LITERACY RATES IN INDIA
2011

Introduction

The ability to read and write provides an opportunity to escape generational poverty and live a more enriched life. Quality education also plays a vital role in the growth of the social-economic standards of the country. According to the Census of India 2011 data, the **average literacy rate in India is approximately 73 percent.** The Indian government has been working consistently to increase literacy rates. The Right To Education Act 2009 was enacted to offer free and compulsory elementary education to kids between the age group of 6 years to 14 years. Education is a source of pride and confidence, the gateway to financial stability and prosperity.

Objective

In this project **we have taken the data of 2011 to study state-wise literacy rates of India** and more things related to this, has the condition become better with time or has worsen, let's find out with the help of analysis of data.

What is Literacy Rate?

The literacy rate determines the percentage of the population capable of reading and writing. The literacy rate is further divided into adult literacy rate (ages 15 and above) and youth literacy rate (ages 15 to 24). According to the **National Literacy Mission Programme**, a person must acquire the skills of reading, writing and arithmetic to be called literate.

What Are the Main Causes of Illiteracy?

Poverty
Poor financial conditions can often lead to Illiteracy and vice versa. Families with low incomes are unable to pay school fees and instead prefer that their children start working at a young age. Even after the launch of free elementary education and mid-day meal scheme in India, families who suffer from generational poverty reject the idea of educating their children. It is a never-ending cycle that can only break by creating awareness around the importance of education.

Uneducated Parents
Children brought up by parents who cannot read and write are more likely to stay uneducated. **The 2011 census of India report also showcases a disparity in the literacy rate between the rural and urban areas**. But parents who had some sort of formal education understand the importance of education for children and its role in creating a bright future.

Lack of Infrastructure
India still needs more schools in rural and remote areas. Parents hesitate to send their children to a school which is kilometers away from their home.

Lack of Awareness

The lack of awareness regarding the importance of education can increase the illiteracy rate. In remote rural areas, where a larger number of people never had any formal education, illiteracy rates are going to be high.

