



॥ सिद्धिः भूषयते विद्याम् ॥

**avantika**  
UNIVERSITY

# BBA Sem 2 Session(2023-24) Statistical Analysis

Submitted To:  
Senthil Kumar

Submitted By:  
Shankh Bansal

# Survey on sports field!

I conducted a survey in urban area around the age group of 18 – 25 years in which we want to know that which sports is played the most and which is played the least and the sports in which the girls are most interested.

# Survey Questions?

## Sports

*\*Required*

1. Name \*

\_\_\_\_\_

2. age \*

\_\_\_\_\_

3. which sport do you prefer playing the most?

*Mark only one oval.*

☐ Badminton

☐ Football

☐ Basketball

☐ Cricket

4. Gender

*Mark only one oval.*

☐ Male

☐ Female

5. how often do you play?

*Mark only one oval.*

☐ Everyday

☐ Once a week

☐ Once a month

☐ Rarely

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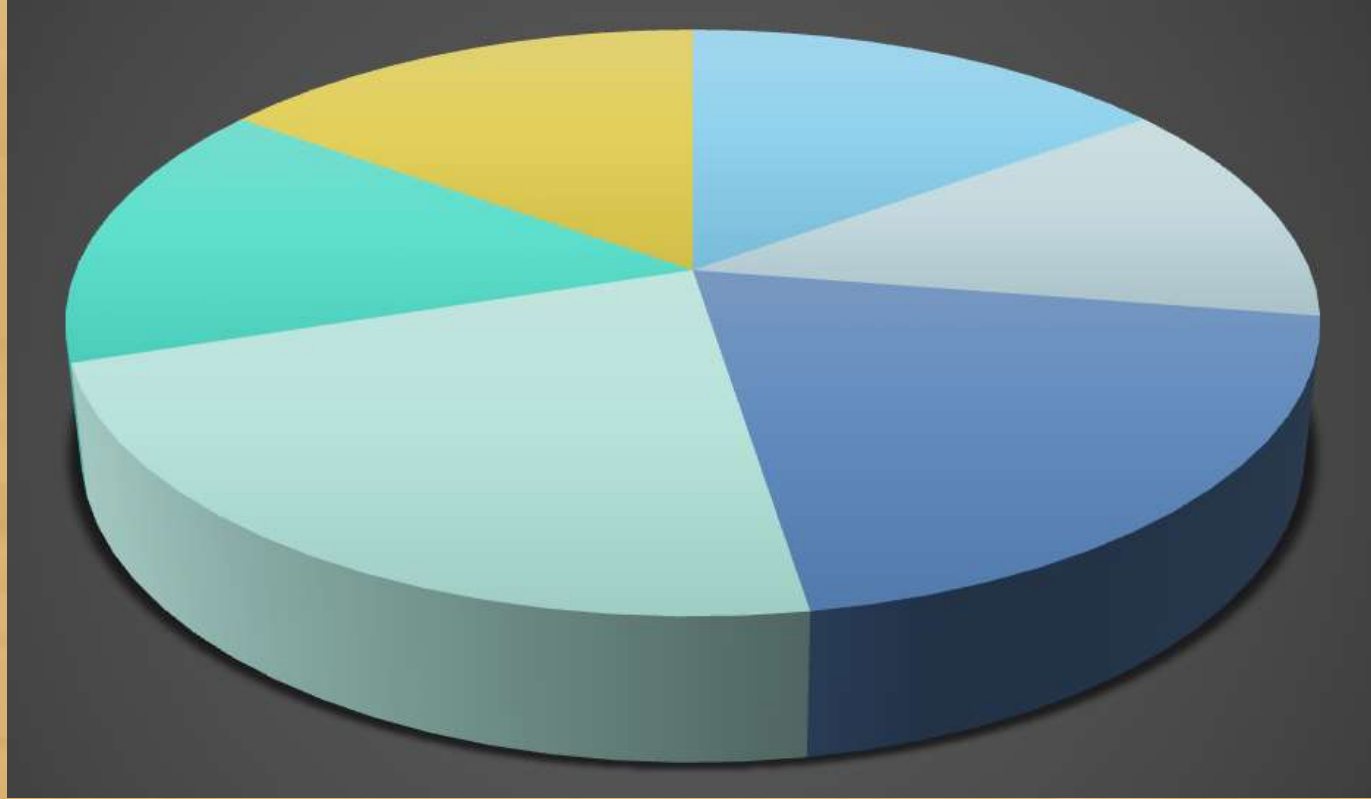
Google Forms



