1. **What was the company’s operating income in [year]?** D  
   Found in the Income Statement or MD&A under “Operating Income” or “Income from Operations”.
2. **What was the company’s gross profit in [year]?** D  
    Gross Profit = Revenue - Cost of Revenue (can be directly stated or computed).
3. **What was the company's total liabilities in [year]?** D  
   Found in the Balance Sheet under "Total Liabilities".
4. **How much did the company spend on marketing or sales in [year]?** D  
   Often listed under “Selling, General and Administrative Expenses” (SG&A) or as a separate “Sales and Marketing” line item.
5. **What were the company’s total assets in [year]?** D  
   Available in the Balance Sheet under "Total Assets".
6. **What was the company's earnings per share (EPS) in [year]?** D  
   Found in Income Statement or “Selected Financial Data”.
7. **What was the company’s cash flow from operating activities in [year]?** D  
   Found in the Cash Flow Statement under "Net Cash Provided by Operating Activities".
8. **What were the company’s capital expenditures in [year]? D**  
   Found in the Cash Flow Statement as “Purchase of Property and Equipment” or similar.
9. **What is the fiscal year-end date for the company?** D  
   Found at the top of the 10-K or in the introductory sections (e.g., “For the fiscal year ended…”).
10. **Did the company issue or repurchase stock in [year]?** D  
    Found in the Cash Flow Statement under “Financing Activities” and also mentioned in MD&A.
11. **How has [Company]'s net income changed over the last 5 years? D  
    Approach: Retrieve and align all 10-K filings for the company across 5 years. Extract net\_income for each year, then present a year-over-year comparison or trend line (could also compute CAGR or percentage change).**
12. **Which company had the highest average revenue over the past 3 years? D  
    Approach: For each company in your dataset, compute average revenue using their total\_net\_sales over the last 3 available years. Compare and return the company with the highest average.**
13. **What is the year-over-year growth rate in revenue for [Company]?** D  
    **Approach**: Extract total\_net\_sales for at least two consecutive years and calculate the growth rate.
14. **Which company had the largest drop in net income between any two consecutive years?** D  
    **Approach**: For each company, calculate differences in net\_income between all consecutive years. Track the largest negative delta and return the company and years.
15. **Which companies consistently outperformed the average revenue across all companies for the same year?** D  
    **Approach**: For each year:

* Calculate the average total\_net\_sales across all companies.
* Identify companies with sales above the average.
* Find companies that did this **for every year they appear** in the dataset.

1. **What will be [Company]’s projected net income for next year? D**

**Method:**

* Use historical net income over past **3–5 years**
* Apply **time series forecasting** (e.g., ARIMA, linear regression, exponential smoothing)

1. **Based on historical trends, when is [Company] likely to surpass $X in annual revenue? D**

Method:

* Fit a regression model or exponential curve to revenue over time
* Predict when the curve intersects or exceeds threshold $X
* Return estimated year

1. **Predict which companies are likely to report a decline in net income next year. D**

**Method:**

* For each company, train a classification model (e.g., logistic regression, random forest)
* Use features like:

Previous net income/revenue

YoY growth rates

Margins

R&D and SG&A proportions

* Predict decline (yes/no) for next year

1. **Is [Company]’s revenue growth rate above or below the industry average over the past 3 years? D**

**Method:**

* Compute year-over-year growth rates for the company and all other companies
* Calculate the industry average (all companies in dataset)
* Compare against target company’s average growth rate

1. **Which companies show the strongest correlation between marketing expenses and revenue over time? D**

**Method:**

* For each company, extract revenue and SG&A (or Sales & Marketing) for ≥3 years
* Use Pearson correlation or regression R² to measure relationship strength
* Rank companies by strength of correlation

1. **Based on 3-year trends, what companies are outperforming peers in terms of both growth and margin improvement? D**

**Purpose: Identify top-performing companies holistically.**

**Method:**

For each company:

* Compute 3-year CAGR of revenue
* Compute 3-year change in profit margin
* Plot on a 2D scatter plot:
* X-axis: Revenue CAGR
* Y-axis: Profit Margin Delta
* Identify companies in the top-right quadrant (high growth + margin improvement)
* Can be used to flag outperformers or investment candidates

1. **How has [Company]'s efficiency changed over time in converting assets into revenue (Asset Turnover Ratio)? D**