Tools used in data cleaning and formatting

- BLANKS IN DATA
- HIGHLIGHT ERROR

Methods used in making of this project

- LINE GRAPHS
- BAR CHARTS
- COLUMN CHART
- FIVE NUMBER THEORY
- QUARTILES
- MEAN, MEDIAN, MODE
- HISTOGRAM
- SCATTER PLOTS
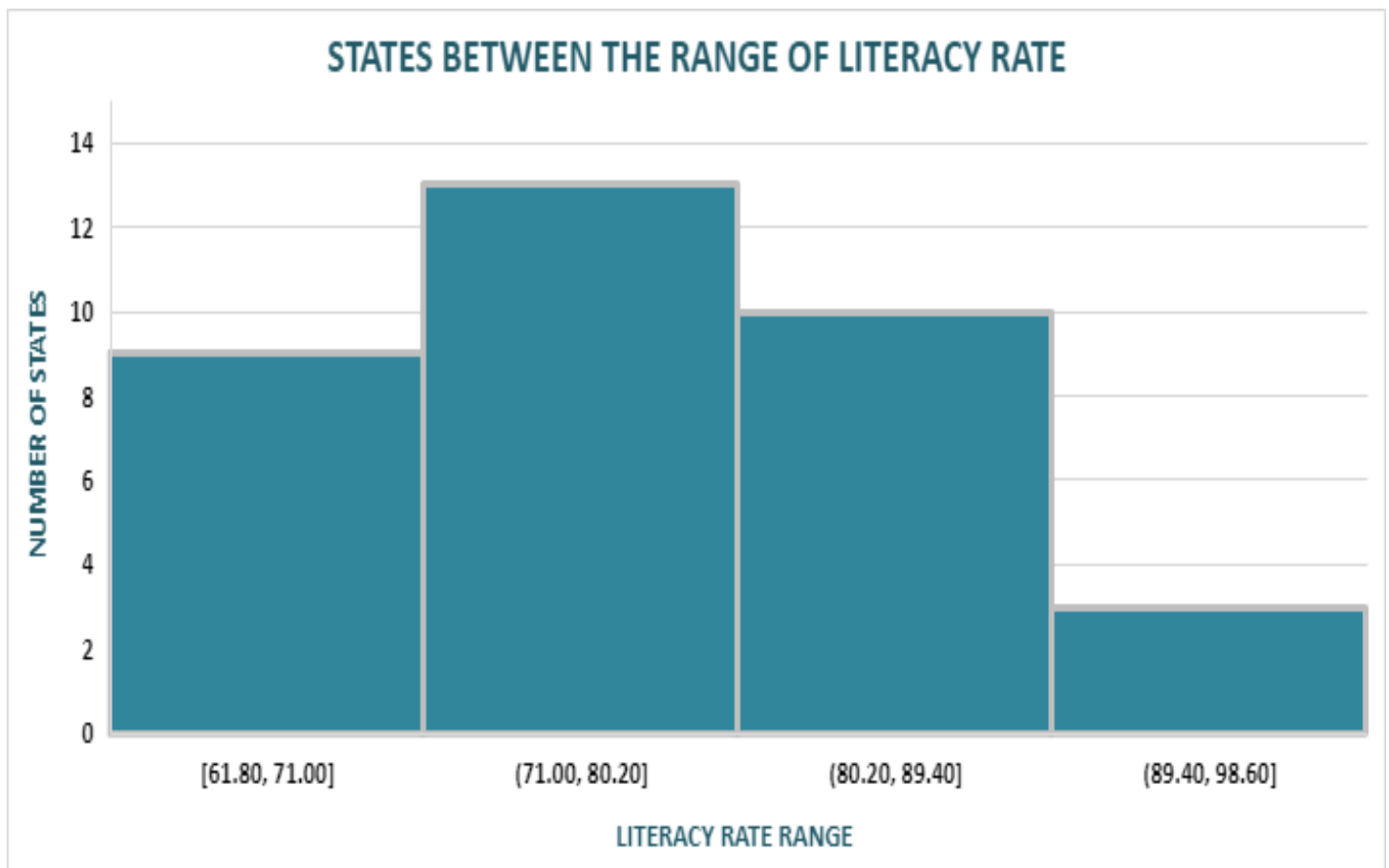
Data from its Source or Raw Data

State	Average Literacy Rate	Male	Female	
Andhra Pradesh	66.4	75.56	59.74	
Arunachal Pradesh	66.95	73.69	59.57	
Assam	73.18	78.81	67.27	
Bihar	69.82	73.39	53.33	
Chhattisgarh	71.04	81.45	60.59	
Goa	87.4	92.81	81.84	
Gujarat	79.31	87.23	70.73	
Haryana	76.64	85.38	66.77	
Himachal Pradesh	83.78	90.83	76.6	
Jharkhand	66.4	78.45	56.21	
Karnataka	75.6	82.85	68.13	
Kerala	93.91	96.02	91.98	
Madhya Pradesh	70.63	80.53	60.02	
Maharashtra	82.91	89.82	75.48	
Manipur	79.85	86.49	73.17	
Meghalaya	75.48	77.17	73.78	
Mizoram	91.58	93.72	89.4	
Nagaland	80.11	83.29	76.69	
Odisha	73.45	82.4	64.36	
Punjab	76.68	81.48	71.34	
Rajasthan	67.06	80.51	52.66	
Sikkim	82.2	87.29	76.43	
Tamil Nadu	80.33	86.81	73.86	
Tripura	87.75	92.18	83.15	
Uttarakhand	79.63	88.33	70.7	
Uttar Pradesh	69.72	79.24	59.26	
West Bengal	77.08	82.67	71.16	

Union Territories of India	Average Literacy Rate	Male	Female
Andaman and Nicobar Islands	86.27	90.11	81.84
Chandigarh	86.43	90.54	81.38
Dadra and Nagar Haveli	77.65	86.46	65.93
Daman & Diu	87.07	91.48	79.59
Delhi	86.34	91.03	80.93
Lakshadweep	92.28	96.11	88.25
Puducherry	86.55	92.12	81.22

