

Use the following data for age :
N = 15,11,10,20,21,26,19,18,14,22,12
Use depth according to you.

Solution:

Step 1 : Sort your data

N = 10,11,12,14,15,18,19,20,21,22,26

Step 2 : Partition your data in different bins of equal size using the formula (N/Depth)

Total number of bins = 11

To use Depth = 3, we need to add 1 element in the set of numbers to make it divisible by 12.

Thus No of bins = Elements / depth

i.e No of bins = $12/3 = 4$

Step 3 : Partition Bins

Bin 1 = 10,11,12

Bin 2 = 14,15,18

Bin 3 = 19,20,21

Bin 4 = 22,26,x

x can be next element of 26 i.e 27

Step 4 : Smooth each Bin = Sum of Elements /Depth

Bin 1 = $(10+11+12) / 3$

Bin 2 = $(14+15+18) / 3$

Bin 3 = $(19+20+21) / 3$

Bin 4 = $(22+26+27) / 3$

Step 5 : Replace new values in Bins

Bin 1 = $(10+11+12) / 3 = 11$

Bin 2 = $(14+15+18) / 3 = 15.66$

Bin 3 = $(19+20+21) / 3 = 20$

Bin 4 = $(22+26+27) / 3 = 25$

Final Output :

Smoothed Data =

Step 6 : {11,11,11,15.66,15.66,15.66,20,20,20,25,25,25}