

The screenshot shows a DataCamp Portfolio page for a user named Chundru Rishith Sai Chowdary. The profile includes a green circular icon with a white letter 'C', the name 'Chundru Rishith Sai Chowdary', the title 'Student', and the subtitle 'lovely professional university'. Below the profile, a section titled 'MY PORTFOLIO HIGHLIGHTS' displays a message: 'You have no Highlights in your Portfolio yet.' At the bottom of the page, there is a large blue banner with the text 'Data scientist, turning data chaos into organized knowledge.' followed by three buttons: 'View Portfolio', 'Share', and 'Portfolio Assistant'.

The screenshot shows a DataCamp Learn page for the R Programming track. On the left, a sidebar lists categories like Progress, Bookmarks, LEARN (Tracks, Courses, Practice, Assessments), APPLY (Tutorials, Projects, Case Studies, Code Alongs, Competitions), and POPULAR TOPICS (Artificial Intelligence, Data Engineering). The main content area greets the user with 'Hey, Chundru Rishith Sai!' and shows 'Portfolio 30% complete'. It displays the 'Introduction to R' course with a progress bar at 13% and 3 hours left. Below it, there's a section for 'Already know this?' with a link to 'Introduction to R →'. To the right, there are sections for 'PRACTICE' (Introduction to R) and 'APPLY' (Visualizing COVID-19). A large promotional banner at the bottom offers 'Build Data and AI skills 50% off' with a 'Buy Now' button.

The screenshot shows the DataCamp Home dashboard. At the top right, a green circular profile icon with the letter 'C' is displayed, with the name "Hey, Chundru Rishith Sai!" and a message "Portfolio 50% complete". Below this, the "Basic • Upgrade" button is visible. On the left, under the "Learn" section, the "Introduction to R" track is shown as 13% complete with 3 hours left. Under "Workspace", there's a section titled "Speed up your process using AI" with a "Try It Out" button. Under "Certification", there's a "Check out Certification" section with a "Get Started" button and a "PROFESSIONAL DATA SCIENTIST" badge. On the right, a summary box shows "Daily XP 10000/250" and "Total XP 11550", a "Current streak 2 days" (marked with a green circle for Friday), and completion counts for Courses (0), Tracks (0), and Projects (0). A "ChatGPT Fundamentals" section is also present.

Hey, Chundru Rishith Sai!

Portfolio 50% complete

Basic • Upgrade

Keep Making Progress

You're enrolled in the R Programming track.

Introduction to R

13% 3 hours to go

PRACTICE Introduction to R

APPLY Visualizing COVID-19

Starter • Upgrade

Workspace

Speed up your process using AI

Try It Out

Check out Certification

Get a Certificate to show off your amazing skills

PROFESSIONAL DATA SCIENTIST

TRY IT OUT

Basic • Upgrade

Hey, Chundru Rishith Sai!

Portfolio 50% complete

Daily XP 10000/250

Total XP 11550

Current streak 2 days

M T W **F** S S

0 Courses completed

0 Tracks completed

0 Projects completed

ChatGPT Fundamentals NEW

2 hours

Introduction to R

+250 XP

Practice workout completed!

1 day streak

F S S M T W T

Go to Dashboard

PRESS ENTER TO Practice Again

Intermediate R

What is the difference between the logical operators & and && ?

Select the correct answer

&& performs element-wise comparisons on vectors PRESS 1

& performs element-wise comparisons on vectors PRESS 2

& only examines the first element of each vector PRESS 3

**Nice work!** PRESS ENTER TO Continue

+250 XP

Practice workout completed!

1 day streak

F S S M T W T

[Go to Dashboard](#) PRESS ENTER TO Practice Again

Which function can be used to view a list of all the packages that are loaded in your R session?

Select the correct answer

loaded.packages()  
 search()  
 installed.packages()  
 available.packages()



PRESS ENTER TO Continue

Complete the code to return the output

```
!(6 < 17)
```

[1] FALSE

Fill in the blanks

!= 1 not 3 NOT 4

↻ Reset R

PRESS ENTER TO Continue

Nice work!

24Online Client | LPU Live | Practice Introduction to R

Introduction to R

Report an issue

Which of the following is not a categorical variable?

Select the correct answer

Weekday PRESS 1

Gender PRESS 2

Height PRESS 3

Season PRESS 4

Good job!

 Find out why

PRESS ENTER TO Continue



# ACTIVITY-2

```

RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins ->
Project: (None) -
R Script
Source on Save
78
79
80
81
82 nrow(r2)
83 dim(r2)
84 min(r2$radius)
85 mean(r2$area)
86 r2[c(18,20,56,45),c(9,8,10)]
87 re<-subset(r2,area<=000)
88 re
89 range(r2$smoothness)
90 rel<-sum(r2$diagnosis_result==M)
91
92 r11<-subset(r2,[compactness<0.158&symmetry<0.158])
93 r11
94 r11
95
96
97
98
99
100
101
102
95: (Top Level) :
Console Terminal < Background Jobs <
R 4.3.2 C:\Users\SAVIGNESH\OneDrive\Desktop\/
[1] 62
> r11<-subset(r2,[compactness<0.158&symmetry<0.158])
> r11
  in diagnosis_result radius texture perimeter area smoothness compactness symmetry fractal_dimension
11 11      M    24     21   103 798  0.082  0.067  0.153  0.057
38 38      B    21     11    83 524  0.090  0.088  0.147  0.059
39 39      M    11     15    96 699  0.094  0.051  0.157  0.055
51 51      B    19     25    75 428  0.086  0.050  0.150  0.059
52 52      B    19     22    87 572  0.077  0.061  0.135  0.060
65 65      B    18     12    72 595  0.081  0.047  0.152  0.057
93 93      B    14     14    85 552  0.079  0.051  0.139  0.053
98 98      B    19     27    62 295  0.102  0.053  0.135  0.069
>
19°C Haze
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins ->
Project: (None) -
R Script
Source on Save
1 setwd('C:/Users/Rishith/OneDrive/Desktop')
2 r2=read.csv("Prostate_cancer.csv")
3 r2
>
> Natural language support but running in an English locale
R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.
Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.
[Workspace loaded from ./RData]
> |

