

Lecture 9

DD 324:
Data Visualisation

Schematic Maps

GYAN LAKHWANI

Total No. of Pages: 02

Roll no.....

VI SEMESTER
B.DES

MID TERM EXAMINATION
COURSE CODE: DD 324
COURSE TITLE: DATA VISUALISATION

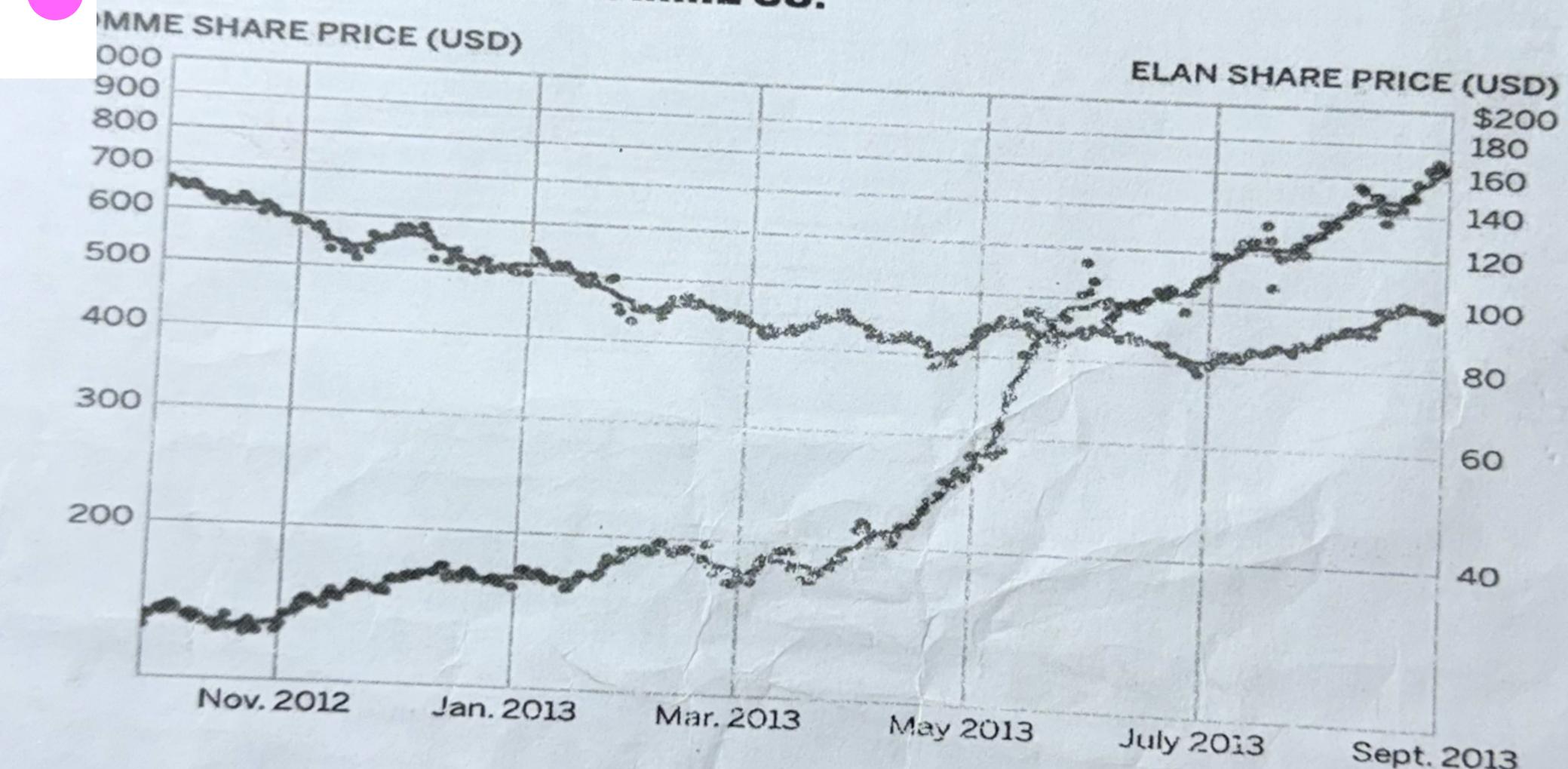
March-2025

Max. Marks: 20 Marks

Nobody passed the midsem exam.

I. Critique this visualisation for the stock prices of two companies, Elan Inc. And Pomme Co. How could you redesign the chart to be clearer to read and understand? Support your redesign with a sketch.

ELAN INC. OVERTAKES POMME CO.



Q 2. Give 3 examples of visual channels. If you could only use one visual channel for the rest of your career as a [6 Marks]
data visualizer, which would you choose and why?

Q 3. The safety department of a furniture manufacturing company with 1000 employees has been working hard [6 Marks]
to reduce workplace accidents. 20 workers were involved in a workplace accident in 2022, 10 in 2023 and 5 in
2024. Design a poster to show how safe the workplace is.

JK.