HERE WE HAVE FOUND THE NUMBER OF STATES LYING BETWEEN THE GIVEN RANGE OF LITERACY RATE THAT IS FROM 61.80 TO 71.00 AND SO ON WITH THE HELP OF HISTOGRAM

A histogram is a type of chart that shows the frequency distribution of data points across a continuous range of numerical values. The values are grouped into bin or buckets that are arranged in consecutive order along the horizontal x-axis at the bottom of the chart. Each bin is represented by a vertical bar that sits on the x-axis and extends upward to indicate the number of data points within that bin.
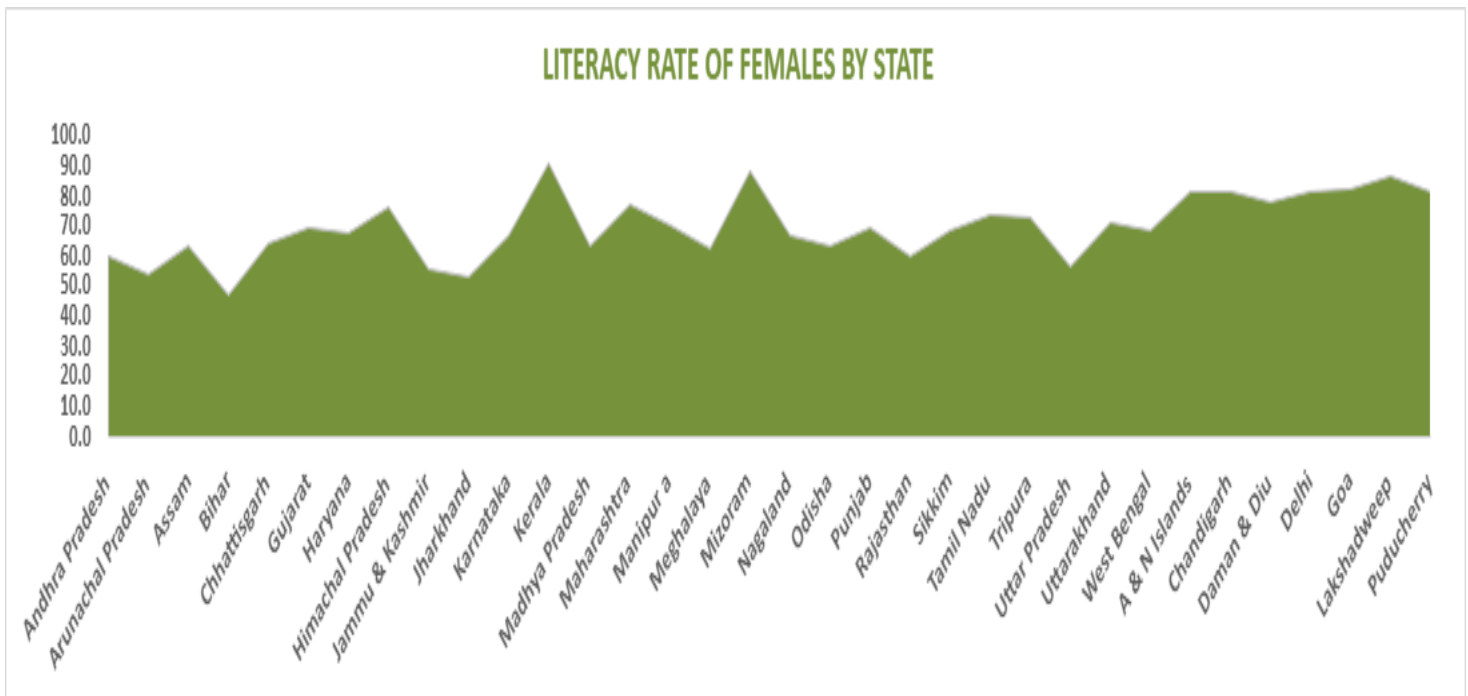
The bins provide a simple structure for mapping the distribution of data points across the range of values. A data point in this sense is simply one of the values within the overall range. This range sometimes referred to as the independent variable might include people's ages, tree heights, exam scores, animal weights, stock prices or any number of other value types. The data points are plotted along the vertical y-axis and are referred to as the data's frequency, which is in reference to the frequency distribution of the data.

