CODING ASSIGNMENT

Introduction

The dataset is a collection of newborn weights, represented as a one-dimensional array of numerical values. The weights are measured in grams and are not associated with any other information, such as the time or place of birth, the mother's health or demographics, or any other variables that could potentially affect the newborn's weight. The dataset contains a total of 400 weights, ranging from a minimum weight of 2.35406 kg to a maximum weight of 4.28463 kg. The `.csv` file extension indicates that the dataset is likely stored in Comma Separated Values (CSV) format, which is a common file format for storing and exchanging data

The distribution of weights appears to be roughly normal, with a peak around 3.25 kg and a relatively symmetrical spread of weights on either side of the peak. Based on the resulting histogram, we can see that the distribution of newborn weights is roughly bell-shaped, with the majority of weights falling within a range of approximately 2,800 to 3,600 grams. This distribution is similar to what we would expect from a normal distribution, which is characterized by a bell-shaped curve centered around the mean value with a standard deviation that determines the spread of the distribution.

We can calculate the mean weight by making use of the ` numpy.mean()` function which can be used to calculate the arithmetic mean of the dataset, which represents the average weight of the newborns. The value of mean gotten is 3.299006825 kg. additionaly we can sum the total weights given then divide them with the total entries which are 400.

Total weights/Total entries

To calculate the required value x which in my case is the fraction of newborns with a weight between 0.8 and 1.2 times the mean weight, we can use the following steps:

1. Calculate the mean weight of the newborns using the code from my previous response. (Total weights/Total entries)
2. Calculate the lower and upper bounds for the desired weight range by multiplying the mean weight by 0.8 and 1.2, respectively.
3. Count the number of newborns whose weight falls within the desired range.
4. Divide the count from step 3 by the total number of newborns to obtain the fraction of newborns with a weight between 0.8 and 1.2 times the mean weight.

Conclusion

Overall, this dataset provides valuable information about the distribution of newborn weights, which can be useful for understanding the health of newborns and for informing medical decisions related to prenatal care and delivery.