**Purpose: Measure operational efficiency trends.**

**Method:**

* Compute Asset Turnover:
* Asset Turnover=Total Assets/Revenue​
* Plot over multiple years
* Use trendline or moving average to assess improvement or decline
* Compare across companies or industries

1. **Can we predict a company’s future capital expenditures based on its revenue growth and past investment behavior? D**

**Purpose: Support strategic planning and capex forecasting.**

**Method:**

* Use past data: CapEx, Revenue, Revenue Growth, Operating Income, etc.
* Train regression model (linear, SVR, or XGBoost) to predict next year’s CapEx
* Apply across companies or test on unseen future years Based on historical patterns.

1. **Based on historical patterns, how long does it take a company to double its revenue? D**

**Purpose: Strategic planning / valuation insight.**

**Method:**

* From revenue time series, detect how many years it takes for revenue to grow from X to 2X
* Apply this across all companies
* Visualize distribution (e.g., histogram of "doubling time")
* Can be used to group companies by growth velocity (fast vs. slow growers)

1. **Based on current trends, when will a company’s liabilities exceed its assets (if ever)? D**

**Purpose: Identify potential insolvency risk before it happens.**

**Method:**

* Build time series for:

Total Assets

Total Liabilities

* Fit regression or trendline models
* Project future values and predict crossover year, if any
* Flag companies nearing risk threshold

1. What are the primary revenue streams for the company, and how have they evolved over the past three years?

10-K (Business, MD&A, Financial Statements)

1. How diversified is the company's customer base according to the latest 10-K?

10-K (Business, Risk Factors)

1. Identify the main competitors mentioned in the 10-K and explain the competitive landscape.

10-K (Business, Risk Factors, Competition) + LLM World Knowledge

1. How does the company describe its growth strategy and future objectives?

10-K (Business, MD&A, Forward-Looking Statements)

1. What major risks or uncertainties did the company highlight, and how significant are these compared to industry standards?

10-K (Risk Factors) + LLM World Knowledge

1. Does the company face any notable regulatory challenges, based on recent market trends and information provided?

10-K (Risk Factors, Legal Proceedings) + LLM World Knowledge

1. What is the trend of the company's net income over the last five fiscal years?

10-K (Selected Financial Data, Financial Statements)

1. How does the company's EBITDA margin compare with the industry average?

10-K (Financial Statements) + LLM World Knowledge

1. Describe any unusual or significant changes in operating expenses highlighted in the 10-K.

10-K (MD&A, Financial Statements)

1. Based on current financials and market conditions, what insights can be derived about the company's valuation?

10-K (Financial Statements) + LLM World Knowledge

1. What major capital expenditures did the company undertake, and what could be their long-term impacts?

10-K (MD&A, Cash Flow Statements)

1. Can you identify and discuss the company’s current dividend policy or share repurchase strategies?

10-K (MD&A, Shareholder Matters)

1. How effective has the company been at managing inventory and accounts receivable compared to peers?

10-K (Financial Statements) + LLM World Knowledge

1. Are there any management changes or board restructuring plans mentioned, and what could be their impact?

10-K (Executive Management, Governance)

1. Did the company experience disruptions in its supply chain, and how does this compare to the broader industry situation?

10-K (Risk Factors, Business) + LLM World Knowledge

1. What ESG initiatives or sustainability practices has the company emphasized in the 10-K?

10-K (Business, ESG sections)

1. Has the company faced any ESG-related controversies or litigations recently?

10-K (Legal Proceedings, Risk Factors) + LLM World Knowledge

1. Describe how the company's governance structure aligns with best practices within its industry.

10-K (Governance, Proxy Statements) + LLM World Knowledge

1. What is the company's current debt-to-equity ratio, and how sustainable is its debt level?

10-K (Balance Sheet) + LLM World Knowledge

1. Has the company recently refinanced or restructured its debt, and if so, what are the implications?

10-K (Financial Statements, MD&A)

1. How have recent technological advancements in the industry affected the company's operations?

10-K (Business, Risk Factors) + LLM World Knowledge

1. Does the company explicitly mention emerging industry trends or technologies they're investing in?

10-K (Business, Forward-Looking Statements)

1. What significant patents or intellectual property assets does the company own or has recently acquired?

10-K (Business, Intellectual Property)

1. Describe the company's investment in R&D compared to industry benchmarks.

10-K (Financial Statements) + LLM World Knowledge

1. How does the company position its brand in the marketplace, based on information from the 10-K and broader market knowledge?