Why is the Literacy Rate Low Among the Females?

India is focusing on reducing the gap in literacy rates between the two genders. Even though the nation has witnessed significant progress, the literacy rate amongst females remains a concerning issue.
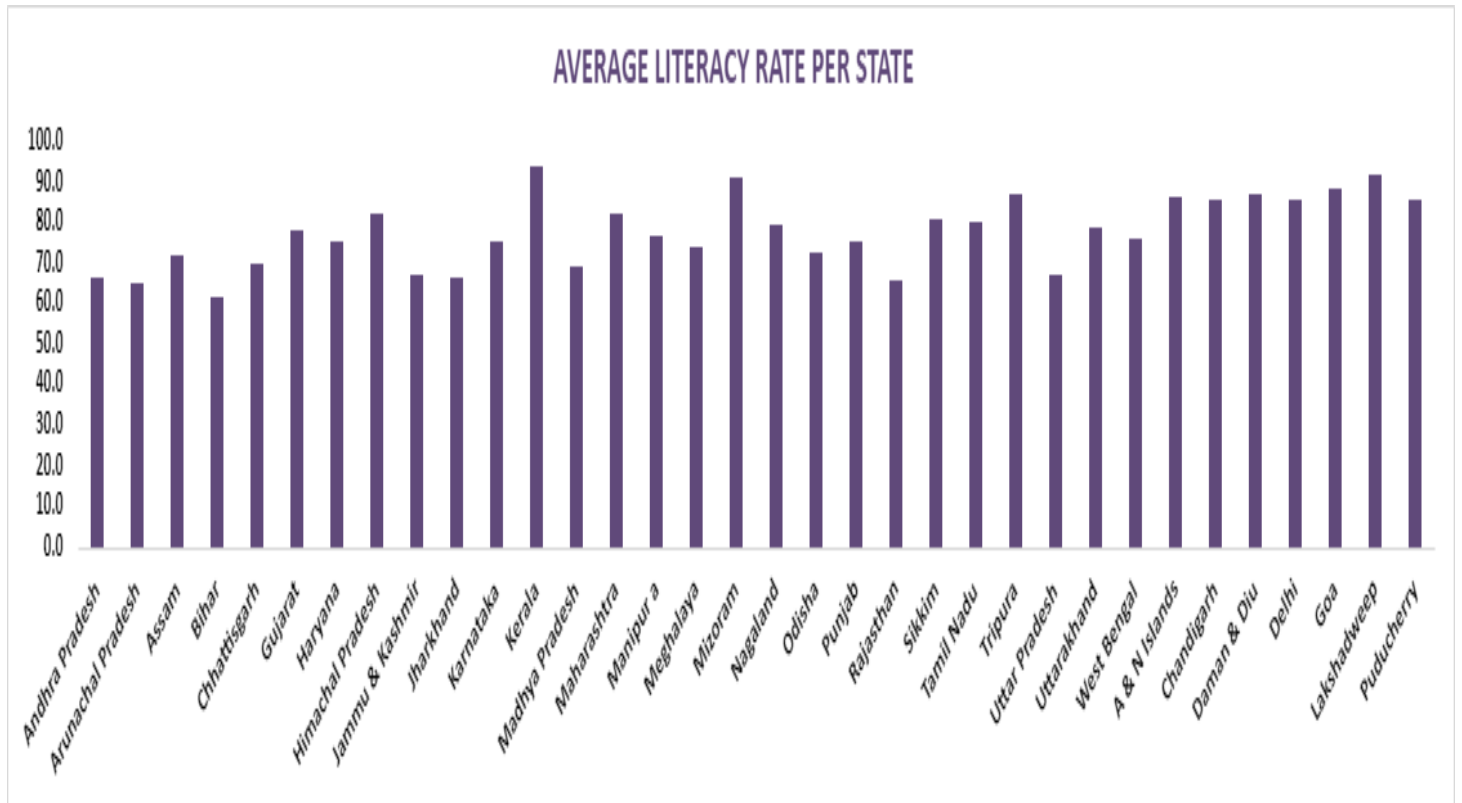
WE FOUND THE LITERACY RATES OF WOMAN USING AREA CHART