Happy April Fools
to all who celebrate



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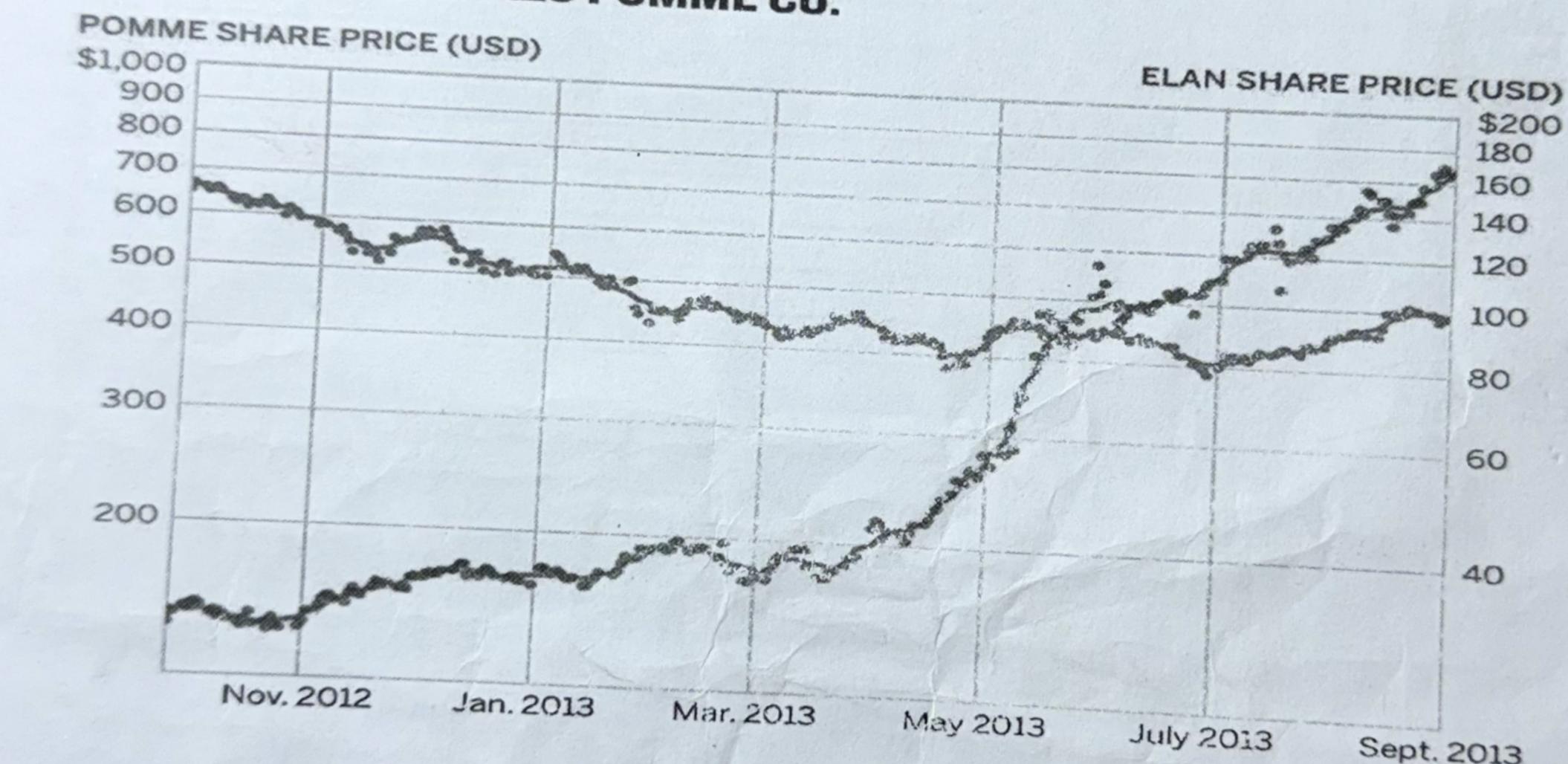
Most of you did
pretty well.

compulsory.
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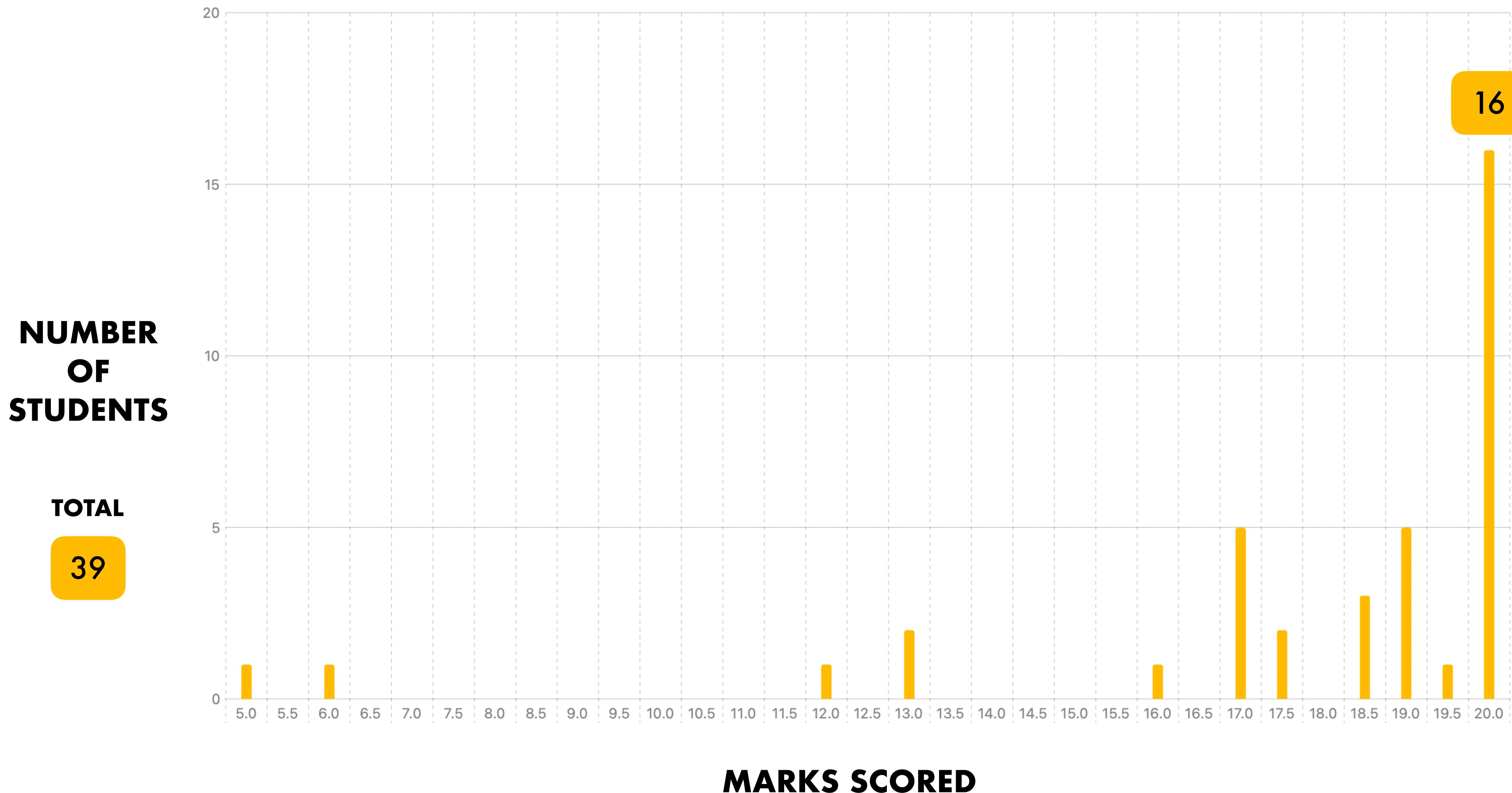
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MIDSEM EXAM (WRITTEN) MARKS FOR THE CLASS



