

# Assignment 2: AI Trading System, Investment Competition and Tesla - Elon Musk's Big Bets

Start Assignment

- Due Friday by 1:59pm
- Points 10
- Submitting a file upload

The assignment this week will focus on AI-driven Strategies, Investment competition and Tesla, the most outstanding EV company.

1. Using Antigravity to Build a Production Grade trading system

Tips: Whenever you encounter errors or issues when running the Antigravity, **just type :"Fix the errors for me"**.

## Tasks

### 1.1 Multi-Agent System Building

1. Open Antigravity Agent Manager ( the prompt window)
2. Copy and paste the following prompt:"

=====

Act as a Full-Stack Quant Developer. Build a **Highly Interactive** 'Global Macro War Room' as a single-file application.

1. **Stateful Orchestration**: Create a React-based UI (or vanilla JS state manager) that holds the 'current state' of 3 agents (Idle, Searching, Analyzing, Complete).
2. **Interactive Trigger**: Add a large 'INITIALIZE GLOBAL SCAN' button. When clicked, it must sequentially trigger:
  - **Analyst Agent**: (Browser) Scrapes latest FOMC and sets a hawk\_dove\_score.
  - **Quant Agent**: Fetches \$SPY data and calculates 200d-MA.
  - **Risk Agent**: (Browser) Scrapes news for 'Geopolitical Risk' and sets a risk\_level.

### 3. using( UI UX pro max skill) UI UX Pro Max Features:

- **Dynamic Gauge:** The 3D 'Confidence Gauge' must animate its needle based on the aggregate agent scores.
- **Live Console:** The 'Chat Transcript' should scroll in real-time as agents 'post' their findings.
- **The Kill Switch:** Include an 'EXECUTE TRADE' button. **Logic:** Use a JavaScript conditional—if `analyst_sentiment == 'bearish'` AND `price < ma200`, the button must be `disabled`, styled in 'Dull Grey', and show a tooltip: 'Consensus: High Risk'.

4. **Refresh Capability:** Add a 'Clear Console' and 'Reset System' button to allow for multi-turn sessions without refreshing the browser page."

=====

**Deliverable: Take A Screenshot of your system and save as an image.**

#### 1.2 Production Level System

- This time copy and paste the following prompt

=====

Act as a Senior Full-Stack Quant Developer and UI/UX Lead. Build a high-performance, single-file React "Agentic Trading Terminal" with the following "Pro Max" specifications:

##### 1. ARCHITECTURE & STATE:

- Use React hooks (`useState`, `useEffect`, `useMemo`) to manage a complex application state including: 'marketContext', 'agentStates' (idle/working/done), 'logs', and 'globalConfidence'.
- Implement an async `runComprehensiveAnalysis()` function that triggers the agent fleet.

##### 2. THE AGENT POD (Logic & Simulation):

- **ANALYST:** Simulate a Browser tool call to fetch the latest \$UBER 10-K and FOMC minutes. Return a sentiment score and 3 "Grounding Quotes".
- **QUANT:** Simulate fetching live price data. Calculate RSI, 200d-SMA, and Volatility.
- **RISK GUARDIAN:** Analyze the outputs of Analyst and Quant. Identify "Adversarial Risks" (e.g.,

"Yield curve inversion negates bullish technicals").

### 3. UI/UX PRO MAX DESIGN:

- THEME: "Midnight Emerald" (Deep slates, neon lime #A3FF12, and warning crimsons).
- HEADER: Live-ticking clock, marquee for \$SPY price, and "System Heartbeat" pulse.
- CENTERPIECE: An SVG-based "Confidence Gauge" that animates its needle dynamically as agents report back.
- LOG CONSOLE: A real-time "Command Line" window that auto-scrolls, showing timestamps and agent communication (e.g., "[14:02] QUANT: Moving Average Crossover detected...").
- CONTROL DOCK:
  - A 'TICKER' input field.
  - A 'RE-SCAN' button (Primary Action).
  - A 'STOP/EMERGENCY' button (Clear State).

### 4. FUNCTIONAL LOGIC GATES:

- Implement a "Smart Execute" button.
- LOGIC: The button only enables if (Confidence Score > 75% AND Risk Score < 30%).
- VISUAL: If disabled, show a "Safety Interlock Engaged" message with a list of missing requirements (e.g., "Awaiting Macro Approval").

