

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function Addins

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24 marks <- c(55, 60, 71, 63, 55, 65, 50, 55, 58, 59, 61, 63, 65, 67, 71, 72, 75)
25 num_bins <- 3
26 bins_eq_frequency <- cut(marks, breaks = num_bins, labels = FALSE)
27 hist(marks, breaks = num_bins, col = "red", xlab = "Marks", main = "Equal-Frequency (Equi-Depth) Partition")
28 marks <- c(55, 60, 71, 63, 55, 65, 50, 55, 58, 59, 61, 63, 65, 67, 71, 72, 75)
29 bin_mean <- tapply(data, cut(data, num_bins), mean)
30 smoothed_data_by_mean <- unname(bin_mean[as.character(cut(data, num_bins))])
31 bin_median <- tapply(data, cut(data, num_bins), median)
32 smoothed_data_by_median <- unname(bin_median[as.character(cut(data, num_bins))])
33 bin_boundaries <- tapply(data, cut(data, num_bins), function(x) c(min(x), max(x)))
34 smoothed_data_by_boundaries <- unlist(bin_boundaries[as.character(cut(data, num_bins))])
35 print("Original data:")
36 print(data)
37 print("Smoothed data by bin mean:")
38 print(smoothed_data_by_mean)
39 print("Smoothed data by bin median:")
40 print(smoothed_data_by_median)
41 print("Smoothed data by bin boundaries:")
42 print(smoothed_data_by_boundaries)
```

42:35 (Top Level) R Script

Console Terminal Background Jobs

```
R 4.3.1 ~ /
[1] Smoothed data by bin median.
> print(smoothed_data_by_median)
[1] 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0
[16] 20.0 45.0 45.0 45.0 45.0 72.5 72.5 72.5 72.5
> print("Smoothed data by bin boundaries:")
[1] "Smoothed data by bin boundaries:"
> print(smoothed_data_by_boundaries)
(10.9,32.3]1 (10.9,32.3]2 (10.9,32.3]1 (10.9,32.3]2 (10.9,32.3]1 (10.9,32.3]2
11 30 11 30 11 30
(10.9,32.3]1 (10.9,32.3]2 (10.9,32.3]1 (10.9,32.3]2 (10.9,32.3]1 (10.9,32.3]2
11 30 11 30 11 30
(10.9,32.3]1 (10.9,32.3]2 (10.9,32.3]1 (10.9,32.3]2 (10.9,32.3]1 (10.9,32.3]2
11 30 11 30 11 30
(10.9,32.3]1 (10.9,32.3]2 (10.9,32.3]1 (10.9,32.3]2 (10.9,32.3]1 (10.9,32.3]2
11 30 11 30 11 30
(10.9,32.3]1 (10.9,32.3]2 (10.9,32.3]1 (10.9,32.3]2 (10.9,32.3]1 (10.9,32.3]2
11 30 11 30 11 30
(10.9,32.3]1 (10.9,32.3]2 (32.3,53.7]1 (32.3,53.7]2 (32.3,53.7]1 (32.3,53.7]2
11 30 40 45 40 45
(32.3,53.7]1 (32.3,53.7]2 (32.3,53.7]1 (32.3,53.7]2 (53.7,75.1]1 (53.7,75.1]2
40 45 40 45 71 75
(53.7,75.1]1 (53.7,75.1]2 (53.7,75.1]1 (53.7,75.1]2 (53.7,75.1]1 (53.7,75.1]2
71 75 71 75 71 75
> |
```

Environment	History	Connections	Tutorial
R	Global Environment	144 MiB	
range_class_a		00	
range_class_b		34	
range_classA		60	
range_classB		34	
result		3	
rounded_number		3.14	
s		12.94	
science_scores		num [1:49] 80 92 75 38 57 65 89 82 91 31 ...	
sd		316.227766016838	
sd_age		13.2186242152423	
sd_body_fat		9.2543948224296	
sd_fat		9.2543948224296	
smoothed_data_by_boundaries		Named num [1:48] 11 30 11 30 11 30 11 30 11 30 ...	
smoothed_data_by_mean		num [1:24(1d)] 18.9 18.9 18.9 18.9 18.9 ...	
smoothed_data_by_median		num [1:24(1d)] 20 20 20 20 20 20 20 20 20 ...	
smoothed_data_mean		num [1:8(1d)] 12.3 15.3 19.7 20.7 23 ...	
smoothed_data_median		num [1:3(1d)] 5 10 9	
smoothed_data_mode		num [1:3(1d)] 3 8 6	
speed		num [1:10] 78.3 81.8 82 74.2 83.4 84.5 82.9 77.5 80.9 70.6	
standard_deviation		4.44583450484208	
sum		1	
v		num [1:18] 23 23 27 27 39 41 47 49 50 52 ...	
values		num [1:4] 30 20 40 10	
x		num [1:10] 4 1 5 7 10 2 50 25 90 36	
y		num [1:10] 12 5 13 19 31 7 153 72 275 110	

