

Use the following data for age :

N = 13, 12, 16, 19, 20, 14, 9, 10, 21, 24, 22, 23, 27, 25, 28

Use depth = 3

Solution:

**Step 1 : Sort your data**

N = 9, 10, 12, 13, 14, 16, 19, 20, 21, 22, 23, 24, 25, 27, 28

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

No of bins =  $N/D$  i.e  $15/3 = 5$  Bins

**Step 3 : Partition Bins**

Bin 1 = 9,10,12

Bin 2 = 13,14,16

Bin 3 = 19,20,21

Bin 4 = 22,23,24

Bin 5 = 25,27,28

**Step 4 : Smooth each Bin**

Bin 1 =  $(9 + 10 + 12)/3 = 31/3$

Bin 2 =  $(13 + 14 + 16)/3 = 43/3$

Bin 3 =  $(19 + 20 + 21)/3 = 60/3 = 20$

Bin 4 =  $(22 + 23 + 24)/3 = 69/3 = 23$

Bin 5 =  $(25 + 27 + 28)/3 = 80/3$

**Step 5 : Replace new values in Bins**

Bin 1 =  $31/3$  ,  $31/3$ ,  $31/3$  (10.33)

Bin 2 =  $43/3$ ,  $43/3$ ,  $43/3$  ( 14.33)

Bin 3 = 20,20,20

Bin 4 = 23,23,23

Bin 5 =  $80/3$ ,  $80/3$ ,  $80/3$  (26.66)

**Step 6 : Final Output**

Smoothed Data = { 10.33, 10.33, 10.33, 14.33, 14.33, 14.33, 20, 20, 20, 23, 23, 23, 26.66, 26.66, 26.66 }