

# Assignment 3: Clustering And Fitting - Poster

## ANALYSIS OF EDUCATION EXPENDITURE VS LITERACY RATE IN INDIA

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Github link: <https://github.com/DhanaSrivalli/21087223.git>

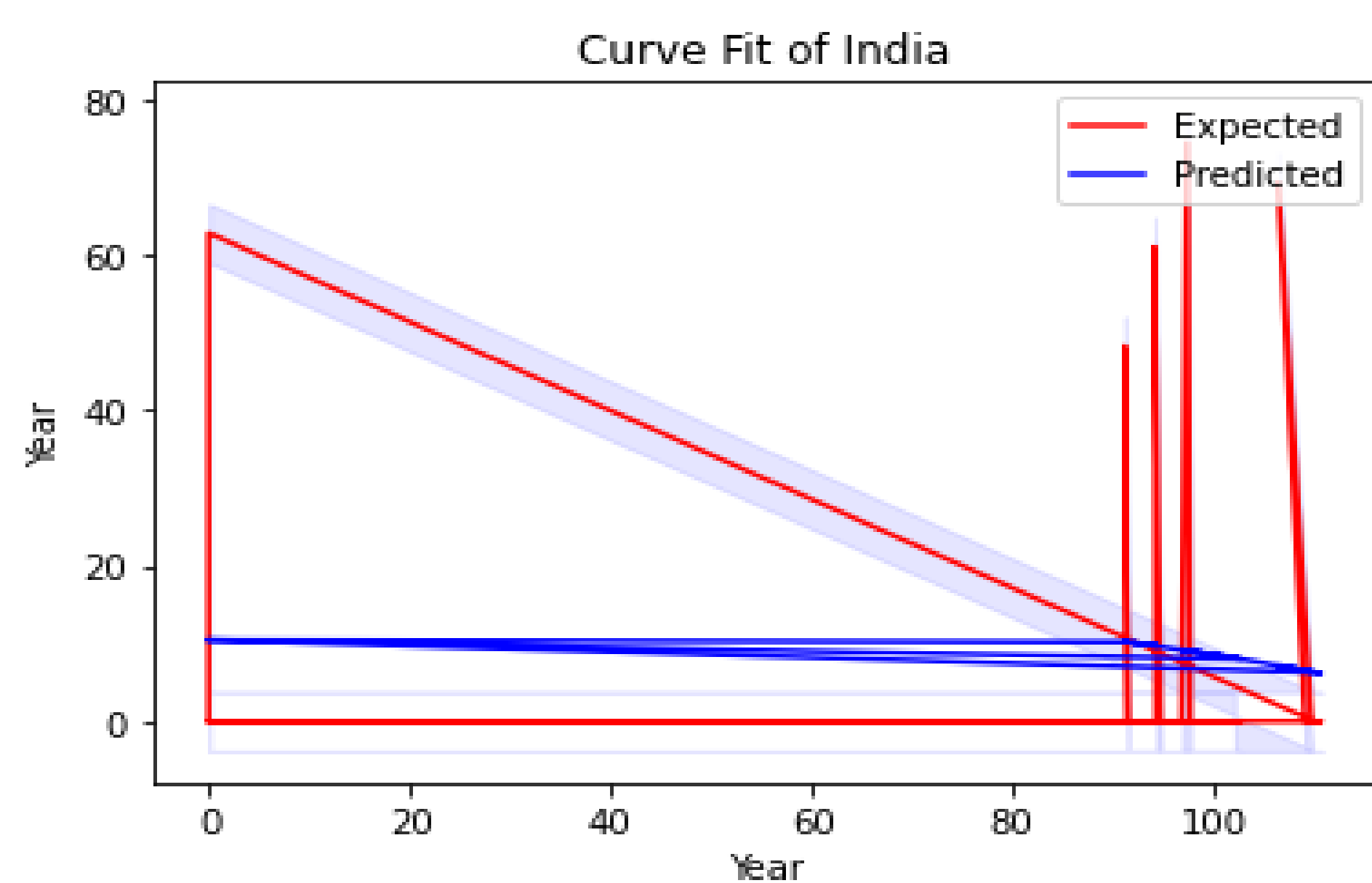


### ABSTRACT:

The main aim of this analysis is to understand the relationship between the two datasets i.e., Education expenditure and Literacy rate in India. The analysis is based on data collected from the World Bank and it covers the years 1990, 2000, 2012, 2013, 2014, 2015, 2016, 2017, and 2018. By using the k-means clustering and curve fitting the analysis is separated into two parts.

### INTRODUCTION:

Any nation's economic development is heavily influenced by education. In India, the term "education" refers to the process of educating, training, and developing human capital in schools and institutions. This advances knowledge, leads to the growth of skills, and raises the standard of human capital. The significance that our government has always placed on education in India is reflected in our economic strategies.