Midsem paper

Mid Sem - DD324 - Data Visualisation Open with Microsoft Word

Total no. of pages: 01 Roll No:

6th SEM
MDES

MID TERM EXAMINATION
COURSE CODE: DD324
Course Title: Data Visualisation
Time: 1:30 Hours Max. Marks: 20

Note: All Questions are compulsory.

- Attempt the answers on the 2nos of A3 sheet provided.
- Answer Booklet not required.
- Any charts you draw don't need to be to scale, and can be drawn freehand.

Q.1: [6]
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ELAN INC. OVERTAKES POMME CO.

POMME SHARE PRICE (USD) ELAN SHARE PRICE (USD)

Nov. 2012 Jan. 2013 Mar. 2013 May 2013 July 2013 Sept. 2013

Q.2: [6]
Give 3 examples of visual channels. If you could only use one visual channel for the rest of your career as a data visualizer, which would you choose and why?

This chart did
not have a great
time getting
printed

Midsem paper

Mid Sem - DD324 - Data Visualisation

Total no. of pages: 01

Roll No:

6th SEM
MDES

MID TERM EXAMINATION
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Course Title: Data Visualisation

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POMME SHARE PRICE (USD)

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March-2025

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POMME SHARE PRICE (USD)

ELAN SHARE PRICE (USD)

Nov. 2012 Jan. 2013 Mar. 2013 May 2013 July 2013 Sept. 2013

[6 Marks]

Q 2. Give 3 examples of visual channels. If you could only use one visual channel for the rest of your career as a data visualizer, which would you choose and why?

[6 Marks]

Q 3. The safety department of a furniture manufacturing company with 1000 employees has been working hard to reduce workplace accidents. 20 workers were involved in a workplace accident in 2022, 10 in 2023 and 5 in 2024. Design a poster to show how safe the workplace is.

[6 Marks]

Q 4. Draw a self-portrait using only data visualization elements (pie charts, bar graphs, scatter plots, etc.). Interpret this any way you want.

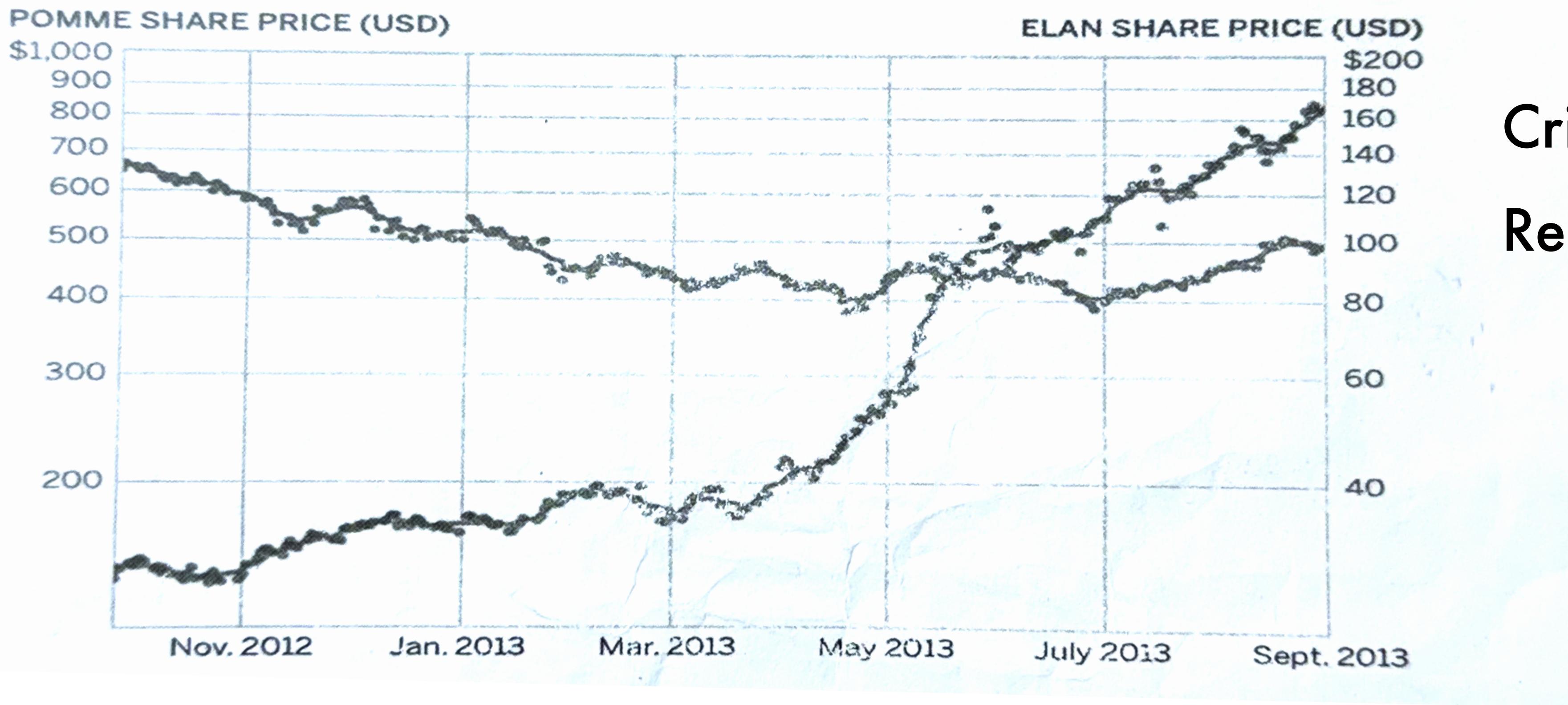
[2 Marks]

