భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

Biostatistics BT2023

Lecture 7

Himanshu Joshi
23 August 2022

Quiz

Q1 **Corrected mean**
The mean of 25 values was found to be 78.4 But it turns out that 97 was misread as 79 and 25 was misread 52, find the correct mean

Q2 **bar plot**
Consider the following outcome from the role of dice
6 6 1 5 3 1 4 2 6 4 2 2 5 6 1 3 5 2 1 6
Draw a bar plot with axis tables

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Partition values
Quartiles, Decile and Percentile

Partition values are not averages but it helps in understanding the series.

Quartile	4 equal parts
Decile	10 equal parts
Percentile	100 equal parts

$$\frac{N+1}{4}^{th} term \qquad \frac{N+1}{2}^{th} term \qquad 3 \times \frac{N+1}{4}^{th}$$

$$Avg[\frac{N}{2}]^{th}[\frac{N}{2}+1]^{th} term$$

Quartiles

Quartiles for individual series

13, 14 , 7, 8, 10, 6, 15, 17, 18, 20, 21

Quartiles for discrete frequency distribution

Size:	14	15	16	17	18	19	20	21	22	23
Frequency	2	2	6	18	31	22	15	31	6	3

Decile

$$D_k = k(\frac{n+1}{10})^{th}term$$

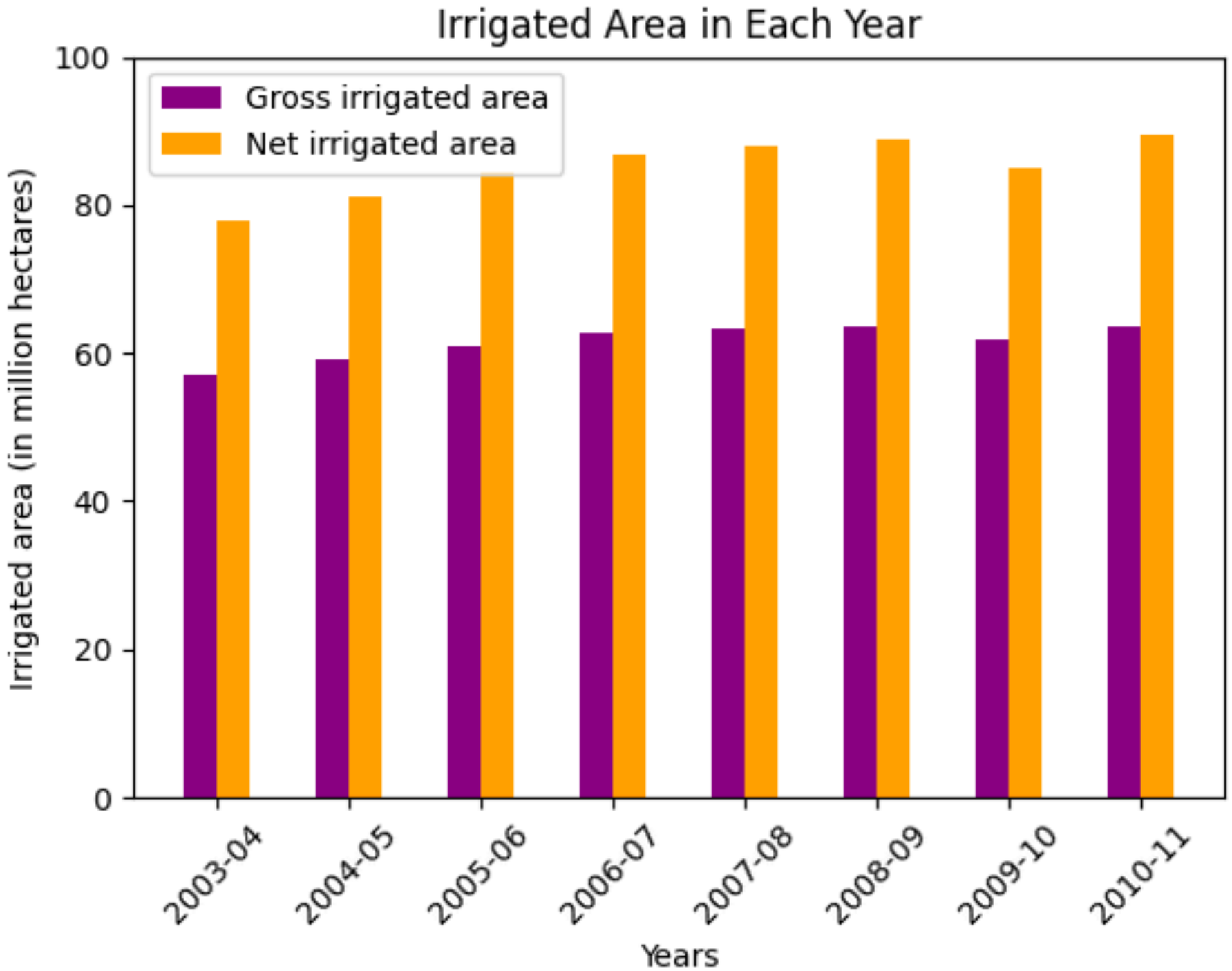
Percentile

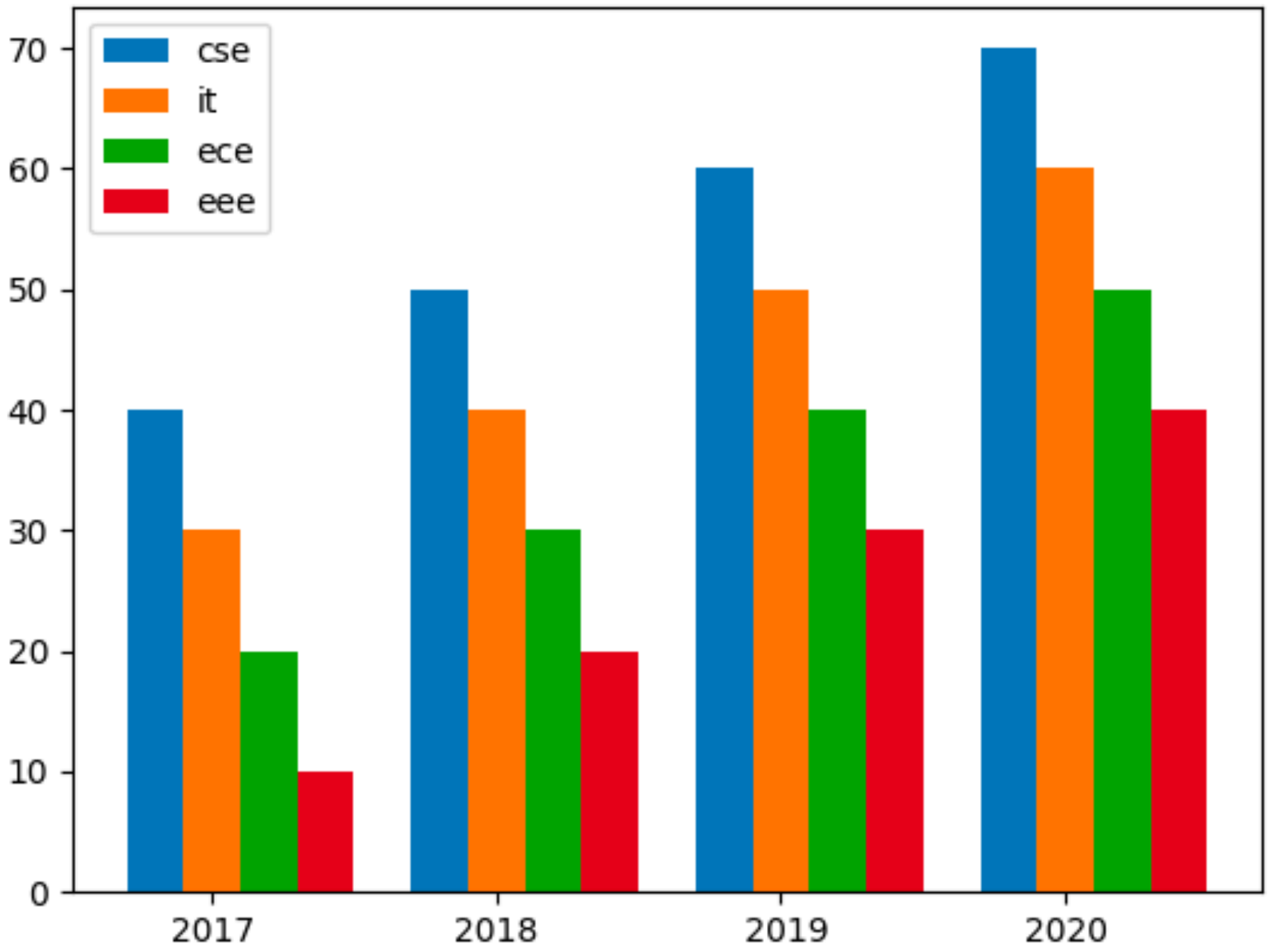
$$P_k = k(\frac{n+1}{100})^{th}term$$

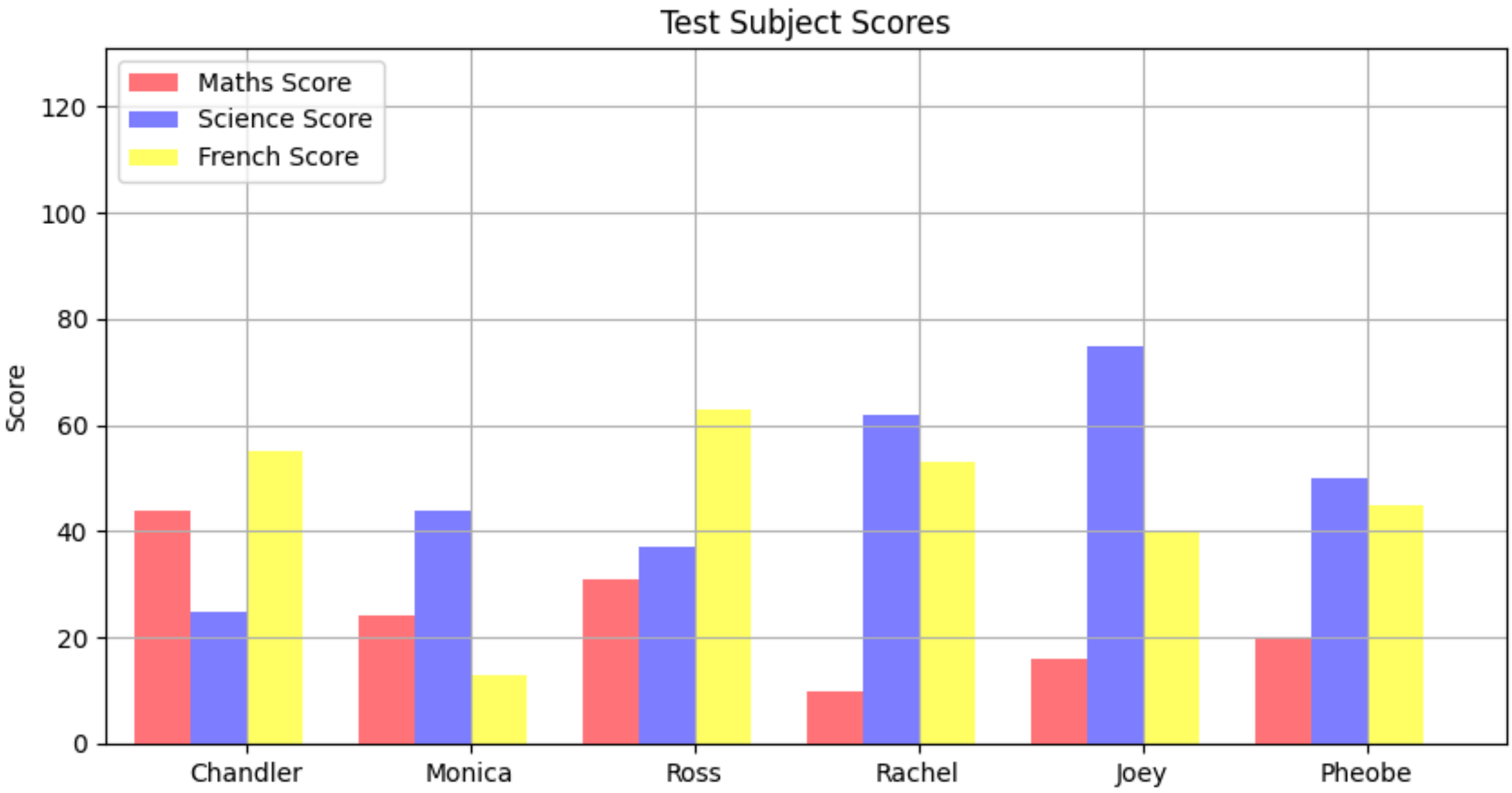
Measurement of dispersion

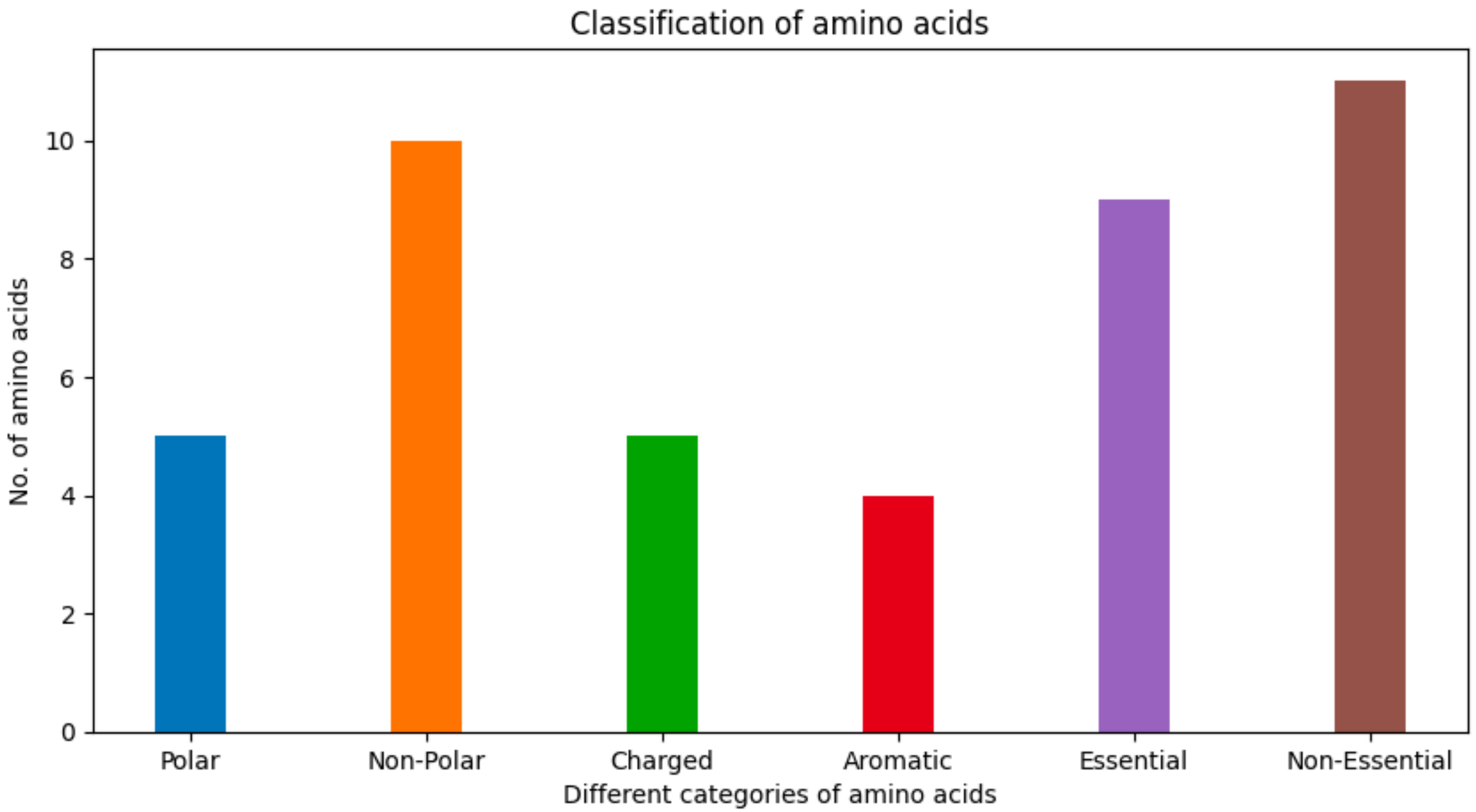
$$\sigma = \frac{\sqrt{\sum (x - \bar{x})^2}}{n}$$