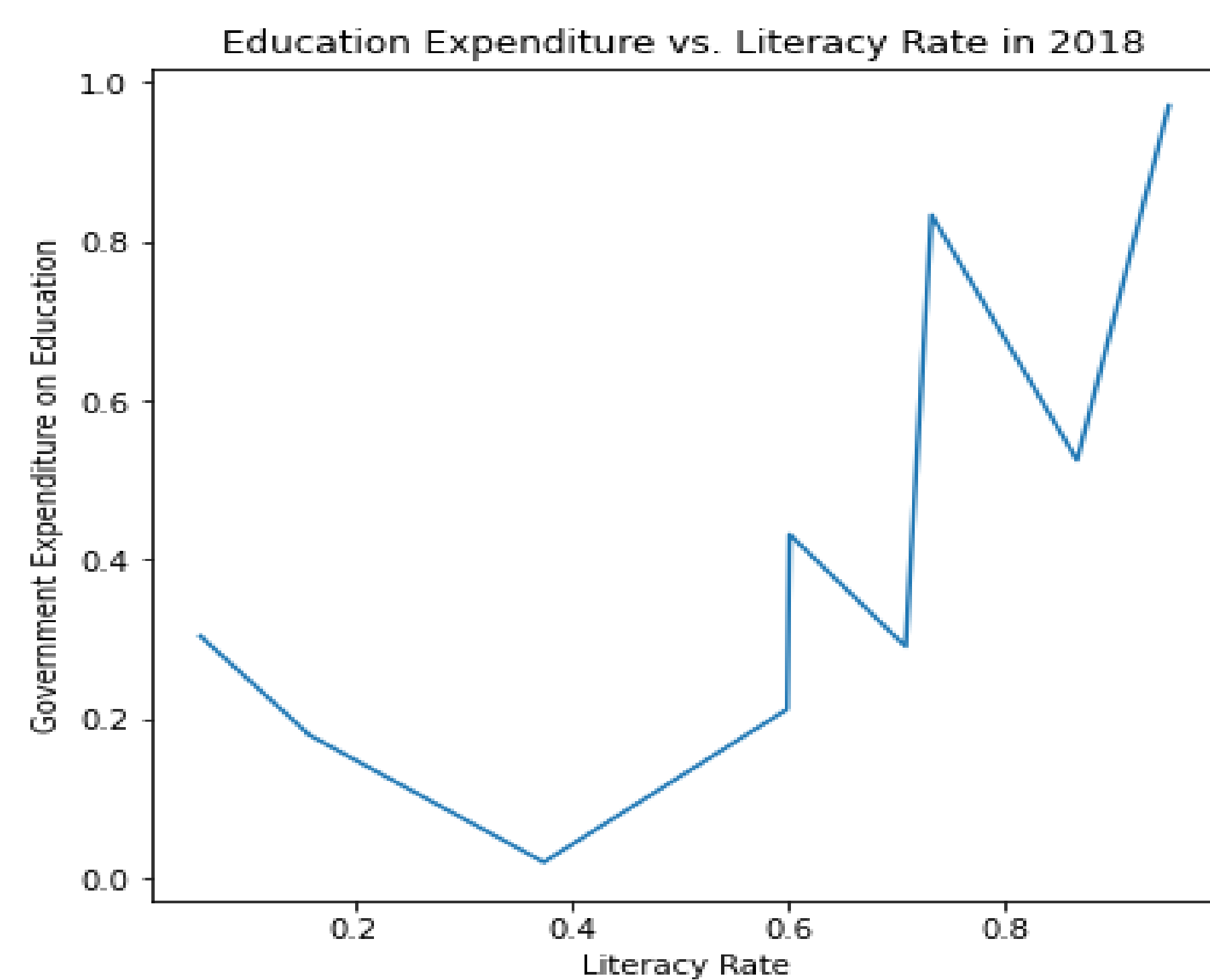
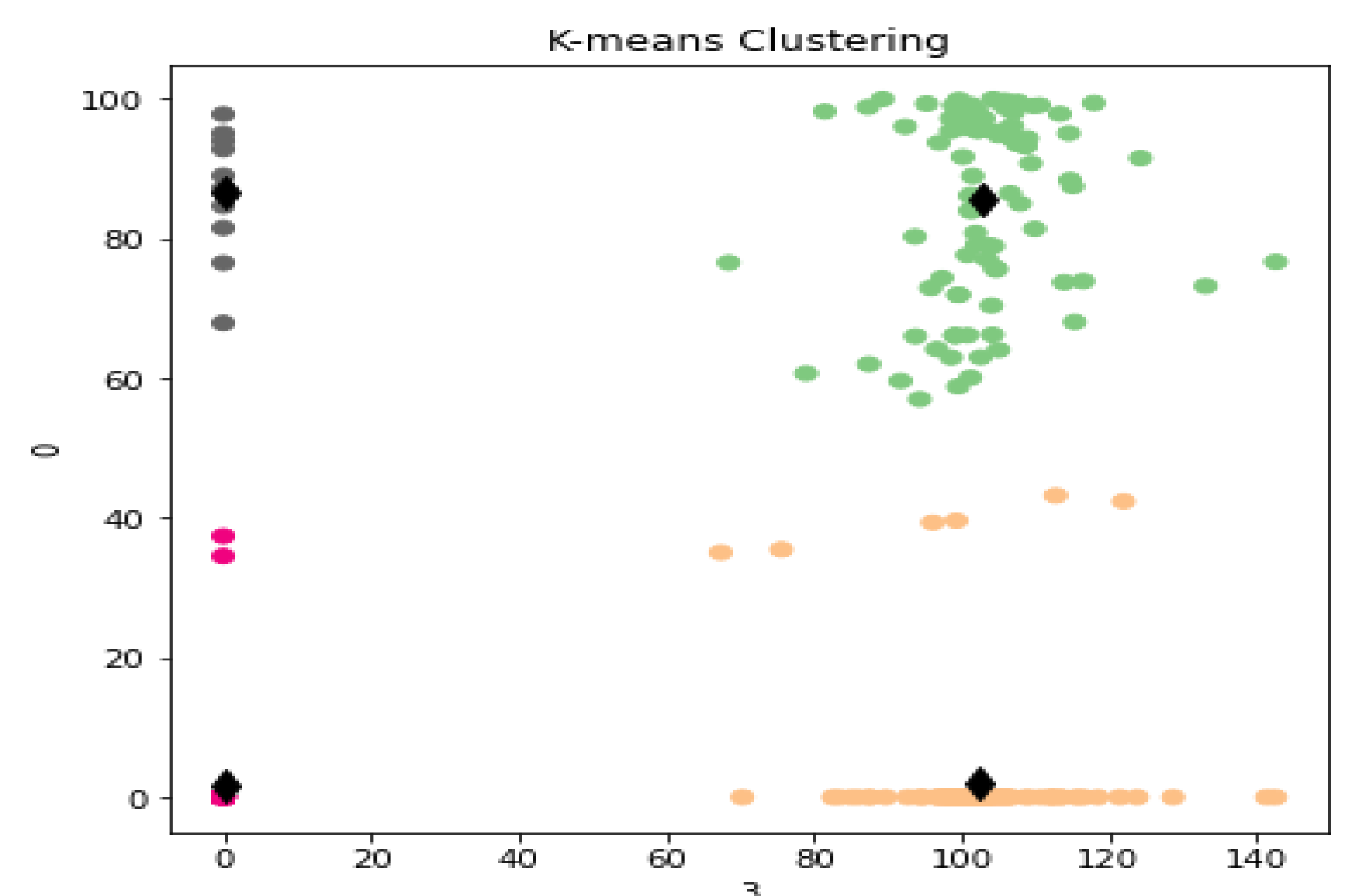