Here are some of the reasons for low literacy rates in females:

1) The lack of proper sanitation for girls is a major challenge for schools in rural areas. A study was conducted on 188 government primary schools. As per the data published, nearly **89 per cent of schools did not have washroom facilities**.
2) Discrimination against female students based on gender and caste.
3) Stereotypes based on gender roles result in many girls abandoning their education.
4) Child marriage or early marriage is still prevalent in many parts of India, with Andhra Pradesh showing the highest number of child marriages. Families with poor socio-economic conditions and low education are more likely to give more importance to early marriage.
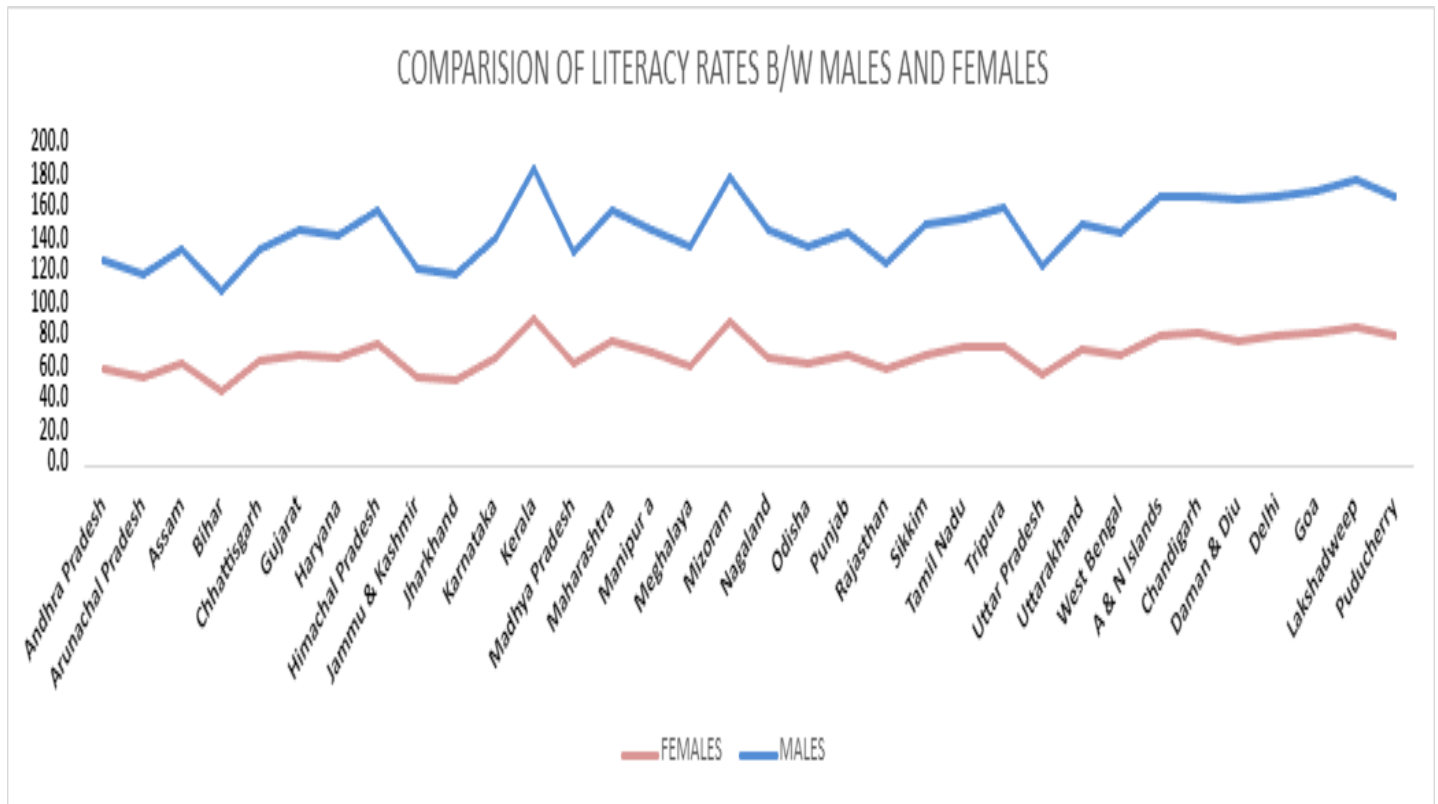
AVERAGE LITERACY RATE BY STATES USING COLUMN CHART

