Project Title: **Bitcoin Prediction Using Multiple Linear Regression**

**Team Members**

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**Goals and Objectives:**

The main goal is to predict the bitcoin price using regression. We need to obtain the predictions values in a faster and more efficent manner. This has to be done with highest accuracy possible.

**Motivation**

By using the linear regeression method we can predict the value of any dependent variable. This is very helpful if we want to find out any thing’s value in the future. As the bitcoin value has increased dramatically, if we manage to predict the value of it we will be able to take advantage of the bitcoin price by investing in it when the price might go up.

**Significance**

If we can accuratly predict the bitcoin prices, we can have a lot of applications for that. For example, we can invest the money when we think the price is going to go up. Thus we can obtain a profit. The whole crypto currency market depends on the price of the bitcoin so if we can calculate the price value of bitcoin in a particular time in future we will be able to predict the whole crypto currency market’s status.

**Objectives**

By the end of the project we will be able to accuratly predict the price of bitcoin at a certain point of time in the future**.** There are several ways to make this analysis better. The most crucial aspect is that I want to apply this model for a time series analysis with a price forecast for a specific time frame. The main modification to the model would be to choose the train/test split using non-randomized data.The model would be tested on the most recent few months after being trained on the set's oldest historical data. This method allows for the forecasting of the expected price of Bitcoin over a longer period of time, such as the following month, quarter, or even year.

**Features**

Predicting the prices.

Obtaining the prediction values in the specific time in the future.

Testing the accuracy of our model**.**

Pridiction of the price for any timestamp given.

**Dataset :** https://www.kaggle.com/datasets/mczielinski/bitcoin-historical-data

**Analysis**

We first import the necessary libraries and read the csv file.

Then we check for null values and delete the unnecessary data.

Then we start to clean the data and check for the missing values.

We start the visualization process by checking which two fields are related. So we can perform the analysis on accordingly.

Then we check the relation between two fields using histogram.

We use scatter plot to find the corelation between any two fields.

Then we check the graph to find out how much the bitcoin price has changed in the past 70 days.

We the data into two part that is testing and training dataset. Then we try to fit the data to a regression model and train it. Then we can test it to find the accuracy of our model.

**▪ Work completed:**

• Description

Data importing, cleaning data, visualization, linear regression implementation

• Responsibility (Task, Person)

**Vamshidhar** : visualization, documentation, research, video making

**Vineela :** data cleaning, documentation, research

**Sandeep :** multiple linear regression, documentation, research

• Contributions (members/percentage)

**Vamshidhar: 33%**

**Vineela: 33%**

**Sandeep: 33%**

▪ Work to be completed:

-Implement functions like timestamp based price prediction

-comparision with other models.

-Accuracy improvement.

• References/Bibliography

<https://www.kaggle.com/datasets/mczielinski/bitcoin-historical-data>

https://www.researchgate.net/publication/334452977\_Regression\_based\_Analysis\_for\_Bitcoin\_Price\_Prediction