Introduction to Data Analysis;

Data analysis is a rapidly growing field that is essential for making informed decisions and solving complex problems. This course is designed to introduce students to the basics of data analysis, including statistical concepts, data wrangling and cleaning techniques, data visualization, and machine learning.

| **Question** | **Answers** |
| --- | --- |
| **Data Analyst Responsibilities**What are the responsibilities of a data analyst?What are the Qualities and skills required to be a data analyst? | Data analyst work with large database extract, interprete data, analyzing result using statistical techniques to solve problem.  Qualities include  1) Pay attention to details  2) Problem solver  3) Creative with data  SKILL INCLUDE  1) Python  2) Sql  3) Microsoft excel |
| **Data Analyst Ecosystem** Give an Overview of Data Analyst Ecosystem and Data Types.  What are the Languages for Data Professionals. | Overview of data analyst in ecosystem include tools, softweres and methods use to mine, analyze information and communicate the result to make decision and solve problem.  Data type  1) string : `text`  2) boolean : true or false  3) integer : numbers 1,2,4  4) float : point 0.66  5)array; index  Language for data professionals  1) python  2) SQL  3) javascript  4) julia  5)scala |
| **Data Tools** What are the tools needed to gather and import data?  Explain what is Data wrangling. | 1) Microsoft Excel  2) SQL (mysql work bench)  3) oracle  4) python (IDEL)  5) pivot table  Data wangling is the process of of converting raw data into a usable forms. |
| **Data Mining and Data Cleaning** Differentiate between data mining and data cleaning.  What’s data preparation and responsibilities? | Data mining invove exploring and analyzing large blocks of information to glean meaningful patterns and trend.  Data cleaning is the process of fixing or removing incorrect or corrupted records from a record set or within the data set.  Data preparation is the process of collecting,transforming and enriching raw data to make it suitable for analysis.  Data responsibility includes interpreting data, analyzing result using statistical techniques. |
| **Data Visualization Tools** Explain data visualization tools and types.  What do stakeholders expect from a data analyst? | Data visualization tools are softwere application that render information to a visual format such as chart for data analysis purposes.  Types of data visualization  1)Pie chart: a circular chart with triangular segment that show data as a percentage of a whole.  2)Bar chart: represent numerical values compared to each other.  3)scatter plot: help visualize the correlation between two varaibles for one or multiple groups.  4)Line graph: is designed to reveal trends that occur over time.  What stakeholders expect from data analyst  To ensure their work answer the right questions and delivers useful results.  Data analyst is expected to develop,implementand maintain databases on an ongoing basis. |