Deliverable 1- Big Data Analytics for Competitive Advantage (ITCS-6100)

1. Team
   a) Members

Ankitha Yenna	801208233
Sowmya Deepthi Madineni	801204521
Tharani Kumaresan	801265490
Veda Kalyan Nalluri	801203300

   b) Communication plan to include project artifact repository
      i) Created a common GitHub repository for the project
      Link: ankithay/BigDataproject (github.com)
      ii) Video calls on zoom as required every week
2. Selection of data to analyse from Open Data Registry for Amazon Web Services
   Link: https://registry.opendata.aws/aws-covid19-lake/
   COVID19 data lake has updated datasets about Global covid cases, US (state and countywide) cases, covid19 testing data and hospital beds all over US
3. Business Problem or Opportunity, Domain Knowledge:
   COVID-19 is a viral infection caused by the SARS-CoV-2 virus. Since 2020, it has been the most dangerous word on the world. Using AWS, we can provide data on COVID-19, analyse it, and assist all researchers in taking preventive measures. This data set contains a wealth of information on gathering resources such as the number of hospital beds and ventilators available. We can also forecast the main COVID-19 hotspots and trends using this data. This also includes information on the total number of confirmed COVID-19 cases, data on COVID-19 cases at the state and county levels in the United States, and the total number of tests performed daily. Finally, this data allows us to forecast future positive cases and take appropriate action.
4. Research Objectives and Questions:

   Research Objectives:

   - Use the information to create maps and reports, as well as to keep track of the outbreak.
   - Create dashboards to track infections and communicate to deploy vital resources like hospital beds and ventilation systems more efficiently.
   - Develop models and datasets to improve hotspot and trend forecasting.

Questions:

- What are the city's covid testing predictions of positive and negative results?
- What are the predicted probable deaths and confirmed deaths by hospital type?
- What is the predicted rate of bed utilization and the number of beds that may be increased per hospital?