# Survey Data

Name	Age	Which sport do you prefer playing the most?	Gender	How often do you play?
Vani Saxena	20	Badminton	Female	Everyday
Shankh bansal	18	Badminton	Male	Everyday
Aashi Patel	17	Badminton	Female	Rarely
Ishika.patidar	18	Volleyball	Female	Everyday
Rochit	23	Chess	Male	Everyday
Palak Pamnani	19	Football	Female	Once a month
Ashutosh Rathi	18	Badminton	Male	Rarely
Vani	20	Basketball	Female	Once a week
Ritik bansal	24	Badminton	Male	Once a week
Rudra Prathap Singh Thakur	17	Cricket	Male	Once a week
Sahil Rochwani	20	Cricket	Male	Rarely
Mohan Mahajan	19	Football	Male	Rarely
Rishika	20	Badminton	Female	Once a week
Priyanshu Maheshwari	17	Badminton	Male	Everyday
Abhishek Maheshwari	24	Cricket	Male	Once a week
Pratham Parmar	24	Cricket	Male	Rarely
Aaditya Asthana	19	Football	Male	Once a week
Simran Baga	24	Basketball	Female	Rarely
Arjun Baga	17	Football	Male	Once a month
Babar Azam	25	Cricket	Male	Everyday
Diya danga	20	Basketball	Female	Once a week
Keshav	14	Football	Male	Once a week
Kunj	10	Cricket	Male	Rarely
Krishna Kumavat	13	Basketball	Female	Once a week
Somya Agrawal	16	Cricket	Male	Everyday
Saniya	11	Basketball	Female	Rarely

# Chart representation of the data



# Mean

Age Bracket	Frequency	X	F.X
10 - 12	2	11	22
14 - 16	1	15	15
16 - 18	5	17	85
18 - 20	6	19	114
20 - 22	5	21	105
22 - 24	1	23	23
24 - 26	5	25	125
	26		502

$$\text{Mean} = fx/f = 19.31$$

# Median

Age Bracket	Frequency	CF
10 - 12	2	2
12 - 14	1	3
14 -16	1	4
16 -18	5	9
18 - 20	6	15
20 - 22	5	20
22 - 24	1	21
24 - 26	5	26
	26	

$$\text{Median} = l + [n/2 - cf/f] * h = 34$$



# Mode

Age Bracket	Frequency
10 - 12	2
12 - 14	1
14 -16	1
16 -18	5
18 - 20	6
20 - 22	5
22 - 24	1
24 - 26	5
	26