```

The screenshot shows two RStudio sessions. The left session, titled 'R Script', contains R code for a classification model. It includes data loading, feature selection (using `subset`), and model training. The right session, titled 'Console', shows the execution of this code and displays a confusion matrix:

	M	B
M	11	38
B	51	52

**RStudio**

```

83 ncol(r2)
84 dim(r2)
85 min(r2$radius)
86 mean(r2$area)
87 r2[c(18, 20, 26, 45), c(9, 8, 10)]
88 re_subset(r2, area<=600)
89 re
90 range(r2$smoothness)
91 rowsum(r2$diagnosis_result=="M")
92 r1
93 r1<-subset(r2, (compactness<=0.158 & symmetry<=0.158))
94 r11
95 grep('texture', colnames(r2))
96 grep('symmetry', colnames(r2))
97 re<-tail(r2, 20)
98 re2
99
100
101
102
103
104
105
106
107

```

99.1 (Top Level) :

Console Terminal < Background Jobs x

R 4.3.2 C:/Users/SAI VIGNESH/OneDrive/Desktop/ ↵

```

89 89   B 11 11 88 466 0.088 0.094 0.193 0.064
90 90   B 12 23 96 652 0.113 0.134 0.212 0.063
91 91   B 23 27 95 663 0.099 0.086 0.169 0.059
92 92   M 10 12 100 522 0.072 0.073 0.172 0.051
93 93   B 14 14 85 552 0.074 0.051 0.139 0.053
94 94   B 10 17 87 555 0.102 0.082 0.164 0.057
95 95   M 22 26 100 706 0.104 0.155 0.186 0.063
96 96   M 23 16 132 1264 0.091 0.131 0.210 0.056
97 97   B 22 14 78 451 0.105 0.071 0.198 0.066
98 98   B 19 27 62 295 0.162 0.053 0.135 0.069
99 99   B 21 24 74 813 0.098 0.075 0.162 0.066
100 100   M 16 27 94 643 0.098 0.114 0.188 0.064

```

19°C Haze

RStudio

```

79
80
81 nrow(r2)
82 ncol(r2)
83 dim(r2)
84 min(r2$radius)
85 mean(r2$area)
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103

```

89.1 (Top Level) :

Console Terminal < Background Jobs x

R 4.3.2 C:/Users/SAI VIGNESH/OneDrive/Desktop/ ↵

```

> mean(r2$area)
[1] 762.88
> mean(r2$area)
[1] 762.88

```

Upcoming Earnings

Environment History Connections Tutorial

R - Global Environment

Value	Type	Description
r2	100 obs. of 10 variables	
re	48 obs. of 10 variables	
r2e	20 obs. of 10 variables	
s	num [1:3, 1:3] 1 0 0 0 1 0 0 0 1	
sp	num [1:3, 1:3] 11 11 11 11 11 11 11 11 11	
v1	List of 5	
v2	int [1:3, 1:3] 6 9 12 7 10 6 8 11 7	
Values		
a	NULL	
a1	chr [1:3] "TRUE" "56.4" "lpu"	
ab	Named num [1:3] 1 2 3	
abc	NULL	
age	NA_integer_	
ans	11L	
ax	1	
b	int [1:8] 2 3 4 5 6 7 8 9	
bx	3	
c	9849L	
col	chr [1:3] "A" "B" "C"	
col_name	chr [1:3] "c1" "c2" "c3"	
dir	Factor w/ 4 levels "EAST", "NORTH", ... : 2 1 3 4 ...	
e	"shah"	
emp_id	num [1:3] 2 3 4	
emp_name	chr [1:3] "arun" "sam" "sammy"	
f	9849L	
g	1	

Files Plots Packages Help Viewers Presentation

User Library

- backports Reimplementations of Functions Introduced Since R 3.0.0 1.4.1
- grid Template Framework for Report Generation 10.10

ENG IN 15:19 05-03-2024

**RStudio**

```

79
80
81 nrow(r2)
82 ncol(r2)
83 dim(r2)
84 min(r2$radius)
85 mean(r2$area)
86
87
88
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90
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92
93
94
95
96
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98
99
100
101
102
103

```

89.1 (Top Level) :

Console Terminal < Background Jobs x

R 4.3.2 C:/Users/SAI VIGNESH/OneDrive/Desktop/ ↵

```

> mean(r2$area)
[1] 762.88
> mean(r2$area)
[1] 762.88

```

Upcoming Earnings

Environment History Connections Tutorial

R - Global Environment

Data	Type	Description
ac	int [1:4, 1:6] 0 0 0 0 0 0 ...	
ad	num [1:4, 1:6] 0 1 0 1 0 1 ...	
be	chr [1:8] "DBMS" "python" "c" "DBMS" "c++" ...	
d	num [1:3, 1:3] 5 0 0 0 5 0 0 0 5	
emplist	List of 3	
l1	List of 1	
l2	List of 8	
l3	List of 2	
list1	List of 3	
m1	num [1:6, 1:7] 7 8 9 10 1 1 11 12 13 14 ...	
m5	int [1:4, 1:6] 1 7 1 2 8 2 8 3 9 ...	
m6	int [1:4, 1:6] 13 19 13 19 14 20 14 20 15 2 ...	
mat	num [1:2, 1:3] 1 4 2 5 3 6	
q	List of 4	
r1	768 obs. of 9 variables	
r2	100 obs. of 10 variables	
s	num [1:3, 1:3] 1 0 0 0 1 0 0 0 1	
sp	num [1:3, 1:3] 11 11 11 11 11 11 11 11 11	
v1	List of 5	
v2	int [1:3, 1:3] 6 9 12 7 10 6 8 11 7	
Values		
a	NULL	
a1	chr [1:3] "TRUE" "56.4" "lpu"	
ab	Named num [1:3] 1 2 3	
abc	NULL	

