# Assignment Report

**Introduction:**

This study looks at how trader performance changes with market sentiment. The main idea is to see if traders make more profit when the market is in **Fear** or **Greed**.

**Data:**

We worked with two datasets:

1. **Fear & Greed Index** – shows daily market mood (Fear, Neutral, Greed).
2. **Trader Data** – shows real trades (account, coin, side, profit/loss, timestamp).

**Method:**

We cleaned both datasets and matched each trade with the sentiment on that day. After merging, we calculated:

* Profit per trade
* Win rate (how many trades were profitable)
* Trading activity
* Performance by hour and by weekday

**Results:**

The visualizations showed:

* **Profit:** Traders did slightly better during Greed days than Fear days.
* **Win Rate:** Higher in Greed sentiment compared to Fear.
* **Trading Activity:** More trades happened during Fear, but profit was lower.
* **Best Times:** Some hours of the day and weekdays gave better profit averages.
* **Top Traders:** A few accounts consistently made good profits.

**Insights:**

* Traders make more consistent profit during Greed markets.
* Trading volume is higher in Fear, but it is less profitable.
* Certain times (specific hours and days) can improve performance.
* A few traders are clearly more skilled and stand out.

**Recommendation:**

* Focus on trading during Greed days for better profit chances.
* Avoid overtrading in Fear conditions.
* Look at the “best hours” and “best days” to plan trades.
* Learn strategies from top traders who are consistently profitable.