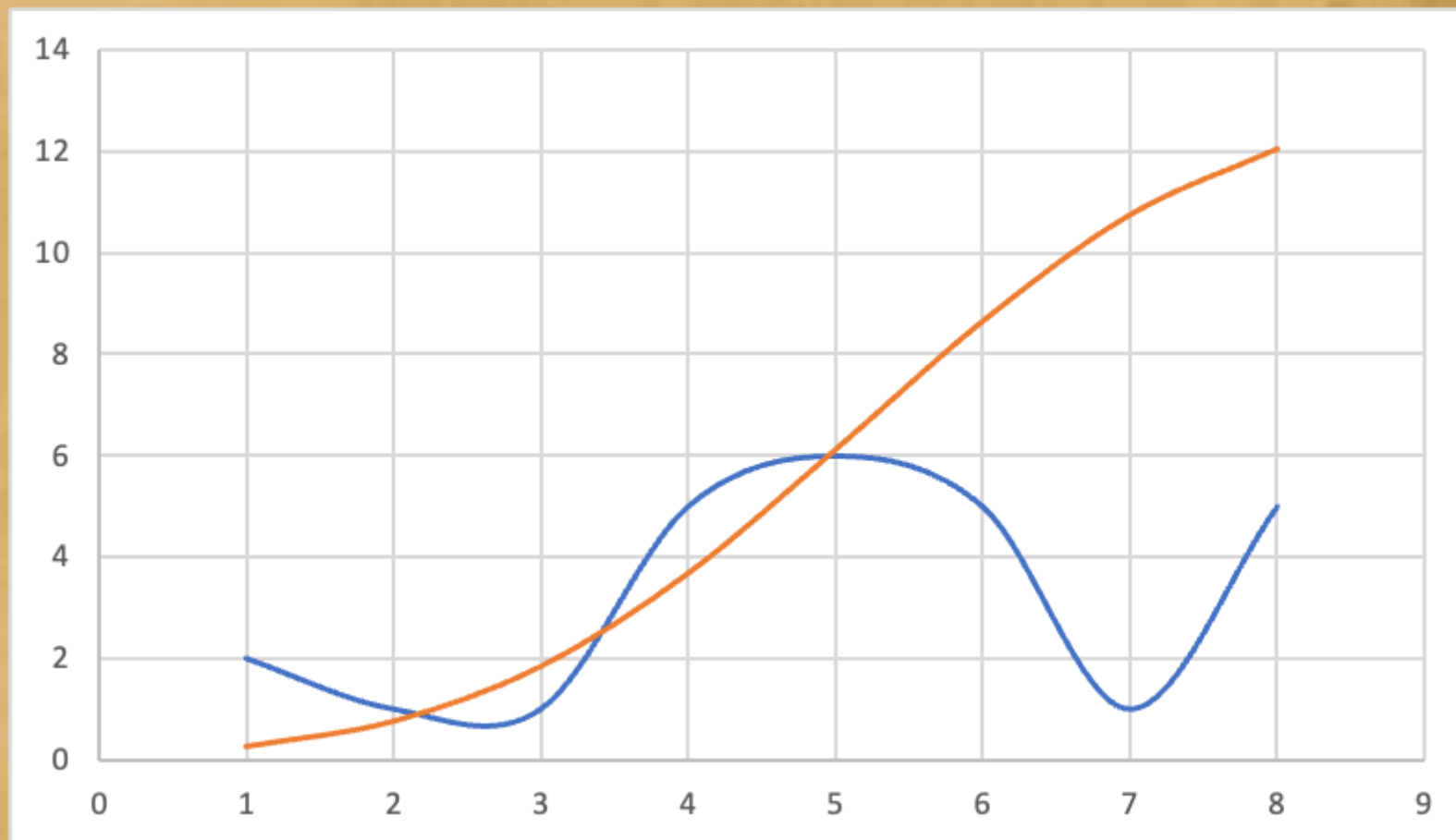
$$\text{Mode} = L + [f_1 - f_0 / 2f_1 - f_0 - f_2] * h = 19$$