Files Plots Packages Help Viewers Presentation

User Library

- backports Reimplementations of Functions Introduced Since R 3.0.0 1.4.1
- grid Template Framework for Report Generation 10.10

ENG IN 15:14 05-03-2024

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Console Terminal Background Jobs

R 4.3.2 C:/Users/SAI VIGNESH/OneDrive/Desktop/

```

83 ncol(r2)
84 dim(r2)
85 min(r2$radius)
86 mean(r2$area)
87 r2[c(18, 20, 26, 45), c(9, 8, 10)]
88 re_subset(r2, area<=600)
89 re
90 range(r2$smoothness)
91 re[sum(r2$diagnosis_result=="M")]
92 re
93 r1<-subset(r2, (compactness<=0.158 & symmetry<=0.158))
94 r11
95 grep("texture", colnames(r2))
96
97
98
99
100
101
102
103
104
105
106
107
96:1 (Top Level) : 
```

	id	diagnosis_result	radius	perimeter	area	smoothness	compactness	symmetry	fractal_dimension
11	M	24	21	103	798	0.082	0.067	0.153	0.057
30	B	20	21	103	798	0.090	0.077	0.147	0.059
39	M	11	15	96	699	0.094	0.051	0.157	0.055
51	B	19	25	75	428	0.086	0.050	0.150	0.059
52	B	19	22	87	572	0.077	0.061	0.135	0.060
68	B	18	12	72	394	0.081	0.047	0.152	0.057
93	B	14	14	85	552	0.074	0.051	0.139	0.053
98	B	19	27	62	295	0.162	0.053	0.135	0.069

```

> r11
[1] 4

```

19°C Haze

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Console Terminal Background Jobs

R 4.3.2 C:/Users/SAI VIGNESH/OneDrive/Desktop/

```

79
80
81
82 nrow(r2)
83 ncol(r2)
84 dim(r2)
85 min(r2$radius)
86 mean(r2$area)
87 r2[c(18, 20, 26, 45), c(9, 8, 10)]
88 re_subset(r2, area<=600)
89 re
90 |
91
92
93
94
95
96
97
98
99
100
101
102
103
90:1 (Top Level) : 
```

	id	diagnosis_result	radius	perimeter	area	smoothness	compactness	symmetry	fractal_dimension
75	B	18	13	79	471	0.092	0.068	0.172	0.059
77	B	16	17	88	539	0.129	0.105	0.246	0.065
80	B	22	16	83	596	0.099	0.077	0.172	0.060
81	B	10	18	74	462	0.110	0.091	0.184	0.070
82	B	17	21	86	520	0.108	0.154	0.194	0.069
85	B	25	21	77	443	0.097	0.072	0.208	0.060
89	B	11	11	88	466	0.088	0.094	0.193	0.064
93	B	14	14	85	552	0.074	0.051	0.139	0.053
94	B	10	17	87	555	0.102	0.082	0.164	0.057
97	B	22	14	78	451	0.105	0.071	0.198	0.066
98	B	19	27	62	295	0.162	0.053	0.135	0.069
99	B	21	24	74	413	0.099	0.075	0.162	0.066

RStudio

```

83 ncol(r2)
84 dim(r2)
85 min(r2$area)
86 mean(r2$area)
87 r2[c(18,20,26,45),c(9,8,10)]
88 re<-subset(r2,area<=600)
89 re
90 range(r2$smoothness)
91 rel<-sum(r2$diagnosis_result==M)
92 rel
93 r1<-subset(r2,(compactness<=0.158&symmetry<=0.158))
94 r11
95 grep('texture',colnames(r2))
96 grep('symmetry',colnames(r2))
97 |
98
99
100
101
102
103
104
105
106
107
9h1 (Top Level) R Script
Console Terminal < Background Jobs >
R 4.3.2 C:/Users/SAI VIGNESH/OneDrive/Desktop/ →
11 11 M 24 21 103 798 0.082 0.067 0.153 0.057
38 38 B 21 11 83 524 0.099 0.038 0.147 0.059
39 39 M 11 15 96 699 0.094 0.051 0.157 0.055
51 51 B 19 25 76 599 0.026 0.059 0.159 0.059
52 52 B 19 22 87 872 0.077 0.061 0.135 0.060
68 68 B 18 12 72 394 0.081 0.047 0.152 0.057
93 93 B 14 14 85 552 0.074 0.051 0.139 0.053
98 98 B 19 27 62 295 0.102 0.053 0.135 0.069
> grep('texture',colnames(r2))
[1] 4
> grep('symmetry',colnames(r2))
[1] 9
|
```

19°C Haze

RStudio

```

82 nrow(r2)
83 ncol(r2)
84 dim(r2)
85 min(r2$radius)
86 mean(r2$area)
87 r2[c(18,20,26,45),c(9,8,10)]
88 re<-subset(r2,area<=600)
89 re
90 range(r2$smoothness)
91 rel<-sum(r2$diagnosis_result==M)
92 rel
93 r1<-subset(r2,(compactness<=0.158&symmetry<=0.158))
94 r11
95 grep('texture',colnames(r2))
96 grep('symmetry',colnames(r2))
97 re2<-tail(r2,26)
98 re2
99 r2$radius[r2$ID == 1 & r2$ID <= 10] <- r2$radius[r2$ID >= 1 & r2$ID <= 10] + 100
100 average_radius <- mean(r2$radius)
101 print(average_radius)
102
103
104
105
106
107
102:1 (Top Level) R Script
Console Terminal < Background Jobs >
R 4.3.2 C:/Users/SAI VIGNESH/OneDrive/Desktop/ →
93 93 B 14 14 85 552 0.074 0.051 0.159 0.053
94 94 B 18 17 87 555 0.102 0.062 0.141 0.057
95 95 M 22 26 25 188 0.094 0.055 0.166 0.063
96 96 M 23 16 132 1264 0.091 0.131 0.210 0.056
97 97 B 22 14 78 451 0.105 0.071 0.198 0.066
98 98 B 19 27 62 295 0.102 0.053 0.135 0.069
99 99 B 21 24 74 413 0.098 0.075 0.162 0.066
100 100 M 16 27 94 643 0.098 0.114 0.188 0.064
> r2$radius[r2$ID == 1 & r2$ID <= 10] <- r2$radius[r2$ID >= 1 & r2$ID <= 10] + 100
> average_radius <- mean(r2$radius)
> print(average_radius)
[1] 16.85
|
```