### CURVE FITTING:

To comprehend the connection between the literacy rate and government spending on education, curve-fitting was carried out. A second-degree polynomial served as the curve fitting objective function. Plotting of the real data points and the resulting curve fit. The graphic demonstrates that the anticipated values and the actual data points match together effectively.

### K – MEANS CLUSTERING:

Based on the literacy rate and government spending on education, K-means clustering was used to divide the data into groups. The resultant clusters were shown alongside the data points after the number of clusters was set to 4. The graphic demonstrates how the data points are correctly clustered.



### GROWTH OF GOVERNMENT EXPENDITURE ON EDUCATION:

The importance of education in the budgetary strategy before the government is shown by the proportion of education spending to total government spending. The proportion of GDP spent on education as compared to all other expenditures demonstrates our nation's dedication to the advancement of education.

### FUTURE PROSPECTS:

The Indian government regards education as a critical area in which substantial expansion and improvement are required. As a result, many prospects have been explored, and policies have been established. The objective is to ensure that education in India is of the highest quality and accessible to all segments of the population without regard for gender or ethnicity. Consider some of the projects that the government hopes to effectively undertake.

- Education for all
- improving gender equity
- Higher education



### CONCLUSION:

According to the data, there is a correlation between India's government spending on education and its literacy rate. According to the curve-fitting graphic, government spending on education rises as the literacy rate does. The data points are clearly divided into clusters depending on the literacy rate and government spending on education, as shown by the K-means clustering diagram. This analysis can be used to comprehend the government's education policy and to suggest ways to enhance education in India.