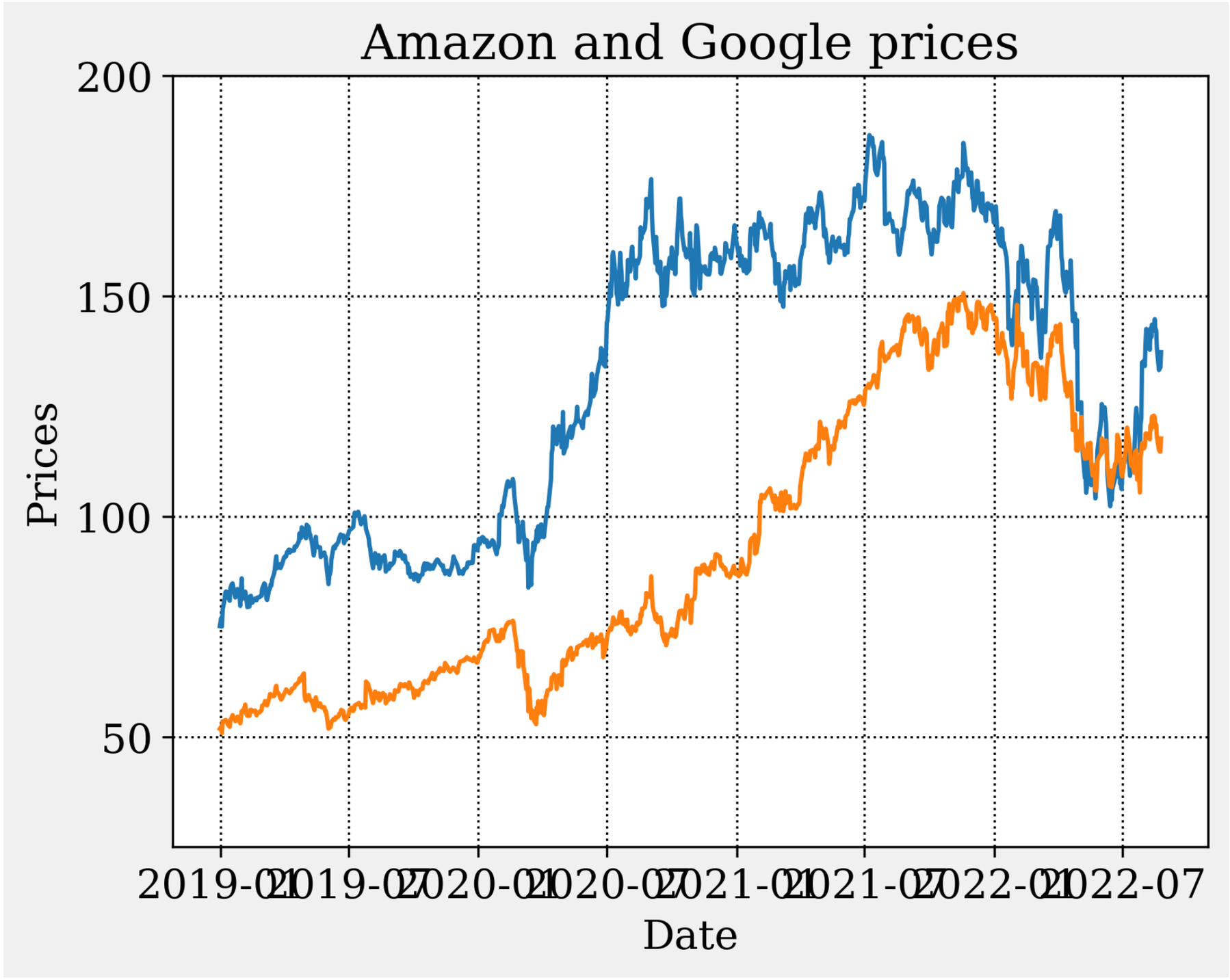
Coefficient of standard deviation $\frac{\sigma}{\bar{x}}$

