**Sample interview questions- Tableau, Power bi and github**

* **What is Tableau?**
  + **Answer:** Tableau is a powerful data visualization tool that allows users to create interactive and shareable dashboards. It can connect to various data sources and help in transforming raw data into an understandable format.
* **Explain the difference between a Tableau worksheet and a dashboard.**
  + **Answer:** A Tableau worksheet is a single view that is created by dragging and dropping fields onto the Rows and Columns shelves. A dashboard is a collection of worksheets and supporting objects like images that work together to provide an overall view of the data.
* **What is a filter in Tableau?**
  + **Answer:** A filter in Tableau is used to limit the data displayed in a view. It can be based on conditions, ranges, or top N values, allowing users to focus on specific subsets of data.
* **How can you join tables in Tableau?**
  + **Answer:** Tables can be joined in Tableau by dragging a field from one table and dropping it onto a matching field in another table. Tableau will automatically create the appropriate join.
* **Explain the concept of dual-axis in Tableau.**
  + **Answer:** Dual-axis in Tableau allows you to combine two different measures on the same axis, providing a more insightful and comprehensive view of the data.
* **What is a Tableau Extract?**
  + **Answer:** A Tableau Extract is a snapshot of the data that you can use to improve performance by working with a subset of the data instead of the entire dataset. It is a local copy of a subset or the entire data source.
* **Explain the concept of LOD (Level of Detail) expressions in Tableau.**
  + **Answer:** LOD expressions in Tableau allow you to control the granularity of your aggregations independently of the view level of detail. They provide a way to compute values at a different level than the one in the view.
* **What is a parameter in Tableau?**
  + **Answer:** A parameter in Tableau is a dynamic input that can be used to create interactive and flexible dashboards. Parameters can be used in calculations, filters, and reference lines to allow users to change values dynamically.
* **How does Tableau handle real-time data?**
  + **Answer:** Tableau supports real-time data connectivity through features like live connections to data sources. It allows you to create visualizations that update in real-time as data changes.
* **Can you explain the concept of Tableau Public?**

**Answer:** Tableau Public is a free version of Tableau that allows users to create and share public visualizations. The workbooks created in Tableau Public are saved to the Tableau Public server and can be accessed by anyone.

* **What is the difference between a Tableau Workbook and a Tableau Packaged Workbook?**

**Answer:** A Tableau Workbook (.twb) contains visualization definitions, but not the data. A Tableau Packaged Workbook (.twbx) includes both the visualization definitions and the data, making it a standalone file that can be shared.

* **Explain the concept of blending in Tableau.**

**Answer:** Blending in Tableau is the process of combining data from multiple data sources in a single view. It allows users to create relationships between data sources based on common fields and blend them to generate a comprehensive visualization.

* **How can you improve the performance of a Tableau workbook?**

**Answer:** Performance in Tableau can be improved by optimizing data connections, using extracts instead of live connections, minimizing the use of calculated fields, and reducing the number of marks on a view, among other techniques.

* **What is a Tableau Server?**

**Answer:** Tableau Server is an enterprise-level platform for sharing, collaborating on, and distributing interactive Tableau dashboards and reports. It allows users to publish Tableau workbooks and data sources, making them accessible to others in the organization.

* **How do you create a calculated field in Tableau?**

**Answer:** To create a calculated field in Tableau, you can right-click on a blank space in the Data pane, select "Create Calculated Field," and then use the calculated field editor to define the calculation using Tableau's formula language

