

*1600 Wyatt Dr, Santa Clara, CA 95054*

**Screening Test/Interview Questions for Data Analyst (Remote) Position**

**Instructions**: Please precede all your answers with the question you are answering. Use acronyms only after you've explained them.

Use correct spelling and grammar.

Be sure to write your name and the interviewer’s name.

***Candidate’s Name*: Elamaran Jayabarathy**

1. Are you currently employed? Yes
2. What was your most successful/most challenging data analysis project?

I would like to highlight one of my challenging data analytics projects with the client City of Puyallup. My client wants to identify the businesses that contribute to their revenue and the impact of pandemic on their businesses and what will be their future revenue look like.

I break down this project into four different phases:

Descriptive Analytics: Analyzing the source and means of revenue generated by city. Industry, Market and Company Analysis. Identifying their strengths and weaknesses, competitors etc.

Diagnostic Analytics: Collected the sales Tax revenue for the past 10 years. Processes here include data cleaning and exploratory analysis using Python. Using Tableau visualized the major revenue contributors, Top 10 sectors, Businesses affected due to pandemic and business opportunities that can be leveraged.

Predictive Analytics: Using Forecasting Techniques, predicted future sales Tax revenue using ARIMAX time series technique with accuracy of 85 percent.

Prescriptive Analytics: Social media analytics on twitter data and provided recommendations when and how the city can promote business activities in online platforms to improve their local businesses and their revenue.

1. What is your greatest strength as a data analyst? How about your greatest weakness?

**Strength**: What I bring to the team is a strong record in relationship building. I'm happiest when I'm engaging and strategizing about how we can help one another. I break the ice whenever I need to step in and complete the projects on time and actively participate in team meetings for brainstorming complex problems.

For one of my recent projects with city of Puyallup, where we were trying to forecast city’s future sales tax growth, we were not sure about the variables to include in the model. I tried establishing contacts with other cities by contacting them through our university channel and I was successfully able to make one contact with city of Tacoma, we got information about the variables they used for forecasting, shared that idea to our client and we are successfully able to forecast the model with accuracy of 85 Percentage.

**Weakness**: I get excited when people on my team brainstorm about big new ideas. I sometimes get so caught up in the moment that I volunteer to do too much. I know this can be a distraction in ways that put me at risk of not getting work done properly or missing deadlines.

1. What’s the largest data set you’ve worked with?

Customer Credit card Transactions 3 million records with 25 columns

1. What advice would you give to a new team member?

Interact with all the team members, attend meetings, learn the work environment, take notes, make a strong first impression.

1. How do you handle missing data, outliers, duplicate data, etc.?

Missing data:

* Delete the row if most of columns are null, delete the column if that column doesn’t add more value to the analysis.
* Imputation techniques: Impute the data with mean, median and mode.

Duplicate data: Remove the duplicates to avoid data inconsistency.

Outlier: Outlier can be identified during the data exploratory analysis, using a box plot or IQR.

Steps to handle outlier:

* Remove the outliers.
* Quantile based flooring and capping-outlier is capped at a certain value above the 90th percentile or floored at a factor below the 10th percentile.
* Mean/Median Imputation

1. How do you explain technical concepts to a non-technical audience?

* Determine who the audience is,
* Use visual content to explain technical concepts.
* Focus on context and impact.
* Highlight the metrics like Profit, time saved, new customers acquired.

1. How do you present your findings to management?

* Create a dashboard highlighting the metrics and graphs.
* Highlight the wow zones.
* Summarize the points.

1. Tell us about a time when you got unexpected results.

Situation: Customer Complaints analysis on credit card. When I was working in HDFC credit card BIU department, my task was to analyze customer complaints and queries, and report it to Risk management team. The purpose of this analysis was to see which type of product faces more challenges in terms customer satisfaction. During my analysis, I found one product had too many queries related to cashback policies.

Task: This product caught my attention, and I was curious to know what was special about it. I found there was an offer, buy one get one free movie tickets on Friday.

Action: Then I analyzed that product and calculated acquisition rate (Number of users acquired over a specific period), there was a significant increase for the past three months. Then I drilled down to see the region wise, where the product was doing well. The result showed all the metro cities where malls and theatres were there, there is a significant increase in customer usage. I shared this result to the concerned team and discussed about strategy of buy one and get one particularly on Friday was the main reason for this product success.

Result: We had superior products than this, but they don’t have this offer, I shared these insights to Product Department head, and he sent to different products team to come up with a customer winning strategy like this.

1. What data analytics software are you familiar with?

SQL, Tableau, Power BI, R, Python, Google Data Studio, Google Appscript, Google Analytics

1. Tell us about yourself and your last/current job/class?

I am Elamaran Jayabarathy currently a Data Analyst in Google. I graduated from University of Washington in 2022 studying, MS in Business Analytics. At google, I focused on Analytics within GCP Geo expansion team building dashboards and providing useful insights to stakeholders to make strategic decisions tracking multiple business milestones and KPI’s and automating the manual tasks. Before Google, I worked as Data analyst and BI engineer in Banking Sector for five years. I worked in BIU department for credit cards analyzing card usage (tracking KPI’s like No of new customers, monthly active users, total number of transactions, retention rate, churn rate etc.) and supporting multiple credit card business operations like operational cost cutting and credit limit enhancement , customer complaints I also worked in Payments department creating dashboard for tracking the customer wire transfers and its status , providing reports for reconciliation, testing and deploying the changes in production for payments applications software version upgradations. I've worked with cross-functional teams such as product, operation, and risk departments within the firm.

In my professional experience, I love to develop and strengthen relationships, adopting a “team first” mentality and work collaboratively to solve problems and meet shared goals. Throughout my experience I learnt that putting customer first results in better product. By analyzing customer’s data across different touchpoints, leads to discovery of specific patterns in customer’s behavior which can be utilized for marketing or improving the product ongoing basis.

I love to work in a fast-paced changing environment, solving complex problems assisting businesses in their growth through data.

1. What scripting languages are you trained in?

R, Python

1. How much will you request per hour if you are hired?

Open to negotiation. Expecting $55 an hour

**DUTIES will include** A data analyst is responsible for organizing data related to sales numbers, market research, logistics, linguistics.

In order to accomplish this goal, they need to be able to handle the following day-to-day duties:

* + Using automated tools to extract data from primary and secondary sources.
  + Using automated tools to extract data from primary and secondary sources.
  + Preparing reports for the management stating trends, patterns, and predictions using relevant data
  + Working with programmers, engineers, and management heads to identify process improvement opportunities, propose system modifications, and devise data strategies.
  + Preparing final analysis reports for the stakeholders to understand the data-analysis steps, enabling them to take important decisions based on various facts and trends.

Can you handle all of these duties effectively?

Yes, I have six plus years of experience in the Data Analytics field.