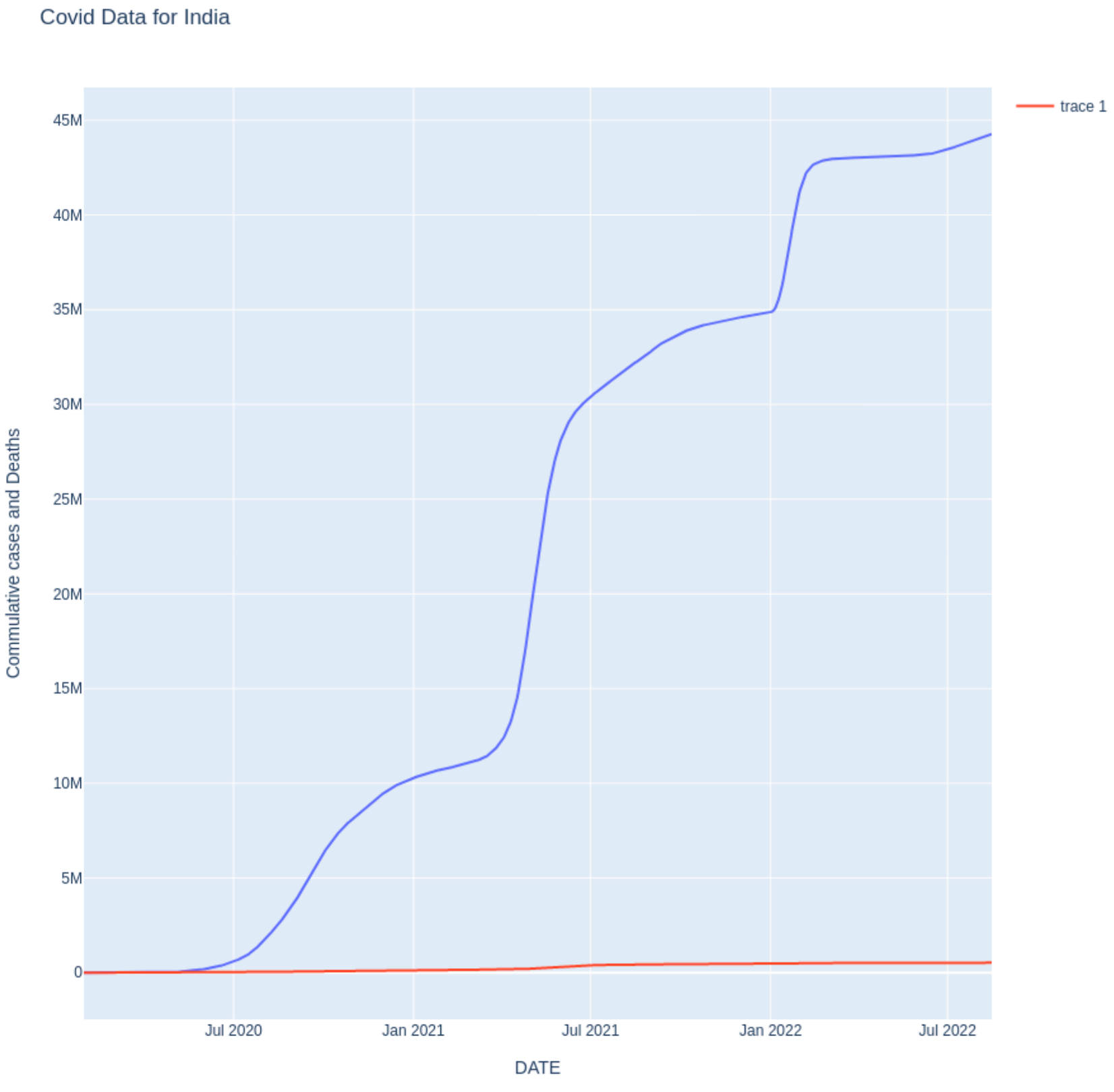

Irrigated Area in Each Year
Gross irrigated area
Net irrigated area
Irrigated area (in million hectares)
0
20
40
60
80
100
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
Years

