**Learning in Bytewise Fellowship Program:**

During this fellowship, I have acquired a wealth of knowledge ranging from basic to advanced concepts. Firstly, I delved into the field of data engineering and gained an understanding of the responsibilities of data engineers. Next, I explored the realm of big data, its types, and its characteristics. Additionally, I familiarized myself with various data repositories such as data warehouses, data lakes, data marts, data mesh, and databases, discerning which repository is best suited for different types of data.

To effectively record and analyze historical data, I learned about OLTP (Online Transaction Processing) and OLAP (Online Analytical Processing) concepts. In order to derive value and insights from data, I studied the ETL (Extract, Transform, Load) and ELT (Extract, Load, Transform) processes, as well as the tools employed to execute these operations. I also explored different data loading strategies, including full load, incremental load, and historical load.

Moving on to the second month of the fellowship, I focused on SQL. I became well-versed in the various command types and data types supported by SQL. Additionally, I delved into SQL constraints, predicates, set operators, and aggregation techniques such as joins. I broadened my understanding of different types of queries, including single-row, multiple-row, nested, and correlated subqueries. Furthermore, I explored the functionalities and types of views and indexes. Lastly, I gained knowledge of conditional control statements. Then move towards the practice of SQL on hackerrank. It was an amazing experience to solve different challenges on that platform.

Subsequently, I delved into the fundamentals of Python programming. I familiarized myself with data types, data structures such as lists, dictionaries, tuples, and sets, conditional statements, loops, functions, and object-oriented programming (OOP) concepts.

The next phase of my learning journey involved cloud platforms. I began with Microsoft Azure, where I gained an overview of Azure Databricks, learned about Databricks clusters, and explored the process of mounting a data lake container to Databricks. I delved into Apache Spark and acquired knowledge of data ingestion of various file formats like JSON and CSV, as well as the ability to handle multiple files. I also learned about performing data transformations using filters and aggregations in Azure Databricks and SQL usage in Spark databases, tables, and views was also covered. Additionally, I delved into incremental load and Delta Lake. For real-time data ingestion, I explored Azure Data Factory, and I learned how to integrate with other services like Business Intelligence (BI).

I then proceeded to study Amazon Web Services (AWS) as another cloud platform. I familiarized myself with services such as Simple Storage Service (S3), Redshift, Relational Database Service (RDS), Amazon Elastic Compute Cloud (EC2), AWS Lambda, AWS Glue, AWS Athena, AWS QuickSight, AWS Crawler, Identity and Access Management (IAM), and their applications across various fields. Furthermore, I acquired knowledge of the ETL process in AWS.

Lastly, I explored the Google Cloud Platform (GCP), where I gained insights into various services such as Google Cloud Storage, Google Compute Engine, Google Cloud SQL, IAM, Google BigQuery, Google Data Catalog, Firestore, Cloud Spanner, Pub/Sub, and Google Looker Studio. I focused on learning ETL and cloud data preparation for data cleaning and transformation. Additionally, I delved into Cloud Data Fusion for building data integration pipelines.

Throughout this fellowship, I have developed a comprehensive understanding of data engineering, big data, SQL, Python programming, and the utilization of cloud platforms such as Microsoft Azure, Amazon Web Services, and Google Cloud Platform.