**Intermidetor and advance**

**Python**:

* Write a Python script that fetches data from an API and processes it to extract relevant information for an insurance claim.
* Implement a Python function that takes a list of patient records and generates a summary report with key metrics.
* Explain how you would use Python's object-oriented programming features to model an insurance policy and its associated data.
* Describe a Python script you've written to automate the generation of custom reports for healthcare providers.
* How would you use Python's data visualization libraries (e.g., Matplotlib, Seaborn) to create interactive dashboards for insurance claim analysis?

**SQL**:

* Write a SQL query to identify patients with a history of chronic conditions and their associated medical costs over the past year.
* Explain how you would use SQL to join data from multiple tables (e.g., patient information, claims, and provider data) to generate a comprehensive view of an insurance plan's performance.
* Describe a SQL stored procedure you've created to automate the process of updating insurance plan pricing based on market trends.
* How would you use SQL window functions to calculate rolling averages of key performance indicators for a healthcare provider's patient population?
* Write a SQL query to identify the top 10 most frequently prescribed medications within a specific insurance plan and their associated costs.

**Power BI:**

* Explain how you would use Power BI to create a dashboard that visualizes the utilization of various healthcare services within an insurance plan.
* Describe a Power BI report you've developed to help an insurance provider identify fraud patterns in their claims data.
* How would you use Power BI's data modeling capabilities to combine and analyze data from multiple sources (e.g., patient records, claims, and provider information)?
* Demonstrate your ability to create interactive, drill-down reports in Power BI that allow insurance analysts to explore the underlying data.
* Explain how you would use Power BI's advanced analytics features (e.g., machine learning models, forecasting) to identify trends and make predictions in the healthcare and insurance domain.

**Python**:

* Write a Python script that ingests a CSV file containing patient medical records and generates a summary report with key statistics.
* Implement a Python function that takes an insurance claim data structure and calculates the estimated payout based on the plan's coverage rules.
* Explain how you would use Python's web scraping libraries (e.g., BeautifulSoup, Scrapy) to extract relevant data from insurance provider websites.
* Describe a Python script you've written to automate the process of generating personalized insurance policy documents for new customers.
* How would you use Python's data analysis libraries (e.g., Pandas, NumPy) to identify trends and anomalies in historical insurance claim data?
* Write a Python program that integrates with a healthcare provider's API to retrieve patient records and store them in a local database.
* Explain your approach to using Python's error handling and exception management techniques to build robust insurance data processing pipelines.
* Describe a Python application you've developed to streamline the insurance claims submission and approval workflow.
* How would you leverage Python's multiprocessing or asynchronous programming capabilities to optimize the performance of an insurance risk analysis tool?
* Demonstrate your ability to use Python's machine learning libraries (e.g., scikit-learn, TensorFlow) to build predictive models for insurance fraud detection.

**SQL**:

* Write a SQL query to identify the top 5 most common medical procedures performed within a specific insurance plan and their associated costs.
* Explain how you would use SQL's window functions (e.g., ROW\_NUMBER(), RANK()) to generate a leaderboard of healthcare providers based on their patients' healthcare outcomes.
* Describe a SQL stored procedure you've created to automate the process of generating monthly insurance premium reports for a large customer base.
* How would you use SQL's join operations to combine data from multiple tables (e.g., patient information, claims, provider data) to create a comprehensive view of an insurance plan's performance?
* Write a SQL query to identify patients who have missed their scheduled appointments within the past 6 months and generate a report for the healthcare provider.
* Explain your approach to using SQL's subqueries and derived tables to analyze complex insurance claim patterns and trends.
* Demonstrate your ability to write SQL queries that leverage advanced features like common table expressions (CTEs) and window functions to generate insights for healthcare stakeholders.
* Describe a SQL script you've developed to automate the process of identifying and flagging potentially fraudulent insurance claims for further investigation.
* How would you use SQL's data manipulation language (DML) commands to implement a slowly changing dimension (SCD) approach for tracking changes in insurance plan coverage over time?
* Write a SQL query to generate a report that shows the top 10 most frequently prescribed medications within a specific insurance plan and their associated costs.

**Power BI:**

* Explain how you would use Power BI to create a dashboard that visualizes the geographic distribution of insurance plan enrollment and associated healthcare utilization patterns.
* Describe a Power BI report you've developed to help an insurance provider analyze the financial performance of their various product offerings (e.g., life insurance, health insurance, auto insurance).
* How would you use Power BI's data modeling capabilities to create a comprehensive view of an insurance provider's customer lifecycle, including information about policy purchases, claims, and renewals?
* Demonstrate your ability to create interactive, drill-down reports in Power BI that allow insurance analysts to explore the underlying data related to patient demographics, treatment patterns, and outcomes.
* Explain how you would use Power BI's advanced analytics features (e.g., forecasting, clustering) to identify high-risk insurance customers and develop targeted retention strategies.
* Write a Power BI report that visualizes the effectiveness of an insurance provider's marketing campaigns by analyzing lead generation, conversion rates, and customer lifetime value.
* Describe a Power BI dashboard you've created to help a healthcare provider monitor key performance indicators (KPIs) related to patient satisfaction, quality of care, and operational efficiency.
* How would you use Power BI's data connectivity features to integrate information from various sources (e.g., claims data, provider databases, customer relationship management systems) to generate a holistic view of an insurance plan's performance?
* Explain your approach to using Power BI's custom visuals and report themes to develop a consistent, branded reporting experience for insurance stakeholders.
* Demonstrate your ability to leverage Power BI's data storytelling capabilities to present complex insurance data in a clear, compelling, and actionable manner to executive-level audiences.