Assignment 3: Clustering And Fitting - Poster
ANALYSIS OF EDUCATION EXPENDITURE VS LITERACY RATE IN PAKISTAN
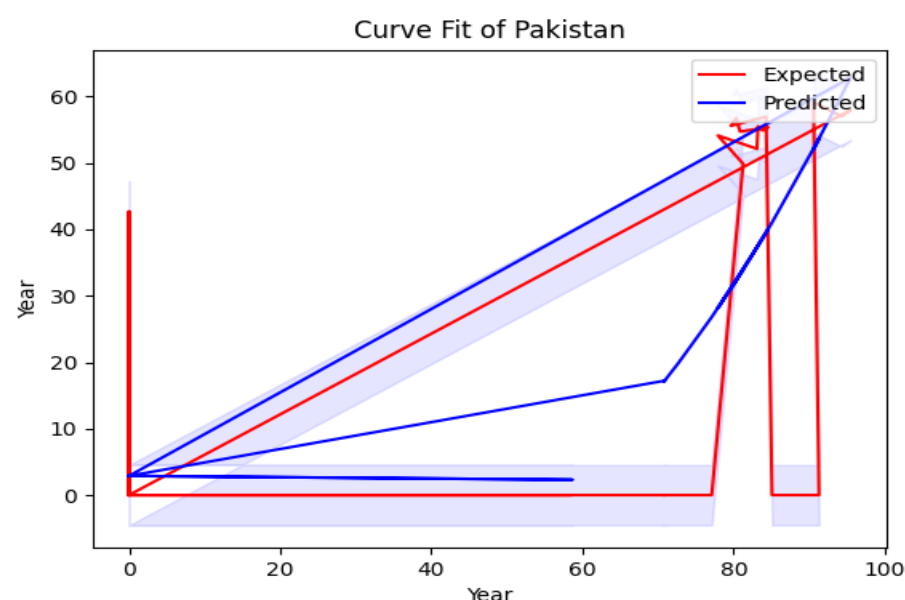
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Github link: https://github.com/sulemanajaz/22033960-Cluster-and-Poster-Assignment-

ABSTRACT:

Understanding the relationship between the two datasets—Pakistan's literacy rate and education spending—is the primary goal of this investigation. Based on information gathered from the World Bank, the analysis looks at the following years: 1990, 2000, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020. The analysis is divided into two sections utilising curve fitting and k-means clustering.

INTRODUCTION:

Education has a significant impact on the economic development of any country. The process of teaching, training, and creating human capital in institutions and schools is referred to as "education" in Pakistan. This raises the bar for human capital, advances knowledge, and fosters the development of talents. Our economic initiatives are a reflection of the importance our government has always put on education in Pakistan.
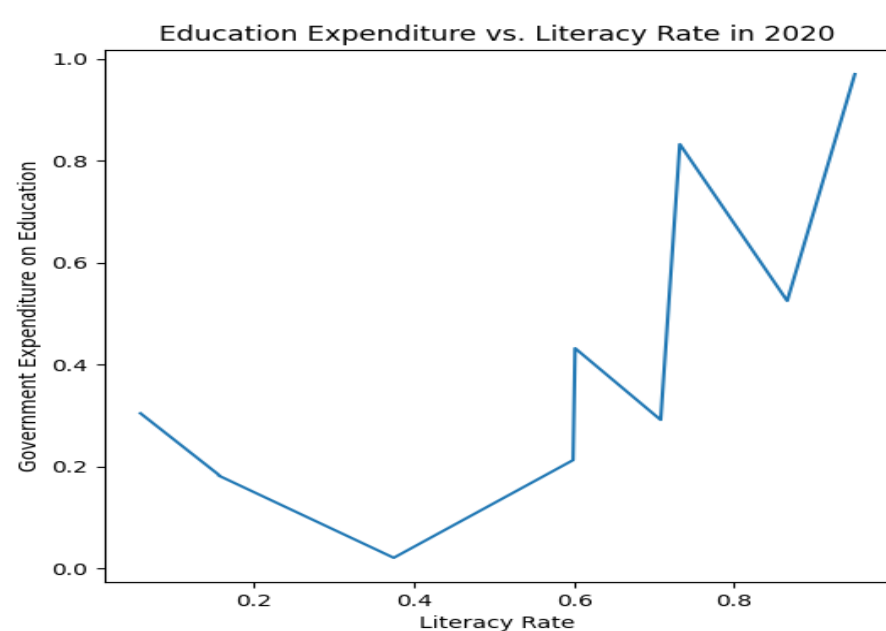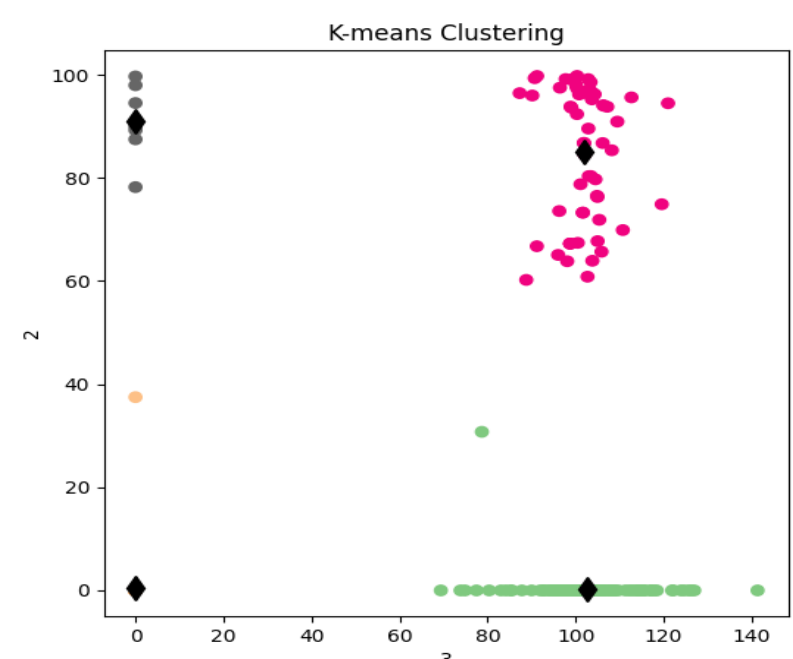

Curve Fit of Pakistan

CURVE FITTING:

Curve-fitting was done in order to understand the relationship between the government's spending on education and the literacy rate. The objective function used for curve fitting was a polynomial of second degree. Plotting the actual data points and the curve fit that was obtained. The figure shows that there is a good match between the expected values and the actual data points.

K – MEANS CLUSTERING:

K-means clustering was utilised to separate the data into groups according to the government's spending on education and the literacy rate. Once the number of clusters was set to 4, the resulting clusters were displayed next to the data points. The image shows the proper clustering of the data points.

K-means Clustering

Education Expenditure vs. Literacy Rate in 2020

GROWTH OF GOVERNMENT EXPENDITURE ON EDUCATION:

The percentage of government spending on education compared to overall spending illustrates the significance of education in the fiscal plan that the government is proposing. The percentage of GDP allocated to education relative to all other spending indicates how committed our country is to advancing education.

FUTURE PROSPECTS:

The government of Pakistan believes that education is an important field that needs significant development and improvement. Consequently, numerous opportunities have been investigated and regulations have been put in place. The goal is to guarantee that Pakistani education is of the greatest calibre and available to all sections of society, regardless of gender or ethnicity.
Take a look at a few of the initiatives that the administration intends to successfully implement.

- All-inclusive education
- enhancing gender parity
- advanced education

CONCLUSION:

The information indicates a relationship between Pakistan's literacy rate and government spending on education. The curve-fitting graph indicates that government spending on education increases in tandem with the rate of literacy. The K-means clustering figure illustrates how the data points are clearly separated into clusters based on the literacy rate and government spending on education. This research can be used to understand the government's educational policy and make recommendations for improving Pakistani education.