AVERAGE LITERACY RATE PER STATE

THE AVERAGE OF THE LITERACY RATES OF MALES AND FEMALES IS BEING SHOWN IN THE ABOVE CHART.

Column graphs are frequently called bar graphs or bar charts. In a bar graph or chart, the bars can be either vertical or horizontal. A histogram is a statistical graph for displaying the frequency distribution of continuous data.

COMPARISION BETWEEN MALES AND FEMALES BY STATES USING LINE GRAPH.

Line charts are graphical representations that succinctly illustrate trends and patterns in numerical data.

BY THIS YOU CAN CLEARLY SEE THAT MALES ARE HAVING MORE EDUCATION AS COMPARED TO FEMALES IN EVERY STATE THAT IS SEEN ABOVE.

THE REASONS FOR THIS IS SIMILAR TO AS MENTIONED BEFORE AND ALSO IN THE INTRODUCTION.

Poverty, Lack of Infrastructure, Lack of Awareness

As per Census 2011, the literacy rate at all India level is 72.98% and the literacy rate for females and males are 64.63% and 80.9% respectively.

GREEN COLOR SHOWS THE HIGHEST VALUES WHEREAS **RED** SHOWS THE LOWEST

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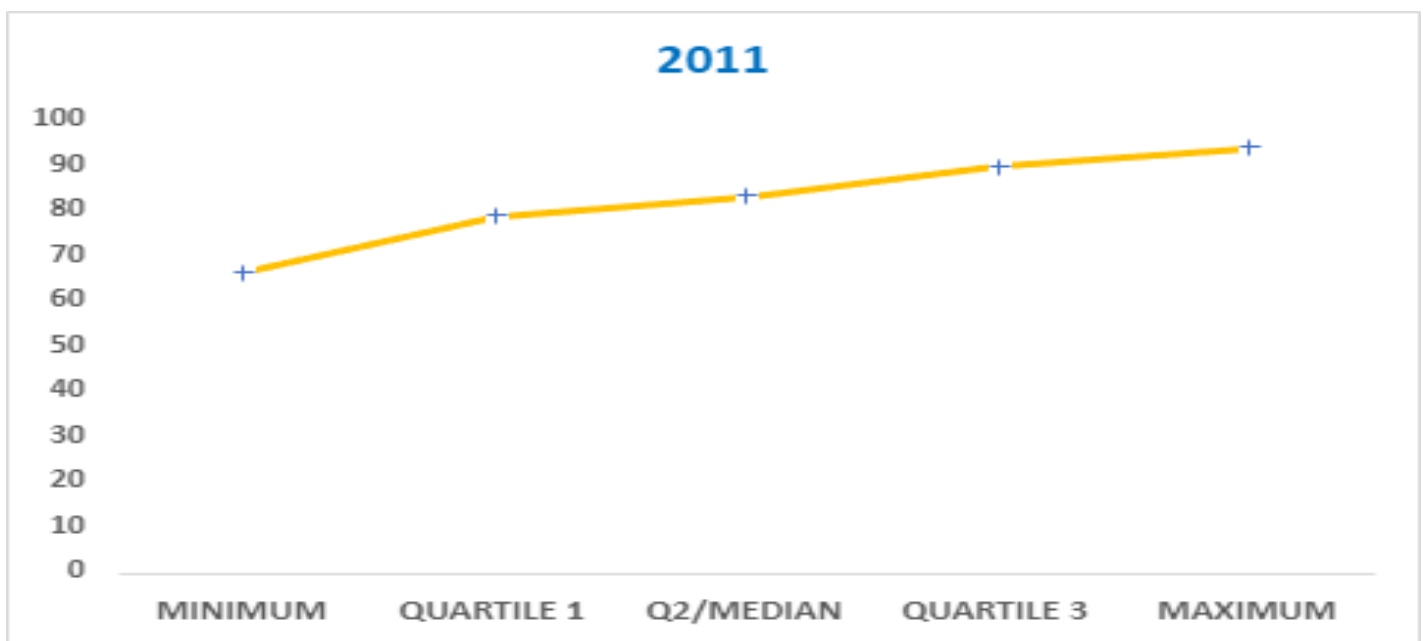**FIVE NUMBER SUMMARY OF AVERAGE LITERACY RATES OF DIFFERENT STATES OF OUR COUNTRY IN 2011.**

