PROJECT PROPOSAL
Group - 16

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Title	**Stock Prediction Using Arima Forecasting Technique for Fortune 6 Companies.**
Intro	A company's worth can be determined using its market capitalization (i.e., multiplying the company's stock price by the number of shares outstanding). The stock price is a relative and proportional value of a company's worth. Therefore, it only represents a percentage change in a company's market capital at any given point in time. The companies are filtered out on the basis of revenue to make a fortune/global 500 list to represent the leading company in the current market. In this project, we will conduct a time series analysis and future stock price prediction for the top 6 companies in the fortune 500 list.
Motivation	• What is the history of growth of the company? • How did the market impact the progress of the company? • What is the future of the company in an ever-changing market? • Will there be any changes in the top 6 position of fortune companies after prediction? • How will the success and failure of the company impact the market and shareholders?
Initial Research Questions	• Which sectors are involved in the list of top 6 global companies (i.e., finances, Information Technology, Health Care, etc)? • Which stocks are beneficial for potential investors among top 6? • Will there be any change in fortune 6 companies after prediction?

Project Details	• Exploratory Data Analysis
	  o Convert raw data into time-series object
	  o Autocorrelation analysis to examine serial dependence (p, d, q estimate)
	  o Spectral analysis to examine cyclic behaviour
	  o Trend estimation and decomposition
	• Assumptions
	  o Stationarity and differencing
	• Time-Series Visualization
	  o Time series plot
	  o Candle Plot
	• ARIMA Forecasting
	  o Backshift notation
	  o Autoregressive model

Timeline	• Dataset search and pre-processing (March 3rd week) • EDA and time series visualization (March 4th week) • ARIMA forecasting and prediction (April 1st week) • Reporting and conclusion (April 2nd week)
Contribution	Equal weightage will be given by all the members for all the parts of the project. Sharing idea, implementation and verification will be conduction on each step by all the members to ensure a complete project and a complete report.
Final aim	To predict stock price for the year 2022 for fortune 6 companies and determine the market leader in terms of total market capitalization.
References	https://otexts.com/fpp2/stationarity.html https://www.udemy.com/course/time-series-analysis-and-forecasting-in-r/