19°C Haze

RStudio

```

85 min(r2$radius)
86 mean(r2$area)
87 r2[c(18, 22, 26, 45), c(9, 8, 10)]
88 re<-subset(r2, area<=600)
89 re
90 range(r2$smoothness)
91 re
92 re
93 re<-subset(r2, (compactness<0.158&symmetry<0.158))
94 r11
95 grep('texture', colnames(r2))
96 grep('symmetry', colnames(r2))
97 re2<-tail(r2, 26)
98 re2
99 r2
100 radius[r2$ID == 1 & r2$ID <= 10] <- r2$radius[r2$ID == 1 & r2$ID <= 10] + 100
101 average_radius <- mean(r2$radius)
102 print(average_radius)
103 r2$new.dim <- r2$area + r2$radius
104 print(r2)
105
106
107
108
109
[ reached 'max' / getOption("max.print") -- omitted 10 rows ]

```

R Script

Console Terminal < Background Jobs

R 4.3.2 C:/Users/SAI VIGNESH/OneDrive/Desktop/ →

	B	22	16	83	566	0.099	0.095	0.172	0.060	528
81	B	10	18	74	492	0.110	0.094	0.184	0.070	412
82	B	17	21	86	526	0.168	0.154	0.194	0.069	537
83	M	10	15	172	129	0.095	0.095	0.153	0.060	325
84	M	20	14	129	1132	0.122	0.179	0.163	0.072	1152
85	B	25	21	77	443	0.097	0.072	0.208	0.060	468
86	M	14	13	121	1075	0.099	0.105	0.213	0.060	1089
87	M	19	26	94	648	0.094	0.099	0.208	0.056	667
88	M	19	11	122	1076	0.090	0.121	0.195	0.056	1095
89	B	11	11	80	466	0.088	0.094	0.193	0.064	477
90	B	12	23	96	652	0.113	0.134	0.212	0.063	664

19°C Haze

RStudio

```

80
81 nrow(r2)
82 ncol(r2)
83 dim(r2)
84 min(r2$radius)
85 average(r2$area)
86
87
88
89
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92
93
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99
100
101
102
103
104
[1] 9
[2] 10
[1] 100 10

```

R 4.3.2 C:/Users/SAI VIGNESH/OneDrive/Desktop/ →

[1] 9

[2] 10

[1] 100 10

19°C Haze

RStudio

```

80
81
82 nrow(r2)
83 ncol(r2)
84 dim(r2)
85 min(r2)
86 max(r2)
87 r1[c(18, 20, 56, 45), c(9, 8, 18)]
88 resubset(r2, area<=600)
89 re
90 range(r2$smoothness)
91 rel<-sum(r2$diagnosis_result=="M")
92 rel
93
94
95
96
97
98
99
100
101
102
103
104

```

98:1 (Top Level) :

Console Terminal < Background Jobs x

R 4.3.2 C:/Users/SAI VIGNESH/VoneDrive/Desktop/ ↵

```

98 98   B   19   27    62  295   0.102   0.053   0.135   0.069
99 99   B   21   24    74  413   0.099   0.075   0.162   0.066

```

range(r2\$smoothness)

```

[1] 0.079 0.143

```

> rel<-sum(r2\$diagnosis\_result=="M")

```

[1] 0.070 0.143

```

> rel

```

[1] 62

```

> rel<-sum(r2\$diagnosis\_result=="M")

```

[1] 62

```

[1] 62

19°C Haze

RStudio

```

77
78
79
80
81 nrow(r2)
82 ncol(r2)
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101

```

98:1 (Top Level) :

Console Terminal < Background Jobs x

R 4.3.2 C:/Users/SAI VIGNESH/VoneDrive/Desktop/ ↵

```

93 93   B   14   14    85  552   0.074   0.051   0.139   0.053
94 94   B   18   17    87  555   0.102   0.068   0.141   0.057
95 95   M   22   26    88  504   0.094   0.055   0.196   0.053
96 96   M   23   16   132 1264   0.091   0.131   0.210   0.056
97 97   B   22   14    78  451   0.105   0.071   0.198   0.066
98 98   B   19   27    62  295   0.102   0.053   0.135   0.069
99 99   B   21   24    74  413   0.099   0.075   0.162   0.066
100 100   M   16   27    94  643   0.098   0.114   0.188   0.064

```

> nrow(r2)

```

[1] 100

```

> ncol(r2)

```

[1] 10

```

19°C Haze

RStudio

```

80
81 nrow(r2)
82 ncol(r2)
83 dim(r2)
84 min(r2$radius)
85 average(r2$area)
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104

```

R Script

```

> min(r2$radius)
[1] 9
dim(r2)
[1] 100 10
r2$average(r2$radius)
[1] 9

```

19°C Haze

RStudio

```

77
78
79
80
81 nrow(r2)
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101

```

R Script

```

> R 4.3.2 C:/Users/SAI VIGNESH/OneDrive/Desktop/ →
91 91 B 23 27 95 663 0.090 0.086 0.169 0.059
92 92 M 18 12 188 728 0.092 0.160 0.172 0.061
93 93 B 14 14 155 570 0.051 0.159 0.159 0.053
94 94 B 19 17 87 555 0.162 0.082 0.164 0.057
95 95 M 22 26 188 706 0.104 0.155 0.186 0.063
96 96 M 23 16 132 1264 0.091 0.131 0.210 0.056
97 97 B 22 14 78 451 0.105 0.071 0.198 0.066
98 98 B 19 27 62 295 0.102 0.053 0.135 0.069
99 99 B 21 24 74 413 0.098 0.075 0.162 0.066
100 100 M 16 27 94 643 0.114 0.188 0.064

