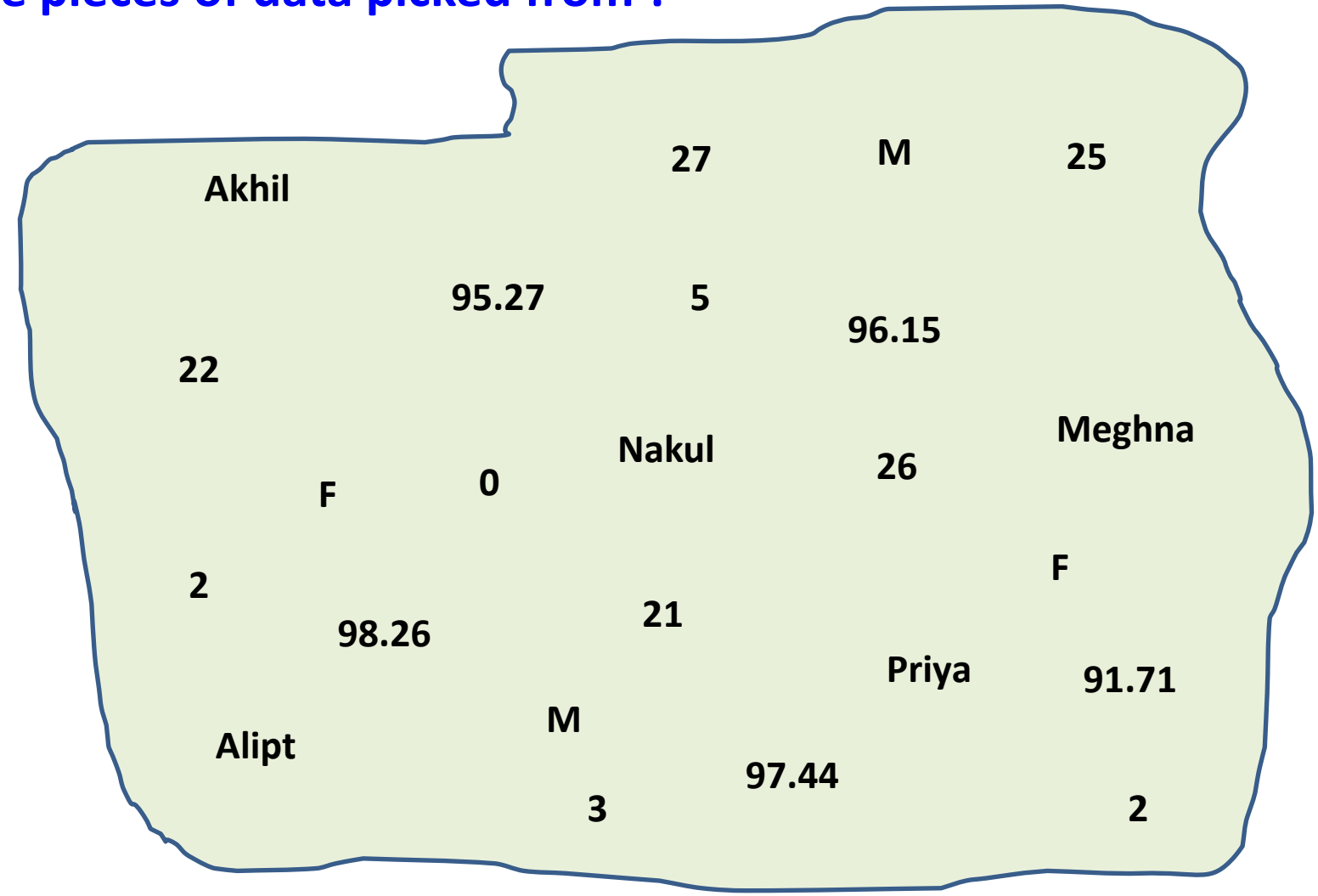
Data

Lecture 2

Some pieces of data picked from ?



Data table

Name	Gender	Age	Score	Experience
Akhil	M	27	95.27	5
Alipt	F	25	96.15	2
Meghna	F	26	91.71	3
Nakul	M	21	97.44	0
Priya	F	22	98.26	12
		years	percentile	years

Columns are variables

Rows are cases or observations (n)

12 months

Types of data

Categorical – Responses that belong to groups or categories

Yes/No

Strongly agree to strongly disagree

Numerical - a numerical values as a response

discrete number or continuous

number of students in a class

height of people in a locality

Types of data

Quantitative data is further divided into Nominal data and Ordinal data

Qualitative – No measurable meaning to the difference of numbers

Number in the shirt of a sports person

includes nominal and ordinal

Examples of Ordinal data -:
1) The first, second and third person in a competition.
2) Education level with values of the elementary school, high school ,graduate,.
3) When a company asks a customer to rate the sales experience on a scale of 1-10.
4) When customers rank brands on the basis of their preferences.

Further divided into Interval data and Ratio data

Quantitative - meaning to the difference

80 marks and 60 marks

1) Nominal data

- nominal data scales are used simply for labeling variables, without any type of quantitative value. The name 'Nominal' comes from the Latin word "nomen" which means 'name'.
- Nominal data cannot be quantified.
- It also cannot be assigned to any type of order.
- The values are only allocated to distinct categories.
- Those categories have no meaningful order. For example, gender and occupation are nominal level values.

Ordinal data
- Ordinal data is data which is placed into some kind of order by their position on the scale
-Ordinal data and variables are considered as "in between" categorical and quantitative variables. In other words, the ordinal data is categorical data for which the values are ordered.
- But the Ordinal data is not quantitative (See examples)
- is placed into some kind of order.
- Ordinal numbers only show sequence.
- We can assign numbers to ordinal data.
- We cannot do arithmetic with ordinal numbers.
-We don't know whether the differences between the values are equal.

Types of data

Ratio V/S Interval data - Interval only +/- but Ratio is all four

We have classified Age as ratio bec we can say that he is teice the age of X or he is half the age of Y

Categorical – Nominal (no implied order), Ordinal (order or rank)

Numerical – Interval (add/subtract) , ratio (also multiply and divide)

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nominal	**nominal**	**ratio**	**ordinal**	**interval**

Bec you can say that this person has 1 year more work experience than the other person. Also we cannot rank the work exerience. So Interval

Marks given for work experience

Percentile show an Order or a Rank. Also we cannot say that this person got 1 mark more than the other person, so it fails to qualify as a Interval (bec no addition) so it is only an Ordinal data as it helps to show an order/ heirarchy

The following data was collected from 100 managers :

1. Salary (range)
2. Car model
3. Year of graduation
4. Years of experience
5. Highest degree
6. Number of companies worked
7. Computer model
8. Number of countries visited
9. Number of children
10. Favourite sport

Classify the data into the four types. Give units for numerical data

Write relevant data variables for the following situations:

1. MBA admission
2. Dental clinic
3. Savings bank
4. Automobile dealer
5. Purchase department in a factory
6. School
7. Supermarket
8. Cricketer database
9. IITM faculty profile
10. Museum