### 5. INTERACTIVITY:

- Make all charts interactive using simple CSS/SVG or a lightweight simulation.
- Ensure the user can "Override" an agent's opinion by clicking a toggle, which then triggers a re-calculation of the Global Confidence.

Final Requirement: Ensure the code is self-contained in one file, highly commented, and ready for immediate deployment in a professional quant desk.

=====

**Deliverable: Take A Screenshot of your system and save as an image.**


---

## 1.3 LinkedIn Post (Optional)

- LinkedIn Post:

- Share a concise summary of your findings (1–2 paragraphs).

## 2. **Tesla** (<https://hbsp.harvard.edu/import/1026520>) (Due by 1:59 pm Feb 13 before the class)

Please download the **coursepack**  (<https://hbsp.harvard.edu/import/1388724>), (This requires a purchase, but one copy per group), and answer the following questions in a group,

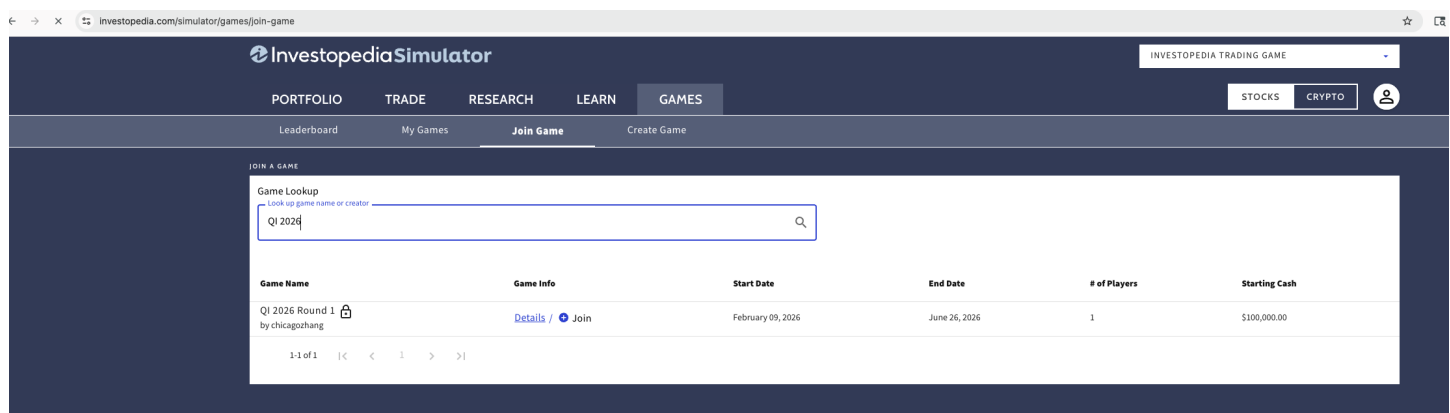
1. Is Elon Musk the greatest strategies on the planet today? If so, why? if not, why not?
2. Could you provide some ideas (both qualitatively and quantitatively) to determine the vision of a CEO or a founder?
3. Assess Musk's strategy for Tesla? What are the strengths and weakness of Tesla? Is being the most vertically integrated car company a strength or weakness?
4. Do you agree with Musk's decision to build Cybertruck? Master plan 3?
5. Would you advise Musk to continue to shoot the moon? Stay the course, but take on nothing new? or Retrench, and narrow his focus?

## Submission

Submit your answers to the above Questions and the screenshots.

## 3. Investment Competition

Sign up on **Investopedia**  (<https://www.investopedia.com/simulator/games>), Then go to game, Join Game, QI 2026 round 1, using password : **giesuiuc**



please select up to 10 companies (1 - 10) with either evolution or revolution properties in your opinions and start making investment on the Investpedia this week. **For each company, using an excel sheet to write down the notes for each individual company why you select this company.**

(Please make sure you do join the game so that we can track the record). Any trading outside of the game will not be recognized.

No options, no ETFs, no commodity in this round, only stocks.

The competition will **last three weeks**, starting from Monday on Feb 9. The Top 3 performing teams will give a quick presentation on the selection. **The Top 1 team will be awarded \$75 starbucks giftcard, the Top 2 and 3 teams will be awarded \$25 starbucks gift card each.**