-END-

Question 1

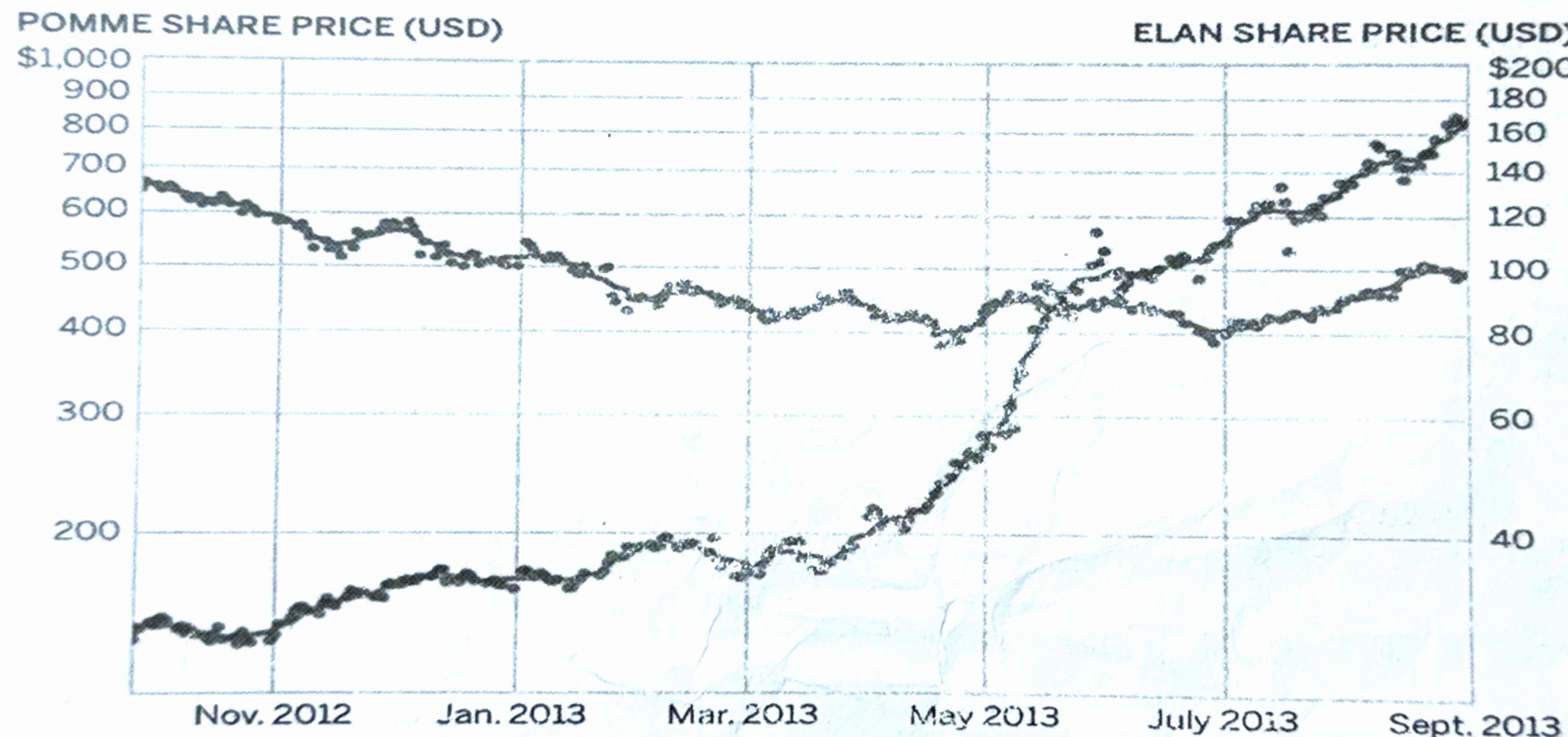
Q 1. Critique this visualisation for the stock prices of two companies, Elan Inc. And Pomme Co. How could you redesign the chart to be clearer to read and understand? Support your redesign with a sketch.

ELAN INC. OVERTAKES POMME CO.



Critique [3 marks]
Redesign [3 marks]

ELAN INC. OVERTAKES POMME CO.



- Title says Elan overtakes Pomme, but this doesn't actually happen.
- Different scales for both stocks
- Scale is non-linear (logarithmic) which is harder to understand than linear for this type of data
- No legend/color coding, unclear which line is for which stock.
- May-July area is confusing and line continuity could be either way.
- Both dots and lines used, unclear why.

Redesign - if you changed at least 3 of the following things:

- Changed axis scale to linear
- Converted points to use single scale
- Added color coding/legend for lines
- Changed chart to line only or some other type

Marks and Channels

Question 2

Q 2. Give 3 examples of visual channels. If you could only use one visual channel for the rest of your career as a data visualizer, which would you choose and why? [6 Marks]

**Any 3 valid examples of channels are accepted.
[3 marks]**

**Any reasons for picking a channel are accepted.
[3 marks]**

A handful of people gave examples of types of charts. Charts are not the same as channels.