10-K (Business) + LLM World Knowledge

1. Did the company undergo any rebranding or significant marketing shifts according to its disclosures?

10-K (Business, MD&A)

1. How sensitive is the company to macroeconomic conditions, such as inflation, interest rate changes, or currency fluctuations?

10-K (Risk Factors, MD&A) + LLM World Knowledge

1. Has the company described any direct impacts from global geopolitical events or economic shifts?

10-K (Risk Factors, MD&A)

1. Based on current financials and market conditions, what are plausible growth scenarios for the company over the next three years?

10-K (Forward-Looking Statements, MD&A) + LLM World Knowledge

1. What forward-looking statements or future commitments did the company emphasize in the latest 10-K, and how realistic are these in the context of current market conditions?

10-K (Forward-Looking Statements) + LLM World Knowledge

| **#** | **Query for Embedding** | **AAPL (Item, Pages)** | **MSFT (Item, Pages)** | **AMZN (Item, Pages)** |
| --- | --- | --- | --- | --- |
| 1 | Describe company's main sources of revenue and changes over three years from Business, MD&A, Financial Statements. | Item 1 (1–7), Item 7 (22–36), Item 8 (38–72) | Item 1 (3–7), Item 7 (23–35), Item 8 (36–71) | Item 1 (3–6), Item 7 (19–32), Item 8 (34–71) |
| 2 | Describe customer base diversification from Business, Risk Factors. | Item 1 (1–7), Item 1A (8–16) | Item 1 (3–7), Item 1A (8–16) | Item 1 (3–6), Item 1A (6–15) |
| 3 | List main competitors and describe competition from Business, Risk Factors. | Item 1 (1–7), Item 1A (8–16) | Item 1 (3–7), Item 1A (8–16) | Item 1 (3–6), Item 1A (6–15) |
| 4 | Summarize company's growth strategy and future objectives from Business, MD&A, Forward-Looking Statements. | Item 1 (1–7), Item 7 (22–36), Fwd-Looking (page 2) | Item 1 (3–7), Item 7 (23–35), Fwd-Looking (page 1) | Item 1 (3–6), Item 7 (19–32), Fwd-Looking (page 3) |
| 5 | Identify major risks and compare to industry standards from Risk Factors, LLM Knowledge. | Item 1A (8–16) | Item 1A (8–16) | Item 1A (6–15) |

| **#** | **Query for Embedding** | **AAPL (Item, Pages)** | **MSFT (Item, Pages)** | **AMZN (Item, Pages)** |
| --- | --- | --- | --- | --- |
| 6 | Describe regulatory challenges from Risk Factors, Legal Proceedings. | Item 1A (8–16), Item 3 (17) | Item 1A (8–16), Item 3 (17) | Item 1A (6–15), Item 3 (16) |
| 7 | Analyze net income trend over five years from Selected Financial Data, Financial Statements. | Item 6 (21), Item 8 (38–72) | Item 6 (21), Item 8 (36–71) | Item 6 (18), Item 8 (34–71) |
| 8 | Evaluate company's EBITDA margin versus industry based on Financial Statements. | Item 7 (22–36), Item 8 (38–72) | Item 7 (23–35), Item 8 (36–71) | Item 7 (19–32), Item 8 (34–71) |
| 9 | Describe unusual operating expense changes from MD&A, Financial Statements. | Item 7 (22–36), Item 8 (38–72) | Item 7 (23–35), Item 8 (36–71) | Item 7 (19–32), Item 8 (34–71) |
| 10 | Summarize valuation insights based on current financials and market conditions. | Item 7 (22–36), Item 8 (38–72) | Item 7 (23–35), Item 8 (36–71) | Item 7 (19–32), Item 8 (34–71) |

