sources, including Access, Azure, Dataverse, Dynamics 365, Excel, Files, Folders, HDFS, Python, R, and SQL Server.	When creating a new report, can connect to data in an Excel spreadsheet, csv files, Power BI Desktop Files, OneDrive, SharePoint, and previously shared or used datasets.
Can use the above data sources when refreshing reports.	Can refresh using most data sources, but not Hadoop File (HDFS). Some types (such as on-premises databases) may require gateways.
Can create reports, including creating visualizations, and creating cross-report drill through reports.	Can create reports, including creating visualizations, and creating cross-report drill through reports.
Can Get and Transform data, and develop models, including calculated columns and measures.	No.
No.	Can create dashboards. A Pro license or Premium capacity is needed for workspaces or apps (for sharing).
No.	Can access using Power BI Mobile App
Cannot share (unless you give them the file).	Can create workspaces, and can share workspaces and apps.
Can change some security settings.	Can change some security settings.

27. Describe how to clean and transform data by using Power Query

- Get and Transform/Power Query Editor:
  - Home gives often used functions.
  - Transform/Add Column allows you to:
    - Change Data Type
    - Replace Values
    - Pivot/Unpivot.
    - Split, Format or Extract Text.
    - Standard Number and Date & Time Functions.

        - Add Column also allows you to add custom columns using the M language and columns from examples.
        - Check the quality of the data in View – Data Preview
            - Column quality – % of Error and Empty cells (question) – all columns.
            - Column distribution – numbers of distinct and unique (non-distinct) values – all columns.
            - Column profile – Both (in numbers, not %), plus Min and Max. (plenty) – one column
- In the Report and Data sections of Power BI, you can also create:
    - Calculated columns – an answer for every row,
    - Calculated measures – a numerical/date answer calculated in visualizations, using the DAX language.

Build a basic dashboard by using Power BI

29. Create a Power BI report by adding visualizations

- Bar/column charts – standard chart for looking at values across categories.
- Line chart – measures over (usually) time.
- Area charts – a filled version of line charts
- Cards – showing specific measures.
- Pie/donut charts – show a part as a proportion of the whole.
- Treemaps – colored rectangles, showing a part as a proportion of the whole.
- Gauge charts – current value, together with min, max and goal.
- KPIs – progress across time, and compared to a goal
- Maps – spatial data with measures.
- Matrix/table – Measures shown as numbers – matrix is akin to PivotTables.
- Scatter plots – two numbers plotted against each other, with an optional third measure for size (bubble plot).
- Waterfall charts – running totals (and change) against (usually) time.
- Key influencers – understand what drives measures
- Decomposition tree – drill down into measures

30. Design a Power BI dashboard

- You “pin” “tiles” from a report into a Power BI dashboard.
- These tiles cannot be filtered.
- Clicking on them gets you into the report that they came from.
- You can also “pin” a live page.
    - Live pages, as they are just taken from a report, can be filtered.

32. Consume Power BI reports and dashboards

- You can view reports and dashboards:
    - From Power BI Service
        - One that you have created.
        - One that you have shared with you directly.

            - You may see them in Home – Favorites and Recents, or in Shared With Me.
        - One that is included in an app.
    - From a website.
        - Where it has been previously put onto a website.
- You can also view reports:
    - From Power BI Desktop.
        - Either one you have created, or a file that you have been sent.
    - By clicking on a tile in a dashboard.
- You would need a Power BI Pro or Premium license for some of these ways.