HomeworkForkingCodingKey

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3/12/2022

library(tidyverse)

## Warning: package 'tidyverse' was built under R version 4.0.5

## -- Attaching packages --------------------------------------- tidyverse 1.3.1 --

## v ggplot2 3.3.3 v purrr 0.3.4  
## v tibble 3.1.2 v dplyr 1.0.5  
## v tidyr 1.1.3 v stringr 1.4.0  
## v readr 1.4.0 v forcats 0.5.1

## Warning: package 'ggplot2' was built under R version 4.0.5

## Warning: package 'tidyr' was built under R version 4.0.5

## Warning: package 'readr' was built under R version 4.0.5

## Warning: package 'forcats' was built under R version 4.0.5

## -- Conflicts ------------------------------------------ tidyverse\_conflicts() --  
## x dplyr::filter() masks stats::filter()  
## x dplyr::lag() masks stats::lag()

library(dplyr)  
 library(data.table)

##   
## Attaching package: 'data.table'

## The following objects are masked from 'package:dplyr':  
##   
## between, first, last

## The following object is masked from 'package:purrr':  
##   
## transpose

diamonds

## # A tibble: 53,940 x 10  
## carat cut color clarity depth table price x y z  
## <dbl> <ord> <ord> <ord> <dbl> <dbl> <int> <dbl> <dbl> <dbl>  
## 1 0.23 Ideal E SI2 61.5 55 326 3.95 3.98 2.43  
## 2 0.21 Premium E SI1 59.8 61 326 3.89 3.84 2.31  
## 3 0.23 Good E VS1 56.9 65 327 4.05 4.07 2.31  
## 4 0.29 Premium I VS2 62.4 58 334 4.2 4.23 2.63  
## 5 0.31 Good J SI2 63.3 58 335 4.34 4.35 2.75  
## 6 0.24 Very Good J VVS2 62.8 57 336 3.94 3.96 2.48  
## 7 0.24 Very Good I VVS1 62.3 57 336 3.95 3.98 2.47  
## 8 0.26 Very Good H SI1 61.9 55 337 4.07 4.11 2.53  
## 9 0.22 Fair E VS2 65.1 61 337 3.87 3.78 2.49  
## 10 0.23 Very Good H VS1 59.4 61 338 4 4.05 2.39  
## # ... with 53,930 more rows

diamonds%>%  
 select(carat,cut,price)%>%  
 filter(cut == "Premium")%>%  
 filter(price > 7000 & price < 10000)%>%  
 arrange(desc(carat))%>%  
 slice(1:20)

## # A tibble: 20 x 3  
## carat cut price  
## <dbl> <ord> <int>  
## 1 3.01 Premium 8040  
## 2 3.01 Premium 9925  
## 3 2.68 Premium 8419  
## 4 2.5 Premium 8467  
## 5 2.43 Premium 9716  
## 6 2.34 Premium 8491  
## 7 2.33 Premium 8220  
## 8 2.3 Premium 7226  
## 9 2.17 Premium 9078  
## 10 2.12 Premium 7508  
## 11 2.06 Premium 9967  
## 12 2.05 Premium 9850  
## 13 2.05 Premium 9850  
## 14 2.05 Premium 9850  
## 15 2.04 Premium 7403  
## 16 2.04 Premium 8408  
## 17 2.04 Premium 9727  
## 18 2.04 Premium 9905  
## 19 2.03 Premium 7421  
## 20 2.03 Premium 9435

as.data.table(diamonds)

## carat cut color clarity depth table price x y z  
## 1: 0.23 Ideal E SI2 61.5 55 326 3.95 3.98 2.43  
## 2: 0.21 Premium E SI1 59.8 61 326 3.89 3.84 2.31  
## 3: 0.23 Good E VS1 56.9 65 327 4.05 4.07 2.31  
## 4: 0.29 Premium I VS2 62.4 58 334 4.20 4.23 2.63  
## 5: 0.31 Good J SI2 63.3 58 335 4.34 4.35 2.75  
## ---   
## 53936: 0.72 Ideal D SI1 60.8 57 2757 5.75 5.76 3.50  
## 53937: 0.72 Good D SI1 63.1 55 2757 5.69 5.75 3.61  
## 53938: 0.70 Very Good D SI1 62.8 60 2757 5.66 5.68 3.56  
## 53939: 0.86 Premium H SI2 61.0 58 2757 6.15 6.12 3.74  
## 53940: 0.75 Ideal D SI2 62.2 55 2757 5.83 5.87 3.64

as.data.table(diamonds) -> diamondsdt  
 diamondsdt

## carat cut color clarity depth table price x y z  
## 1: 0.23 Ideal E SI2 61.5 55 326 3.95 3.98 2.43  
## 2: 0.21 Premium E SI1 59.8 61 326 3.89 3.84 2.31  
## 3: 0.23 Good E VS1 56.9 65 327 4.05 4.07 2.31  
## 4: 0.29 Premium I VS2 62.4 58 334 4.20 4.23 2.63  
## 5: 0.31 Good J SI2 63.3 58 335 4.34 4.35 2.75  
## ---   
## 53936: 0.72 Ideal D SI1 60.8 57 2757 5.75 5.76 3.50  
## 53937: 0.72 Good D SI1 63.1 55 2757 5.69 5.75 3.61  
## 53938: 0.70 Very Good D SI1 62.8 60 2757 5.66 5.68 3.56  
## 53939: 0.86 Premium H SI2 61.0 58 2757 6.15 6.12 3.74  
## 53940: 0.75 Ideal D SI2 62.2 55 2757 5.83 5.87 3.64

diamondsdt[, list(carat,cut,price)][cut == "Premium" & price < 10000 & price > 7000][order(-carat)][1:20]

## carat cut price  
## 1: 3.01 Premium 8040  
## 2: 3.01 Premium 9925  
## 3: 2.68 Premium 8419  
## 4: 2.50 Premium 8467  
## 5: 2.43 Premium 9716  
## 6: 2.34 Premium 8491  
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## 9: 2.17 Premium 9078  
## 10: 2.12 Premium 7508  
## 11: 2.06 Premium 9967  
## 12: 2.05 Premium 9850  
## 13: 2.05 Premium 9850  
## 14: 2.05 Premium 9850  
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## 19: 2.03 Premium 7421  
## 20: 2.03 Premium 9435