**Power BI Interview Questions:**

* **What is Power BI?**
  + **Answer:** Power BI is a business analytics service by Microsoft that provides interactive visualizations and business intelligence capabilities with an interface simple enough for end users to create their own reports and dashboards.
* **Explain the difference between Power BI Desktop and Power BI Service.**
  + **Answer:** Power BI Desktop is the authoring and publishing tool used to create reports and dashboards. Power BI Service is the online platform where reports and dashboards are published, shared, and accessed by others.
* **What is a measure in Power BI?**
  + **Answer:** A measure in Power BI is a calculated value based on data in your model. It is typically created using Data Analysis Expressions (DAX) and is used for aggregations, calculations, and other dynamic operations.
* **How can you share Power BI reports with others?**
  + **Answer:** Power BI reports can be shared by publishing them to the Power BI Service and then sharing the report URL with others. Additionally, reports can be embedded in websites or shared through apps.
* **What is the role of Power Query in Power BI?**
  + **Answer:** Power Query is used in Power BI to connect, transform, and clean data from various sources before it is loaded into the data model. It helps in shaping the data to meet the specific requirements of the analysis.
* **What is the role of the Power BI Gateway?**
  + **Answer:** Power BI Gateway is used to bridge the connection between Power BI Service in the cloud and on-premises data sources. It enables scheduled data refreshes for on-premises data and allows reports to be kept up-to-date.
* **Explain the difference between calculated columns and measures in Power BI.**
  + **Answer:** Calculated columns are computed during data refresh and become a permanent part of the data model, while measures are dynamic calculations performed on the data when a report is being viewed.
* **How can you use Power BI for mobile reporting?**
  + **Answer:** Power BI provides mobile apps for iOS and Android devices. Reports and dashboards created in Power BI Desktop can be viewed and interacted with using these mobile apps, ensuring accessibility on the go.
* **What is the Q&A feature in Power BI?**
  + **Answer:** The Q&A (Question and Answer) feature in Power BI allows users to type questions in natural language, and Power BI will generate visualizations and answers based on the data in the model.
* **Explain the concept of Row-level security in Power BI.**
  + **Answer:** Row-level security in Power BI allows you to restrict data access at the row level based on user roles. It ensures that users only see the data relevant to their role or responsibilities.
* **What is Power BI Embedded, and how is it used?**
  + **Answer:** Power BI Embedded allows developers to embed Power BI reports and dashboards into custom applications, websites, or portals. It provides an API for programmatically interacting with and embedding Power BI content.
* **Explain the concept of Power BI DAX (Data Analysis Expressions).**
  + **Answer:** DAX is a formula language used in Power BI for creating custom calculations and aggregations in data models. It is similar to Excel formulas and is used to define measures and calculated columns.
* **What is the role of Power BI Data Gateway?**
  + **Answer:** Power BI Data Gateway is used to connect on-premises data sources to Power BI Service in the cloud. It facilitates secure data transfer between on-premises databases and the Power BI cloud service.
* **How can you schedule data refresh in Power BI?**
  + **Answer:** Data refresh in Power BI can be scheduled through the Power BI Service. You can set up a refresh schedule for datasets that are stored in the Power BI Service, ensuring that the data stays up-to-date.
* **What is the purpose of Power BI Row-level Security (RLS)?**
  + **Answer:** Row-level Security (RLS) in Power BI allows you to restrict data access at the row level based on user roles. It ensures that different users see only the data that is relevant to their role.

**GitHub Interview Questions:**

* **What is GitHub?**
  + **Answer:** GitHub is a web-based platform that uses Git for version control. It provides a platform for collaborative software development, enabling multiple developers to work on projects simultaneously.
* **Explain the concept of a repository in GitHub.**
  + **Answer:** A repository in GitHub is a storage space where your project's files and version history are stored. It can be either public (accessible by anyone) or private (restricted access).
* **What is a pull request?**
  + **Answer:** A pull request in GitHub is a proposed change to a repository submitted by a user. It is a way to notify others about changes you've made and initiate a discussion around those changes before they are merged into the main codebase.
* **How do you resolve a merge conflict in Git/GitHub?**
  + **Answer:** Merge conflicts occur when Git is unable to automatically merge changes in different branches. To resolve a merge conflict, you need to manually edit the conflicting files, choose the desired changes, and then commit the resolved files.
* **What is the purpose of the "fork" operation on GitHub?**
  + **Answer:** Forking a repository on GitHub creates a personal copy of someone else's project. It allows you to make changes to your copy without affecting the original project. Forked repositories can be used for making contributions through pull requests.
* **What is a Git commit?**
  + **Answer:** A Git commit is a snapshot of changes made to a repository. It includes a unique identifier (commit hash), a commit message describing the changes, and a reference to the previous commit.
* **Explain the difference between Git and GitHub.**
  + **Answer:** Git is a distributed version control system, while GitHub is a web-based platform that uses Git for version control. Git is the tool, and GitHub is the service that hosts Git repositories.
* **How does Git branching work, and why is it useful?**
  + **Answer:** Git branching allows developers to create separate lines of development. Each branch represents an independent set of changes, which is useful for isolating features, bug fixes, and experiments without affecting the main codebase.
* **What is the purpose of the Git pull command?**
  + **Answer:** The **git pull** command is used to fetch changes from a remote repository and integrate them into the current branch. It combines the **git fetch** and **git merge** commands.
* **Explain the concept of Git merge conflicts.**
  + **Answer:** Git merge conflicts occur when changes from different branches cannot be automatically merged. It requires manual intervention to resolve conflicting changes before the merge can be completed.
* **Explain the Gitflow workflow.**
  + **Answer:** Gitflow is a branching model for Git that defines a standard workflow for managing branches in a project. It includes branches such as master, develop, feature, release, and hotfix branches, each serving a specific purpose in the development lifecycle.
* **What is Git rebase, and when would you use it?**
  + **Answer:** Git rebase is a command used to combine or modify a sequence of commits. It is often used to maintain a clean and linear commit history by incorporating changes from one branch into another, rewriting the commit history in the process.
* **How does Git handle conflicts during a merge operation?**
  + **Answer:** Git marks conflicting changes during a merge operation and pauses the process, indicating where conflicts occurred. Developers need to resolve these conflicts manually by editing the affected files and then continue with the merge.
* **What is the purpose of Git hooks?**
  + **Answer:** Git hooks are scripts that can be executed before or after certain Git events, such as commits, pushes, or merges. They allow developers to automate tasks, enforce policies, or perform checks during various stages of the version control process.
* **Explain the concept of Git submodules.**
  + **Answer:** Git submodules allow you to include other Git repositories as subdirectories in your project. They are useful for incorporating external dependencies or shared code repositories into your own project.