| **#** | **Query for Embedding** | **AAPL (Item, Pages)** | **MSFT (Item, Pages)** | **AMZN (Item, Pages)** |
| --- | --- | --- | --- | --- |
| 11 | Describe major capital expenditures and long-term impacts from MD&A, Cash Flows. | Item 7 (22–36), Item 8 (38–72) | Item 7 (23–35), Item 8 (36–71) | Item 7 (19–32), Item 8 (34–71) |
| 12 | Summarize dividend policy and share repurchase programs from MD&A, Shareholder Matters. | Item 7 (22–36), Item 5 (18) | Item 7 (23–35), Item 5 (18) | Item 7 (19–32), Item 5 (17) |
| 13 | Analyze inventory and receivables management based on Financial Statements. | Item 8 (38–72) | Item 8 (36–71) | Item 8 (34–71) |
| 14 | Identify management or board changes and their impact. | Item 10 (73) | Item 10 (73) | Item 10 (73) |
| 15 | Analyze supply chain disruptions versus industry trends. | Item 1 (1–7), Item 1A (8–16) | Item 1 (3–7), Item 1A (8–16) | Item 1 (3–6), Item 1A (6–15) |

| **#** | **Query for Embedding** | **AAPL (Item, Pages)** | **MSFT (Item, Pages)** | **AMZN (Item, Pages)** |
| --- | --- | --- | --- | --- |
| 16 | Summarize ESG initiatives and sustainability practices. | Item 1 (1–7) | Item 1 (3–7) | Item 1 (3–6) |
| 17 | Identify ESG-related controversies or litigations. | Item 1A (8–16), Item 3 (17) | Item 1A (8–16), Item 3 (17) | Item 1A (6–15), Item 3 (16) |
| 18 | Describe governance structure and alignment with best practices. | Item 10 (73) | Item 10 (73) | Item 10 (73) |
| 19 | Calculate debt-to-equity ratio and assess sustainability. | Item 8 (38–72) | Item 8 (36–71) | Item 8 (34–71) |
| 20 | Summarize debt refinancing activities and implications. | Item 7 (22–36), Item 8 (38–72) | Item 7 (23–35), Item 8 (36–71) | Item 7 (19–32), Item 8 (34–71) |

| **#** | **Query for Embedding** | **AAPL (Item, Pages)** | **MSFT (Item, Pages)** | **AMZN (Item, Pages)** |
| --- | --- | --- | --- | --- |
| 21 | Analyze impact of technological advancements on operations. | Item 1 (1–7), Item 1A (8–16) | Item 1 (3–7), Item 1A (8–16) | Item 1 (3–6), Item 1A (6–15) |
| 22 | Identify emerging trends and technologies company is investing in. | Item 1 (1–7), Fwd-Looking (2) | Item 1 (3–7), Fwd-Looking (1) | Item 1 (3–6), Fwd-Looking (3) |
| 23 | Summarize major patents and IP assets. | Item 1 (1–7) | Item 1 (3–7) | Item 1 (3–6) |
| 24 | Describe R&D investment relative to industry benchmarks. | Item 7 (22–36), Item 8 (38–72) | Item 7 (23–35), Item 8 (36–71) | Item 7 (19–32), Item 8 (34–71) |
| 25 | Analyze brand positioning strategy. | Item 1 (1–7) | Item 1 (3–7) | Item 1 (3–6) |

| **#** | **Query for Embedding** | **AAPL (Item, Pages)** | **MSFT (Item, Pages)** | **AMZN (Item, Pages)** |
| --- | --- | --- | --- | --- |
| 26 | Identify rebranding or major marketing shifts. | Item 1 (1–7), Item 7 (22–36) | Item 1 (3–7), Item 7 (23–35) | Item 1 (3–6), Item 7 (19–32) |
| 27 | Analyze sensitivity to macroeconomic conditions. | Item 1A (8–16), Item 7 (22–36) | Item 1A (8–16), Item 7 (23–35) | Item 1A (6–15), Item 7 (19–32) |
| 28 | Analyze direct impacts from geopolitical events. | Item 1A (8–16), Item 7 (22–36) | Item 1A (8–16), Item 7 (23–35) | Item 1A (6–15), Item 7 (19–32) |
| 29 | Outline plausible growth scenarios for the next three years. | Fwd-Looking (2), Item 7 (22–36) | Fwd-Looking (1), Item 7 (23–35) | Fwd-Looking (3), Item 7 (19–32) |
| 30 | Summarize key forward-looking statements and commitments. | Fwd-Looking (2), Item 7 (22–36) | Fwd-Looking (1), Item 7 (23–35) | Fwd-Looking (3), Item 7 (19–32) |