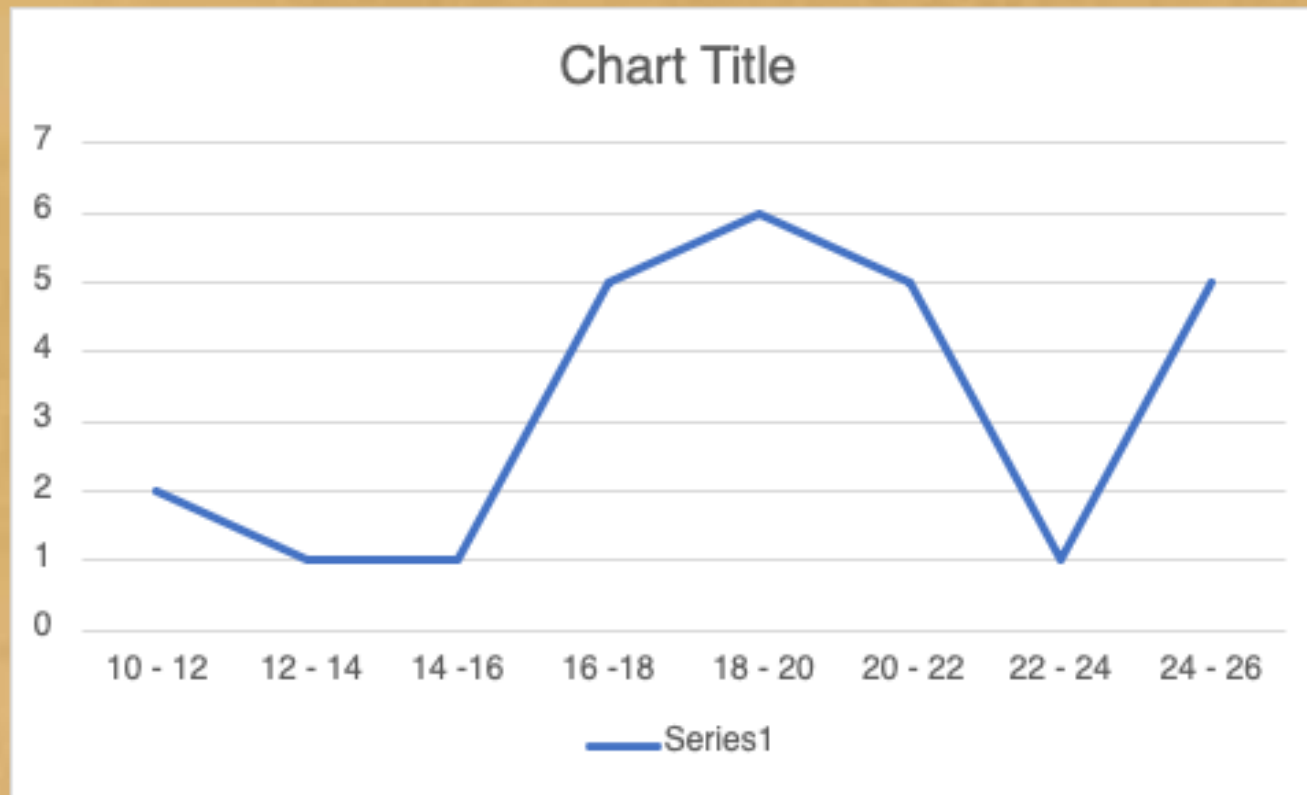
# Statistics data

X	F	M	Fm	M-x,av	(M-x,av)2	f(M-x,av)^2	Z	Gamma	Fe
10 - 12	2	11	22	-8.31	69.0	138.04	-2.08	0.01876	0.245
12 - 14	1	13	13	-6.31	39.8	39.79	-1.58	0.05705	0.744
14 -16	1	15	15	-4.31	18.6	18.56	-1.08	0.14007	1.826
16 -18	5	17	85	-2.31	5.3	26.63	-0.58	0.28096	3.663
18 - 20	6	19	114	-0.31	0.1	0.57	-0.08	0.46812	6.104
20 - 22	5	21	105	1.69	2.9	14.32	0.42	0.66276	8.641
22 - 24	1	23	23	3.69	13.6	13.63	0.93	0.82381	10.741
24 - 26	5	25	125	5.69	32.4	162.01	1.43	0.92364	12.043
Total	26		502			413.54			
Mean	19.31				variance	15.91		K = - 0.4	
i	2				std. deviation	3.99			
n	26				i/std.	13.04			

# Graphical representation of data



# Frequency graph



# What Is Kurtosis?

- Kurtosis is a statistical measure used to describe a characteristic of a dataset. When normally distributed data is plotted on a graph, it generally takes the form of an upside down bell. This is called the bell curve. The plotted data that are furthest from the mean of the data usually form the tails on each side of the curve. Kurtosis indicates how much data resides in the tails.



# Understanding kurtosis

- Kurtosis is a measure of the combined weight of a distribution's tails relative to the center of the distribution curve (the mean). Kurtosis is sometimes confused with a measure of the peakedness of a distribution. However, kurtosis is a measure that describes the shape of a distribution's tails in relation to its overall shape. A distribution can be sharply peaked with low kurtosis, and a distribution can have a lower peak with high kurtosis. Thus, kurtosis measures "tailedness," not "peakedness."

# Types

1. Mesokurtic
2. Platykurtic
3. Leptokurtic