```

average(r2)

[1] 100

19°C Haze

RStudio

```

79
80
81 nrow(r2)
82 ncol(r2)
83 dim(r2)
84 min(r2$radius)
85 mean(r2$area)
86 r2[c(18,20,56,45),c(9,8,10)]
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103

```

R Script

```

> mean(r2$area)
[1] 792.88
> mean(r2$area)
[1] 792.88
> r2[c(18,20,56,45),c(9,8,10)]
   symmetry compactness fractal_dimension
18    0.216      0.202        0.074
22    0.182      0.065        0.069
56    0.192      0.055        0.059
45    0.175      0.105        0.062
>

```

19°C Haze

RStudio

```

81 nrow(r2)
82 ncol(r2)
83 dim(r2)
84 min(r2$radius)
85 mean(r2$area)
86 r2[c(18,20,56,45),c(9,8,10)]
87 r2<-subset(r2,area<=600)
88 re
89 range(r2$smoothness)
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105

```

R Script

```

> range(r2$smoothness)
[1] 0.070 0.143
> range(r2$smoothness)
[1] 0.070 0.143
>

```

19°C Haze

# ACTIVITY-3

```

8 Library(sqldf)
9 install.packages('xlsx')
10 Library('sqldf')
11 s3<-read_excel(file.choose())
12 View(s3)
13 #1
14 sqldf("select sum(sales) from s3")
15 View(sqldf("select sum(sales) from s3"))
16 #2
17 View(sqldf("select country from s3 where sales=(select MIN(sales) from s3)"))
18 #3
19 View(sqldf("select country,sales from s3 where Region =='North'"))
20 #4
21 View(sqldf("select * from s3 where sales=(select Max(sales) from s3)"))
22 #5
23 View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
24 #6
25 sqldf("SELECT * FROM s3 WHERE Region = 'East' AND Sales > 500")
26 #7
27 sqldf("SELECT Country, Region, Sales FROM s3 WHERE Region IN (SELECT Region FROM s3 GROUP BY Region
28 #8
29 sqldf("SELECT DISTINCT Country, Region FROM s3 WHERE Region IN ('North', 'West')")
30 #9
31 sqldf("SELECT DISTINCT Country FROM s3 WHERE Country NOT IN (SELECT Country FROM s3 WHERE Region IN
32 #10
33 d1 <- sqldf("SELECT * FROM s3 WHERE Country LIKE '%UK%'")
34 d2 <- sqldf("SELECT * FROM s3 WHERE Country LIKE '%K%'")
35 d1
36 d2
37 #11
38 sqldf("SELECT Country FROM (SELECT Country FROM d1 UNION SELECT Country FROM d2) AS countries_d1_d2")
39 #12
40 no_sales <- sqldf("SELECT * FROM s3 WHERE Country NOT IN (SELECT Country FROM (SELECT Country FROM
41 no_sales
42 #13
43 sqldf("SELECT COUNT(*) AS TotalObservations, COUNT(DISTINCT Country) AS Dimensions FROM no_sales")

```

(Top Level)

Console

```

5 #file.choose()
6 s3<-read.csv(file.choose())
7 Library('readxl')
8 Library(sqldf)
9 install.packages('xlsx')
10 Library('sqldf')
11 s3<-read_excel(file.choose())
12 View(s3)
13 #1
14 sqldf("select sum(sales) from s3")
15 View(sqldf("select sum(sales) from s3"))
16 #2
17 View(sqldf("select country from s3 where sales=(select MIN(sales) from s3)"))
18 #3
19 View(sqldf("select country,sales from s3 where Region =='North'"))
20 #4
21 View(sqldf("select * from s3 where sales=(select Max(sales) from s3)"))
22 #5
23 View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
24 #6
25 sqldf("SELECT * FROM s3 WHERE Region = 'East' AND Sales > 500")
26 #7
27 sqldf("SELECT Country, Region, Sales FROM s3 WHERE Region IN (SELECT Region FROM s3 GROUP BY Region
28 #8
29 sqldf("SELECT DISTINCT Country, Region FROM s3 WHERE Region IN ('North', 'West')")
30 #9
31 sqldf("SELECT DISTINCT Country FROM s3 WHERE Country NOT IN (SELECT Country FROM s3 WHERE Region IN
32 #10
33 d1 <- sqldf("SELECT * FROM s3 WHERE Country LIKE '%UK%'")
34 d2 <- sqldf("SELECT * FROM s3 WHERE Country LIKE '%K%'")
35 d1
36 d2
37 #11
38 sqldf("SELECT Country FROM (SELECT Country FROM d1 UNION SELECT Country FROM d2) AS countries_d1_d2")
39 #12
40 no_sales <- sqldf("SELECT * FROM s3 WHERE Country NOT IN (SELECT Country FROM (SELECT Country FROM
41 no_sales

```

(Top Level)

Console

```

sql queries on sales excel file.R* sql[{"select sum(sales) from s3"}]
sum(sales)
  1 9991

Environment History Connections Tutorial
R Data Global Environment
Data
● l1 List of 4
● l2 List of 8
● s1 6 obs. of 3 variables
● s3 15 obs. of 3 variables
x int [1:3, 1:4] 1 5 9 2 6 10 3 7 11 4 ...
Values
a chr [1:5] "cse" "ece" "mech" "eee" "civil"
ax 1
b num [1:4] 450 250 150 70
l1
Files Plots Packages Help Viewer Presentation
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memoise 'Memoisation' of Functions 2.0.1
openxlsx Read, Write and Edit xlsx Files 4.2.5.2
pillar Coloured Formatting for Columns 1.9.0
plumber Private Configuration for R' Packages 2.0.3
sqldf

```

Showing 1 to 1 of 1 entries, 1 total columns

```

country Region Sales
1 INDIA East 550
2 INDIA East 600
3 UK East 600
4 Australia East 540
> View(s3)
> #5
> View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM sales_data"))
Error in View : no such table: sales_data
> #5
> View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
> View(sqldf('select sum(sales) from s3'))
> |