Marks

Marks are the basic geometries, or graphical elements, in a plot that depict our data items or their linkages.

- Points
- Lines
- Area
- Volume
- Containment
- Connection

Channels

Channels are the attributes of that control how the marks appear. Channels are used to encode (or indicate) the values or meaning of our data.

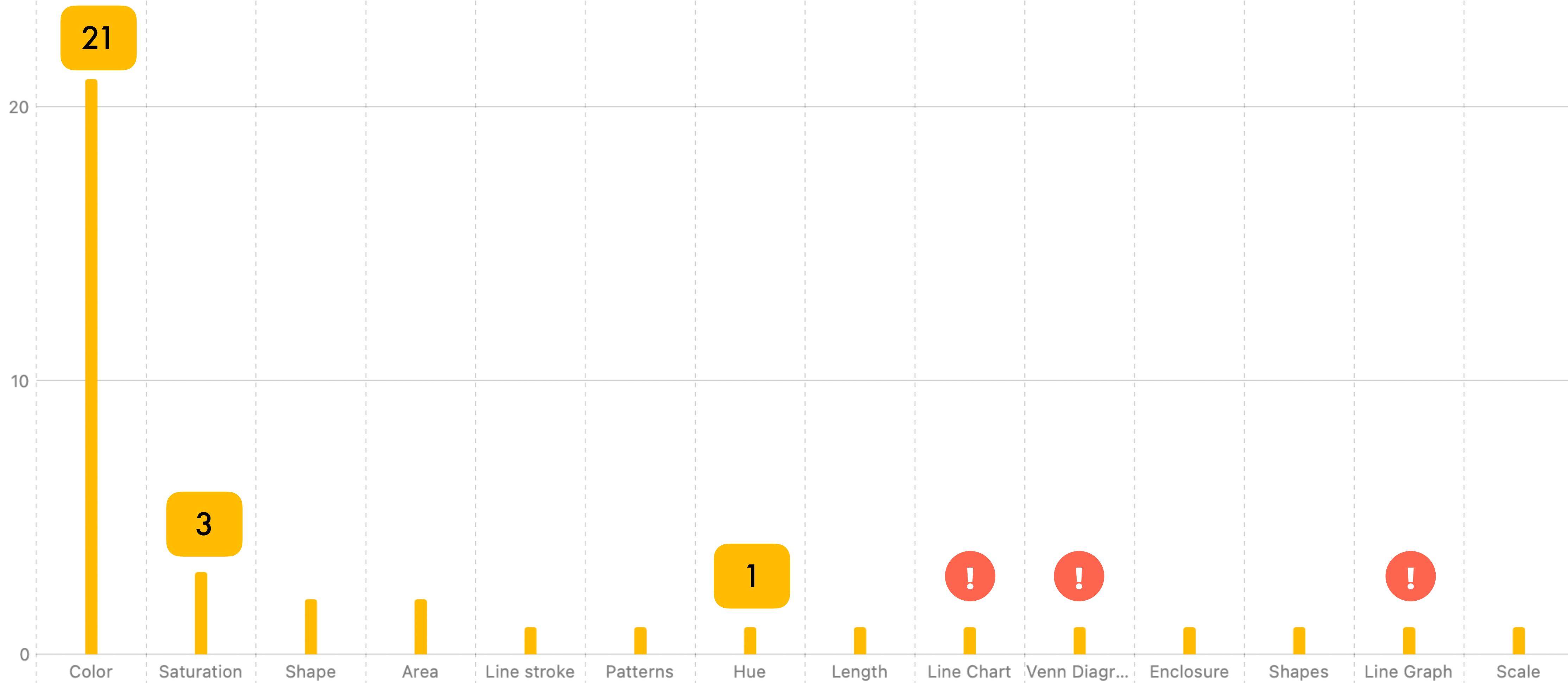
Identity Channels: Categorical Attributes

- Spatial Region
- Color Hue
- Motion
- Shape

Magnitude Channels: Ordered Attributes

- Position on common scale
- Position on unaligned scale
- Length (1D size)
- Tilt/angle
- Area (2D size)

If you had to pick only one visual channel for the rest of your career...



Question 3

[6 Marks]

Q 3. The safety department of a furniture manufacturing company with 1000 employees has been working hard to reduce workplace accidents. 20 workers were involved in a workplace accident in 2022, 10 in 2023 and 5 in 2024. Design a poster to show how safe the workplace is.

[16 Marks]

Any poster that makes the point that the workplace is safe, and uses the data in some way is ok.

Would be nice to see 98% accident free -> 99% accident free -> 99.5% accident free or some other interesting visual treatment.

Question 4

Q 4. Draw a self-portrait using only data visualization elements (pie charts, bar graphs, scatter plots, etc.). Interpret this any way you want.

[2 Marks]

There was no wrong way to attempt this question.

If you attempted this question you got 2 marks.

WHY MAKE MAPS?

What is around me?

WHY MAKE MAPS?

How do I get from here to there?

WHY MAKE MAPS?

What is around me?

Administrative reasons: how can I control an area if I don't know what the area is?



WHY MAKE MAPS?

What is around me?

