1. Name three types of visuals you can create in Power BI.

- **Bar Chart** → compares values across categories.
- **Line Chart** → shows trends over time.
- **Pie Chart** → displays proportions of a whole.
  (Other examples: Map, Table, Matrix, Card, etc.)

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2. How do you add a slicer to a report?

1. Go to the **Visualizations pane**.
2. Click the **Slicer** icon (looks like a filter).
3. Drag a field (e.g., *Quarter*) into the slicer's **Values**.
4. Resize/format it as needed.

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3. What is the difference between a bar chart and a column chart?

- **Bar Chart** → Horizontal bars (categories on vertical axis).
- **Column Chart** → Vertical bars (categories on horizontal axis).

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4. How do you change the color of a visual background?

1. Select the visual.
2. In **Visualizations pane** → **Format (paint roller icon)**.
3. Expand **Background**.
4. Toggle **On**, then pick a **color**.

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5. What does "drill-down" mean in a visual?

- **Drill-down** lets you go from a **high-level view** to **detailed levels** in hierarchy data.
  Example: *Region → Product → Quarter*.

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6. Create a bar chart showing SalesAmount by Region.

1. Insert a **Bar Chart**.
2. Drag **Region** → Axis.
3. Drag **SalesAmount** → Values.

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7. Add a slicer for Quarter to filter all visuals on the page.

1. Add a **Slicer visual**.
2. Drag **Quarter** field → Values.
3. Now selecting a Quarter filters all visuals on that report page.

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8. Format the bar chart to show data labels.

1. Select the **Bar Chart**.
2. Go to **Format** → **Data labels**.
3. Toggle **On**.
4. Adjust font size, color if needed.

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9. Use a line chart to show SalesAmount trends over Quarter.

1. Insert a **Line Chart**.
2. Drag **Quarter** → Axis.
3. Drag **SalesAmount** → Values.

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10. Add a tooltip to display Product details when hovering over bars.

1. Go to **Fields** → **Tooltip** section.
2. Drag **Product** field into it.
3. Hovering over a bar will now show Product details.

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11. Sync slicers across multiple report pages.

1. Select a **Slicer**.
2. Go to **View** → **Sync slicers pane**.
3. Tick the report pages where you want it synced.

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12. Create a custom visual with dynamic measure selection (e.g., Sales vs. Profit).

1. Create a **table with measures** (*Sales, Profit*).
2. Use a **What-if parameter or disconnected table** for measure choice.
3. Create a **DAX measure** that switches values using `SWITCH()`.
4. Add to a visual → now the user can toggle between Sales and Profit.

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13. Implement a hierarchy for Region > Product > Quarter drill-down.

1. In the Fields **pane**, right-click Region → Create hierarchy.
2. Add **Product** and **Quarter** under it.
3. Drag hierarchy into your visual's axis.
4. Use **Drill buttons** on top of the visual to move deeper.

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14. Use bookmarks to toggle between two visuals in the same space.

1. Place two visuals in the same position.
2. Use **View** → **Bookmarks** pane.
3. Create **Bookmark 1** (show first visual, hide second).
4. Create **Bookmark 2** (show second visual, hide first).
5. Add **Buttons** and assign bookmarks → user can toggle between visuals.

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15. Optimize a slow-rendering report with 10+ visuals.

- Remove unnecessary visuals or split across pages.
- Use **Aggregated tables** instead of detailed data.
- Enable **Data reduction (sampling, summarization)**.
- Use **Import mode** instead of DirectQuery when possible.
- Limit heavy DAX calculations.
- Hide unused columns and tables in the model.