```

```

sql queries on sales excel file.R* sql[{"select count(*) from s3 where sa..."]
country
  ! Germany

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ax 1
b num [1:4] 450 250 150 70
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pillar Coloured Formatting for Columns 1.9.0
plumber Private Configuration for R' Packages 2.0.3
sqldf

```

Showing 1 to 1 of 1 entries, 1 total columns

```

R 4.3.2 - /-
country Region Sales
2 INDIA East 600
3 UK East 600
4 Australia East 540
> View(s3)
> #5
> View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM sales_data"))
Error in View : no such table: sales_data
> #5
> View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
> View(sqldf('select sum(sales) from s3'))
> #2
> View(sqldf("select country from s3 where sales=(select MIN(sales) from s3)"))
> |

```

RStudio

```

2 getwd()
3 setwd()
4 ## 
5 # file.choose()
6 s3<-read.csv(file.choose())
7 library('readxl')
8 library(sqldf)
9 install.packages('xlsx')
10 library('sqldf')
11 s3<-read_excel(file.choose())
12 View(s3)
13 ##
14 sqldf("select sum(sales) from s3")
15 View(sqldf("select sum(sales) from s3"))
16 ##
17 View(sqldf("select country from s3 where sales=(select MIN(sales) from s3)"))
18 ##
19 View(sqldf("select country,sales from s3 where Region =='North'"))
20 ##
21 View(sqldf("select * from s3 where sales=(select Max(sales) from s3)"))
22 ##
23 View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
24 ##
25 View(sqldf("SELECT * FROM s3 WHERE Region =='North' AND sales > 500"))
26 |

```

R4.3.2 -/ ~

```

2 INDIA East 600
3 UK East 600
4 Australia East 540
> View(s3)
> #
> View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM sales_data"))
Error in View : no such table: sales_data
> #
> View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
> View(sqldf("select sum(sales) from s3"))
> #
> View(sqldf("select country from s3 where sales=(select MIN(sales) from s3)"))
> |

```

RStudio

```

File Edit Code View Plots Session Build Debug Profile Tools Help
sql queries on sales excel file.R sqldf["select country,sales from s3 where Region =='North'"]
Environment History Connections Tutorial
R - Global Environment
Data
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b num [1:4] 450 250 150 70
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pillar Coloured Formatting for Columns 1.9.0
pkgconfig Private Configuration for R' Packages 2.0.3
rvest The 'rvest' C++ + Environment library 0.7.0

```

R4.3.2 -/ ~

```

country Sales
1 UK 788
2 UK 890
3 Bangkok 452

```

Showing 1 to 3 of 3 entries, 2 total columns

```

4 Australia East 540
> View(s3)
> #
> View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM sales_data"))
Error in View : no such table: sales_data
> #
> View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
> View(sqldf("select sum(sales) from s3"))
> #
> View(sqldf("select country from s3 where sales=(select MIN(sales) from s3)"))
> #
> View(sqldf("select country,sales from s3 where Region =='North'"))
> |

```

RStudio

```

File Edit Code View Plots Session Build Debug Profile Tools Help
sql queries on sales excel file.R sqldf["select country,sales from s3 where Region =='North'"]
Environment History Connections Tutorial
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b num [1:4] 450 250 150 70
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pillar Coloured Formatting for Columns 1.9.0
pkgconfig Private Configuration for R' Packages 2.0.3
rvest The 'rvest' C++ + Environment library 0.7.0

```

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

sql queries on sales excel file.R

sqldf("select \* from s3 where sales >= 900")

country	Region	Sales
INDIA	West	980

Environment History Connections Tutorial

Import Dataset - 274 MB

Data

- l1 List of 4
- l2 List of 8
- s1 6 obs. of 3 variables
- s3 15 obs. of 3 variables
- x int [1:3, 1:4] 1 5 9 2 6 10 3 7 11 4 ...

Values

- a chr [1:5] "cse" "ece" "mech" "eee" "civil"
- ax 1
- b num [1:4] 450 250 150 70

Files Plots Packages Help Viewer Presentation

User Library

Name	Description	Version
bit	Classes and Methods for Fast Memory-Efficient Boolean Selections	4.0.5
bit64	A S3 Class for Vectors of 64bit Integers	4.0.5
blob	A Simple S3 Class for Representing Vectors of Binary Data (BLOBS)	1.2.4
cachem	Cache R Objects with Automatic Pruning	1.0.8
cellranger	Translate Spreadsheet Cell Ranges to Rows and Columns	1.1.0
chron	Chronological Objects which Can Handle Dates and Times	2.3.61
cpp11	Helpers for Developing Command Line Interfaces	3.62
cli	A C++-11 Interface for R's C Interface	0.47
crayon	Colored Terminal Output	1.52
DBI	R Database Interface	1.2.2
fansi	ANSI Control Sequence Aware String Functions	1.0.6
fastmap	Fast Data Structures	1.1.1
glue	Interpreted String Literals	1.7.0
gridExtra	Utilities for Strings and Function Arguments	0.7
hms	Pretty Time of Day	1.1.3
lifecycle	Manage the Life-Cycle of your Package Functions	1.0.4
magrittr	A Forward-Pipe Operator for R	2.0.3
memoise	Memoisation of Functions	2.0.1
operatix	Read, Write and Edit xts Files	4.25.2
pillar	Coloured Formatting for Columns	1.9.0
plumber	Private Configuration for R' Packages	2.0.3
tinytex	The "tinytex" C++ Environment Interface	(0.3)

Showing 1 to 1 of 1 entries, 3 total columns

```
R 4.3.2 - / ~
> #5
> View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM sales_data"))
Error in View : no such table: sales_data
> #5
> View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
> View(sqldf("select sum(sales) from s3"))
> #2
> View(sqldf("select country from s3 where sales=(select MIN(sales) from s3)"))
> #3
> View(sqldf("select country,sales from s3 where Region =='North'"))
> #4
> View(sqldf("select * from s3 where sales=(select Max(sales) from s3)"))
> #5
> View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
> |
```

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

sql queries on sales excel file.R

sqldf("SELECT COUNT(DISTINCT country) AS total\_countries FROM sales\_data")

total_countries
1 6

Environment History Connections Tutorial

Import Dataset - 274 MB

Data

- l1 List of 4
- l2 List of 8
- s1 6 obs. of 3 variables
- s3 15 obs. of 3 variables
- x int [1:3, 1:4] 1 5 9 2 6 10 3 7 11 4 ...