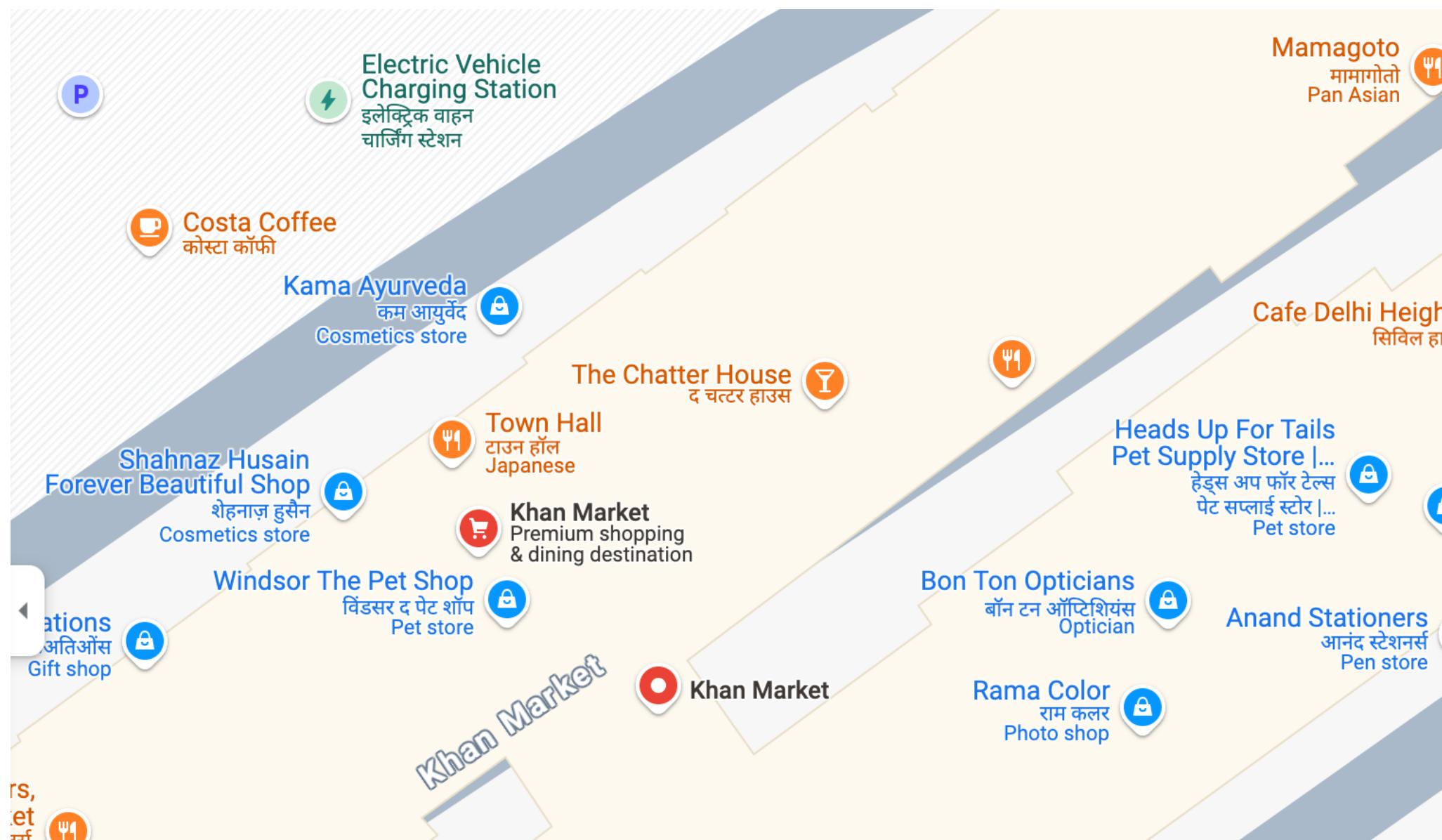
Financial reasons: someone will usually only put in the effort if there is a financial reason to map an area.

WHY MAKE MAPS?

What is around me?

Financial reasons: someone will usually only put in the effort if there is a financial reason to map an area.

