Assignment-3

AI1110: Probability And Random Variables
IIT Hyderabad

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April 18,2022

Q-8 A random survey of the number of children of various age group playing in a park was found as follows:-

Age(in years)	Number of children
1-2	5
2-3	3
3-5	6
5-7	12
7-10	9
10-15	10
15-17	4

Draw a histogram to represent the above data.

Solution:-

Here, the has class intervals of varying width.
So, we will calculate adjusted frequency

$$Adjusted\ Frequency = \frac{Frequency \times Required\ size\ of\ interval}{Current\ size\ of\ interval} \tag{1}$$

$$Required\ size\ of\ interval = Minimum\ size\ of\ interva \tag{2}$$

$$Minimum\ size\ of\ interval = 2 - 1 = 1 \tag{3}$$

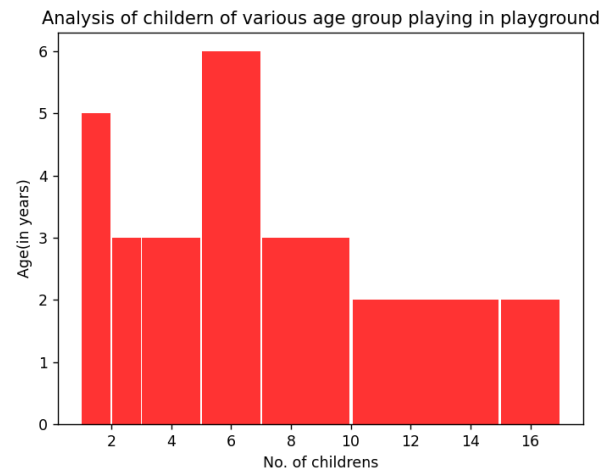| Age(in year)	Adjusted frequency
1-2	5
2-3	3
3-5	3
5-7	6
7-10	3
10-15	2
15-17	2

Adjusted frequency table

Fig. 1. Histogram showing age data of children