Values

- a chr [1:5] "cse" "ece" "mech" "eee" "civil"
- ax 1
- b num [1:4] 450 250 150 70

Files Plots Packages Help Viewer Presentation

User Library

Name	Description	Version
bit	Classes and Methods for Fast Memory-Efficient Boolean Selections	4.0.5
bit64	A S3 Class for Vectors of 64bit Integers	4.0.5
blob	A Simple S3 Class for Representing Vectors of Binary Data (BLOBS)	1.2.4
cachem	Cache R Objects with Automatic Pruning	1.0.8
cellranger	Translate Spreadsheet Cell Ranges to Rows and Columns	1.1.0
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cpp11	Helpers for Developing Command Line Interfaces	3.62
cli	A C++-11 Interface for R's C Interface	0.47
crayon	Colored Terminal Output	1.52
DBI	R Database Interface	1.2.2
fansi	ANSI Control Sequence Aware String Functions	1.0.6
fastmap	Fast Data Structures	1.1.1
glue	Interpreted String Literals	1.7.0
gridExtra	Utilities for Strings and Function Arguments	0.7
hms	Pretty Time of Day	1.1.3
lifecycle	Manage the Life-Cycle of your Package Functions	1.0.4
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memoise	Memoisation of Functions	2.0.1
operatix	Read, Write and Edit xts Files	4.25.2
pillar	Coloured Formatting for Columns	1.9.0
plumber	Private Configuration for R' Packages	2.0.3
tinytex	The "tinytex" C++ Environment Interface	(0.3)

Showing 1 to 1 of 1 entries, 1 total columns

```
Error in View : no such table: sales_data
> #5
> View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM sales_data"))
> View(sqldf("select sum(sales) from s3"))
> #2
> View(sqldf("select country from s3 where sales=(select MIN(sales) from s3)"))
> #3
> View(sqldf("select country,sales from s3 where Region =='North'"))
> #4
> View(sqldf("select * from s3 where sales=(select Max(sales) from s3)"))
> #5
> View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
> |
```

Two screenshots of RStudio showing SQL queries on an Excel file and their results.

**Screenshot 1:**

```
> View(sqldf("select * from s3 where sales=(select Max(sales) from s3)"))
> #5
> View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
> #6
> sqldf("SELECT * FROM s3 WHERE Region = 'East' AND Sales > 500")
country Region Sales
1 INDIA East 550
2 INDIA East 600
3 UK East 600
4 Australia East 540
> #6
> View(sqldf("SELECT * FROM s3 WHERE Region = 'East' AND Sales > 500"))
>
```

**Screenshot 2:**

```
> #6
> sqldf("SELECT * FROM s3 WHERE Region = 'East' AND Sales > 500")
country Region Sales
1 INDIA East 550
2 INDIA East 600
3 UK East 600
4 Australia East 540
> #6
> View(sqldf("SELECT * FROM s3 WHERE Region = 'East' AND Sales > 500"))
> #7
> View(sqldf("SELECT Country, Region, Sales FROM s3 WHERE Region IN (SELECT Region
FROM s3 GROUP BY Region HAVING AVG(Sales) < 800) ORDER BY Sales"))
>
```

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

sql queries on sales excel file.R\* sqldf("SELECT DISTINCT Country, Region FROM s3 WHERE Region IN ('North', 'West')")

country	Region
1 INDIA	West
2 US	West
3 UK	North
4 Germany	West
5 Australia	West
6 Bangkok	West
7 Bangkok	North

Showing 1 to 7 of 7 entries, 2 total columns

```
R 4.3.2 -/ ~
> sqldf("SELECT DISTINCT Country, Region FROM s3 WHERE Region IN ('North', 'West')")
country Region
1 INDIA West
2 US West
3 UK North
4 Germany West
5 Australia West
6 Bangkok West
7 Bangkok North
> #8
> View(sqldf("SELECT DISTINCT Country, Region FROM s3 WHERE Region IN ('North', 'West')"))
> |
```

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

sql queries on sales excel file.R\* sqldf("SELECT DISTINCT Country FROM s3 WHERE Region IN ('North', 'West')")

country
1 Germany
2 Australia

Showing 1 to 2 of 2 entries, 1 total columns

```
R 4.3.2 -/ ~
2 US West
3 UK North
4 Germany West
5 Australia West
6 Bangkok West
7 Bangkok North
> #8
> View(sqldf("SELECT DISTINCT Country, Region FROM s3 WHERE Region IN ('North', 'West')"))
> #9
> View(sqldf("SELECT DISTINCT Country FROM s3 WHERE Country NOT IN (SELECT Country FROM s3 WHERE Region IN ('North', 'South'))"))
> |
```

Environment History Connections Tutorial

R - Global Environment

Data

- l1 List of 4
- l2 List of 8
- s1 6 obs. of 3 variables
- s3 15 obs. of 3 variables
- x int [1:3, 1:4] 1 5 9 2 6 10 3 7 11 4 ...