KHAN MARKET

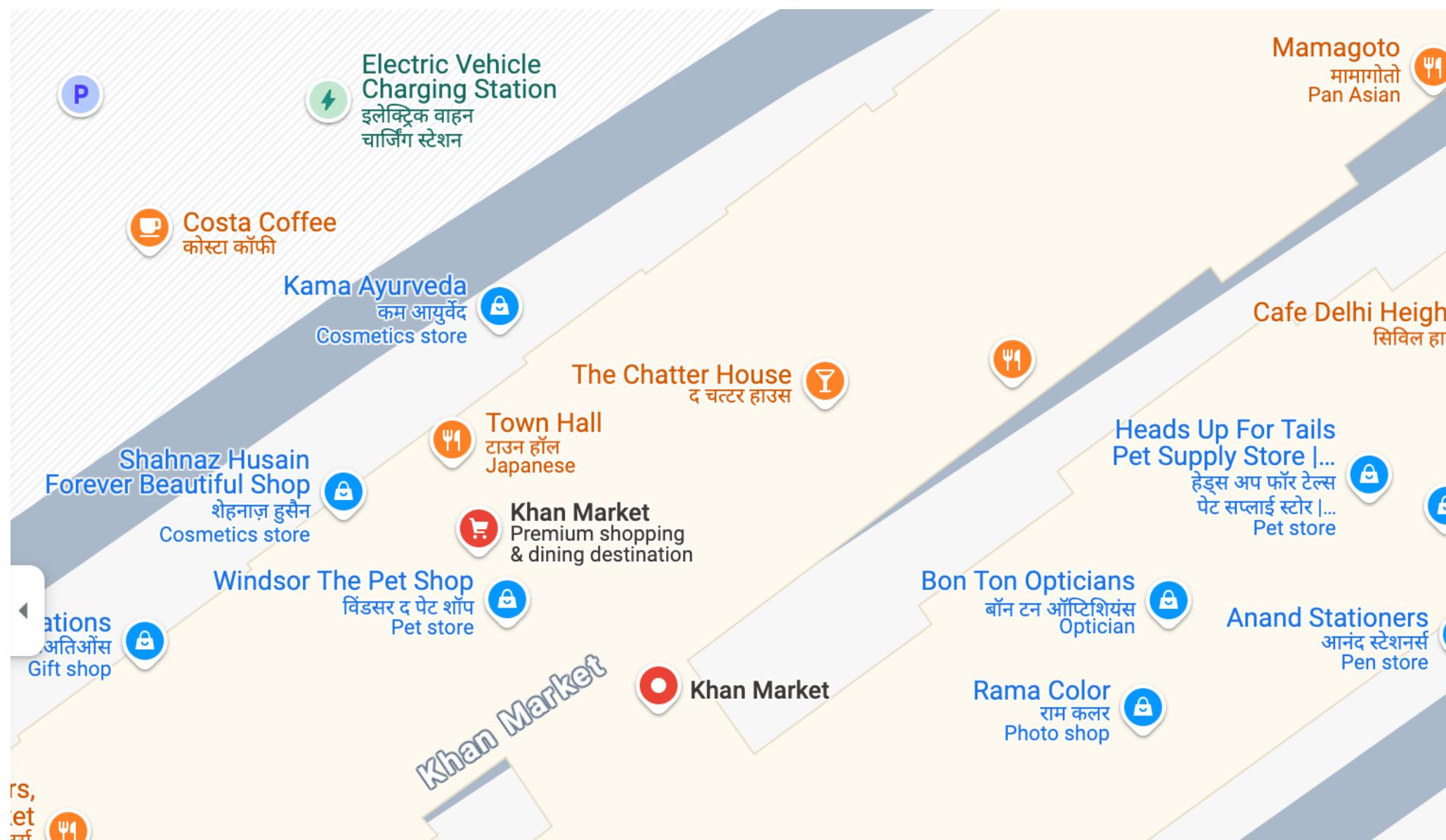


WHY MAKE MAPS?

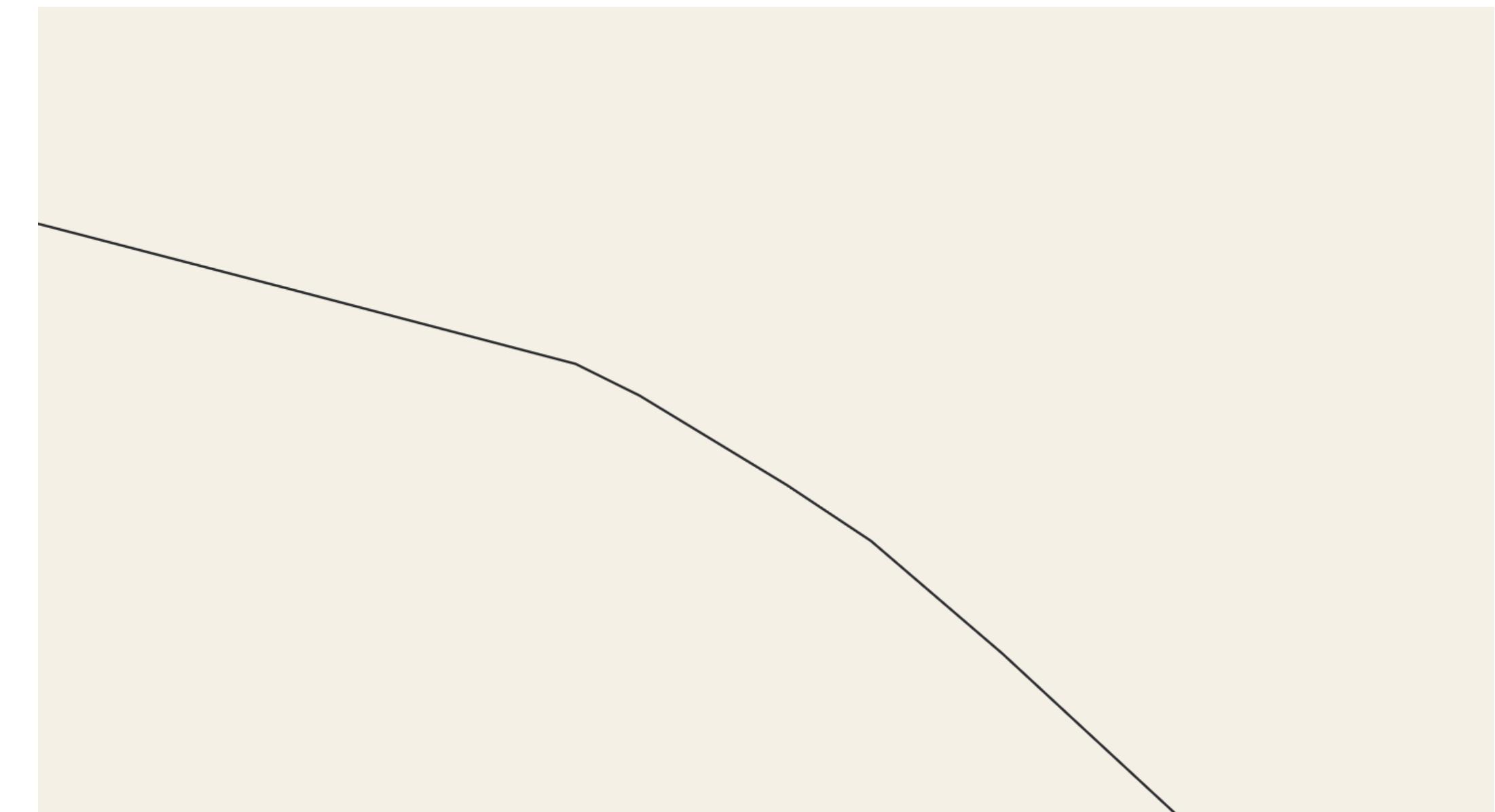
What is around me?

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KHAN MARKET



SAHARA DESERT



WHY MAKE MAPS?

Map making can also be used to convey complex data and information in a clear and concise way, making it a valuable tool in fields such as geography, environmental science, and urban planning.

Maps for exploratory/explanatory visualisations

WHY MAKE MAPS?

Map making can also be used to convey complex data and information in a clear and concise way, making it a valuable tool in fields such as geography, environmental science, and urban planning.

WHY MAKE MAPS?