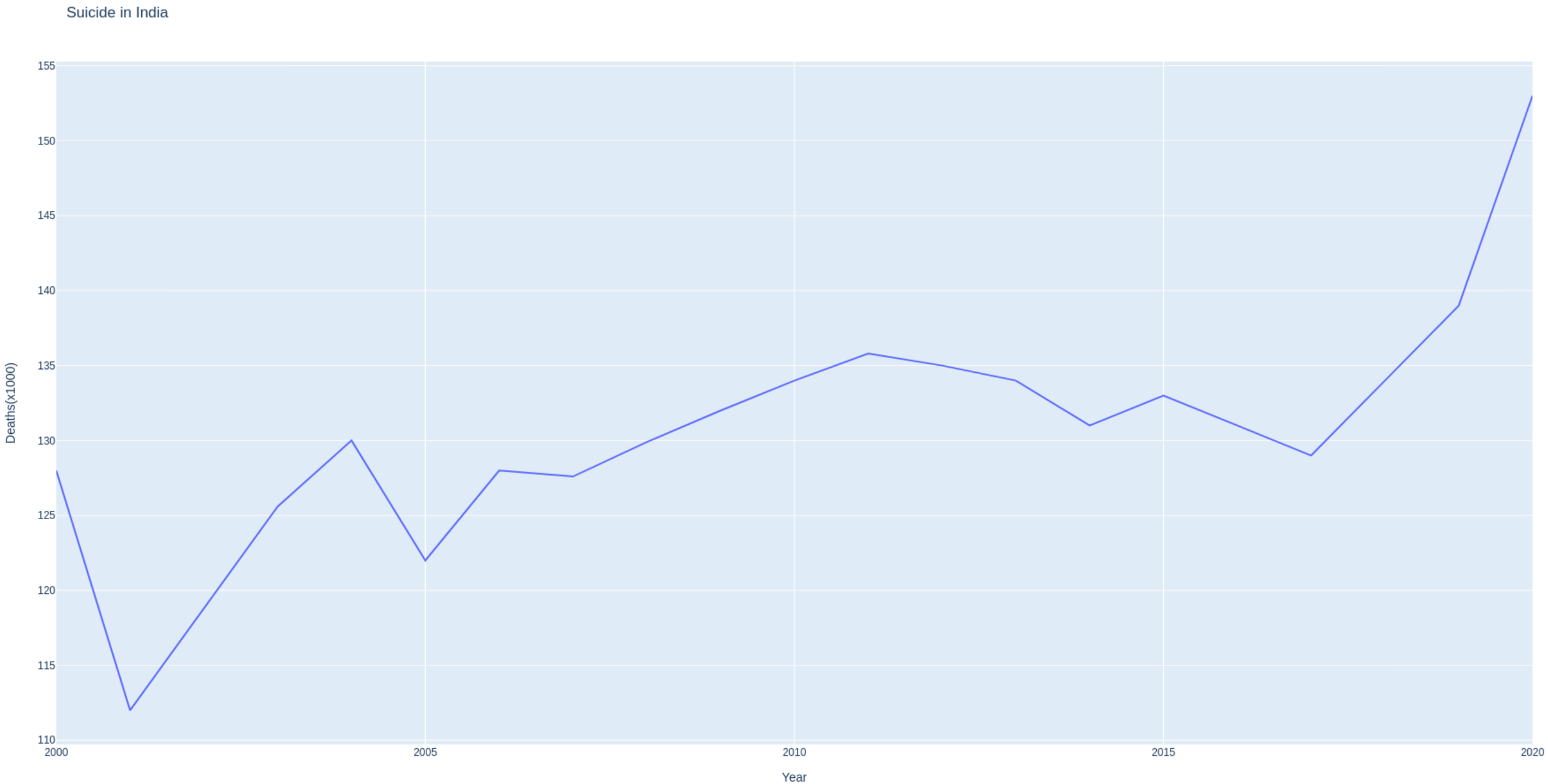

cse
it
ece
eee
70
60
50
40
30
20
10
0
2017
2018
2019
2020


Test Subject Scores
Maths Score
Science Score
French Score
Score
120
100
80
60
40
20
0
Chandler
Monica
Ross
Rachel
Joey
Pheobe


Classification of amino acids
No. of amino acids
0
2
4
6
8
10
Polar
Non-Polar
Charged
Aromatic
Essential
Non-Essential
Different categories of amino acids


Amazon and Google prices
200
150
100
50
Prices
2019-01
2019-07
2020-01
2020-07
2021-01
2021-07
2022-01
2022-07
Date


Covid Data for India
trace 1
45M
40M
35M
30M
25M
20M
15M
10M
5M
0
Commulative cases and Deaths
Jul 2020
Jan 2021
Jul 2021
Jan 2022
Jul 2022
DATE


Suicide in India
155
150
145
140
135
130
125
120
115
110
Deaths(x1000)
2000
2005
2010
2015
2020
Year

Next Class

2:30 PM Friday, 30 August 2022