MINIMUM	66
QUARTILE 1	78.8
Q2/MEDIAN	83.2
QUARTILE 3	89
MAXIMUM	93

- **FOR THIS WE HAVE TO FIRST REMOVE THE DECIMAL OF THE DATA GIVEN TO US IN ORDER TO FIND THE QUARTILES.**
- **A five-number summary is especially useful in descriptive analyses or during the preliminary investigation of a large data set. A summary consists of five values: the most extreme values in the data set (the maximum and minimum values), the lower and upper quartiles, and the median.**
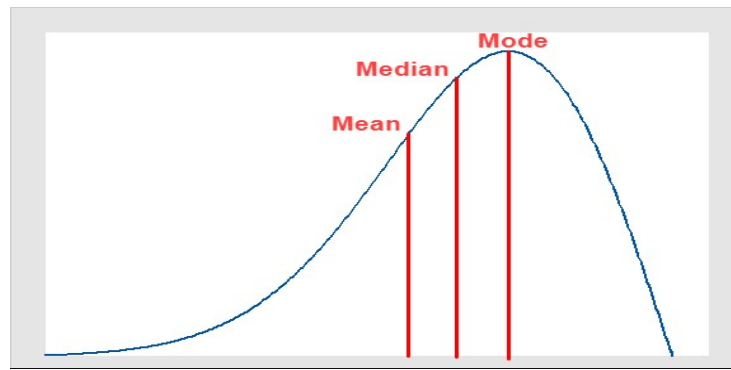
When the Summary doesn't exist

- Your data must be univariate. In other words, the data must be a single variable. For example, this list of weights is one variable: 120, 100, 130, 145. If you have a list of ages and you want to compare the ages to weights, it becomes bivariate data (two variables). For example: age 1 (25 pounds), 5 (60 pounds), 15 (129 pounds). The matching pairs make it impossible to find a five number summary.

LINE CHART FOR THE VISUALISATION OF FIVE NUMBER SUMMARY

2011

As we can see that median is greater than mean (med. > mean) it means that we have a Negatively Skewed also known as left-skewed distribution. In this type of distribution, the more values are concentrated on the right side (tail) of the distribution graph while the left tail of the distribution graph is longer.it is the direct opposite of a positively skewed distribution

LEFT SKEWED DISTRIBUTION

SUMMARY:

- Literacy rate of India in 2011 is 74.04%.

- The Male literacy rate is 82.14% and Female literacy rate is 65.46%.

- Among the Indian states, Kerala has the highest literacy rate 93.91% and then Mizoram 91.58%.

- Among the Union Territories, Lakshadweep has the highest literacy rate of 92.28%.

- Bihar has the lowest literacy rate in India with 63.82% .
  The Male literacy is highest in Lakshadweep 96.11% and Kerala 96.02%.

- The Female literacy is highest in Kerala 91.98% and Mizoram 89.40%.

- Lowest male literacy is in Bihar 73.39%.

- Lowest female literacy is in Rajasthan 52.66%.

REFERENCES:

- https://www.careindia.org/

- https://www.census2011.co.in/literacy.php

- https://www.macrotrends.net/

- https://en.wikipedia.org/wiki/Literacy_in_India