Maps can support decision-making in areas such as travel planning and urban development.

WHY MAKE MAPS?

Map making provides a visual representation of an area, allowing people to better understand and navigate the landscape.

WHY MAKE MAPS?

**They also offer a creative outlet for artists and designers
to explore different visual styles and techniques.**

*Do we always need to
make 'accurate' maps?*

*Do we always need to
make 'accurate' maps?*

What does accurate even mean?



Station Guides, 1948, XX.2014.6.9; New York Transit Museum Collection.



Station Guides, 1948, XX.2014.6.10; New York Transit Museum Collection.



Station Guides, 1948, XX.2014.6.11; New York Transit Museum Collection.

“The subway system has now reached a point where only an expert can find his way around it.”

– George Salomon, Graphic Designer, 1957



Massimo Vignelli's redesigned map of the New York subway



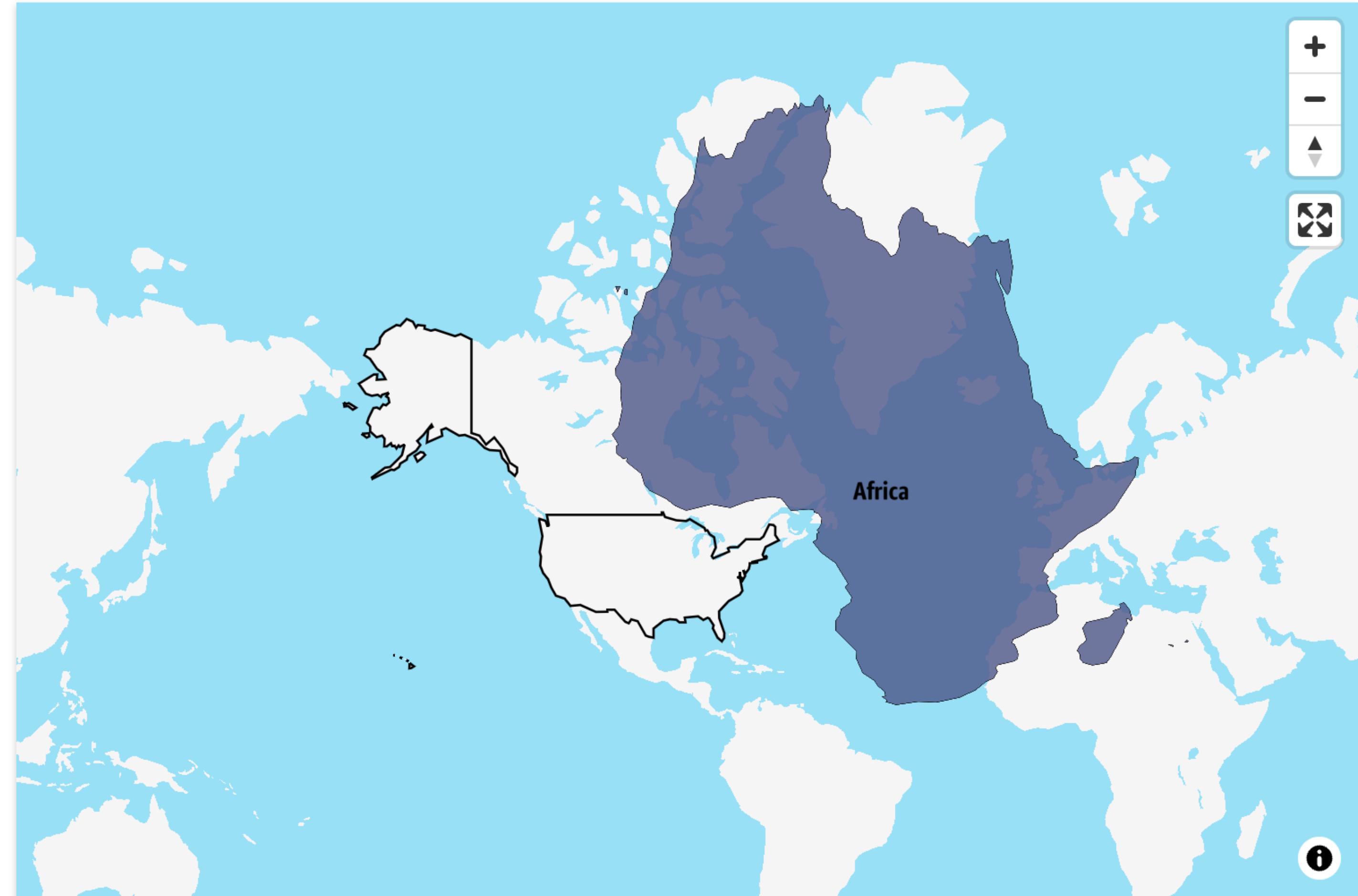
*Even map
Projections
always have
tradeoffs.*

United States is about 3.1 times *smaller* than Africa.

Africa is approximately 30,365,000 sq km, while United States is approximately 9,833,517 sq km, making United States **32.38% the size of** Africa. We have positioned the outline of Africa near the middle of United States.

MAP VIEW

GLOBE VIEW



Exercise - Schematic Maps

The screenshot shows a web browser window with the URL gyanl.com in the address bar. The page content is as follows:

Data Visualization [About](#) [Syllabus](#)

Exercise - Schematic Maps

Credits

This exercise is based on Rasagy's Schematic Map exercise. You can watch his Outlier 2022 talk [Scheming Against Accurate Maps](#) on Youtube and check out [Map School](#) on GitHub.

Step 1 - Where, who, why?

Think of a map that you would like to make. You can make a map of your hometown, the locality you grew up in, the city you live in now, or something else. Try adding one more angle to this map - is it a map of quiet places in Delhi? What to see in Hyderabad if you're only there for a day?

Step 2 - Mental Model

Without looking at an actual map, start sketching on pen and paper out what you remember about the area. You can mark out places of interest,