Values

- a chr [1:5] "cse" "ece" "mech" "eee" "civil"
- ax 1
- b num [1:4] 450 250 150 70

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chron	Chronological Objects which Can Handle Dates and Times	2.3.61
cpp11	Helpers for Developing Command Line Interfaces	3.6.2
di	C++ > C++ Interface for R's C Interface	0.4.7
grid	Colored Terminal Output	1.52
gridBase	R Database Interface	1.2.2
raster	ANSI Control Sequence Aware String Functions	1.0.6
fastmap	Fast Data Structures	1.1.1
glue	Interpreted String Literals	1.7.0
gridExtra	Utilities for String and Function Arguments	0.7
hms	Pretty Time of Day	1.1.3
lifecycle	Manage the Life-Cycle of your Package Functions	1.0.4
magrittr	A Forward-Pipe Operator for R	2.0.3
memoise	Memoisation of Functions	2.0.1
openxlsx	Read, Write and Edit xlsx Files	4.2.5.2
pillar	Coloured Formatting for Columns	1.5.0
pkgconfig	Private Configuration for R' Packages	2.0.3
tinytex	The 'tinytex' C++ Environment library	(0.3.0)

RStudio

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sql queries on sales excel file.R

```

18 #3
19 View(sqldf("select country,sales from s3 where Region =='North'"))
20 #4
21 View(sqldf("select * from s3 where sales=(select Max(sales) from s3)"))
22 #5
23 View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
24 #6
25 View(sqldf("SELECT * FROM s3 WHERE Region = 'East' AND Sales > 500"))
26 #7
27 View(sqldf("SELECT Country, Region, Sales FROM s3 WHERE Region IN (SELECT Region
28 #8
29 View(sqldf("SELECT DISTINCT Country, Region FROM s3 WHERE Region IN ('North', 'S
30 #9
31 View(sqldf("SELECT DISTINCT Country FROM s3 WHERE Country NOT IN (SELECT Country
32 #10
33 d1 <- sqldf("SELECT * FROM s3 WHERE Country LIKE 'U%'")
34 d2 <- sqldf("SELECT * FROM s3 WHERE Country LIKE '%K%'")
35 d1
36 d2
37 #11
38 sqldf("SELECT Country FROM (SELECT Country FROM d1 UNION SELECT Country FROM d2)
39 #12
40 no_sales <- sqldf("SELECT * FROM s3 WHERE Country NOT IN (SELECT Country FROM (
41

```

R4.3.2 - / ~

country Region sales

1	US	South	680
2	US	West	900
3	UK	North	788
4	UK	East	600
5	UK	North	890

> d2

country Region Sales

1	UK	North	788
2	UK	East	600
3	UK	North	890
4	Bangkok	South	690
5	Bangkok	West	899

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sql queries on sales excel file.R

```

18 #3
19 View(sqldf("select country,sales from s3 where Region =='North'"))
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21 View(sqldf("select * from s3 where sales=(select Max(sales) from s3)"))
22 #5
23 View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
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27 View(sqldf("SELECT Country, Region, Sales FROM s3 WHERE Region IN (SELECT Region
28 #8
29 View(sqldf("SELECT DISTINCT Country, Region FROM s3 WHERE Region IN ('North', 'S
30 #9
31 View(sqldf("SELECT DISTINCT Country FROM s3 WHERE Country NOT IN (SELECT Country
32 #10
33 d1 <- sqldf("SELECT * FROM s3 WHERE Country LIKE 'U%'")
34 d2 <- sqldf("SELECT * FROM s3 WHERE Country LIKE '%K%'")
35 d1
36 d2
37 #11
38 sqldf("SELECT Country FROM (SELECT Country FROM d1 UNION SELECT Country FROM d2)
39 #12
40 no_sales <- sqldf("SELECT * FROM s3 WHERE Country NOT IN (SELECT Country FROM (
41

```

R4.3.2 - / ~

> #9

> View(sqldf("SELECT DISTINCT Country FROM s3 WHERE Country NOT IN (SELECT Country F
ROM s3 WHERE Region IN ('North', 'South'))"))

> #10

> d1 <- sqldf("SELECT \* FROM s3 WHERE Country LIKE 'U%'")

> d2 <- sqldf("SELECT \* FROM s3 WHERE Country LIKE '%K%'")

> d1

country Region Sales

1	US	South	680
2	US	West	900
3	UK	North	788
4	UK	East	600
5	UK	North	890

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sql queries on sales excel file.R

```

18 #3
19 View(sqldf("select country,sales from s3 where Region =='North'"))
20 #4
21 View(sqldf("select * from s3 where sales=(select Max(sales) from s3)"))
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25 View(sqldf("SELECT * FROM s3 WHERE Region = 'East' AND Sales > 500"))
26 #7
27 View(sqldf("SELECT Country, Region, Sales FROM s3 WHERE Region IN (SELECT Region
28 #8
29 View(sqldf("SELECT DISTINCT Country, Region FROM s3 WHERE Region IN ('North', 'S
30 #9
31 View(sqldf("SELECT DISTINCT Country FROM s3 WHERE Country NOT IN (SELECT Country
32 #10
33 d1 <- sqldf("SELECT * FROM s3 WHERE Country LIKE 'U%'")
34 d2 <- sqldf("SELECT * FROM s3 WHERE Country LIKE '%K%'")
35 d1
36 d2
37 #11
38 sqldf("SELECT Country FROM (SELECT Country FROM d1 UNION SELECT Country FROM d2)
39 #12
40 no_sales <- sqldf("SELECT * FROM s3 WHERE Country NOT IN (SELECT Country FROM (
41
42 #13
43

```

R4.3.2 - / ~

```

2 US West 900
3 UK North 788
4 UK East 600
5 UK North 890
> d2
  country Region sales
1 UK North 788
2 UK East 600
3 UK North 890
4 Bangkok South 690
5 Bangkok West 899
6 Bangkok North 452

```

RStudio

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sql queries on sales excel file.R

```

20 #4
21 View(sqldf("select * from s3 where sales=(select Max(sales) from s3)"))
22 #5
23 View(sqldf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
24 #6
25 View(sqldf("SELECT * FROM s3 WHERE Region = 'East' AND Sales > 500"))
26 #7
27 View(sqldf("SELECT Country, Region, Sales FROM s3 WHERE Region IN (SELECT Region
28 #8
29 View(sqldf("SELECT DISTINCT Country, Region FROM s3 WHERE Region IN ('North', 'S
30 #9
31 View(sqldf("SELECT DISTINCT Country FROM s3 WHERE Country NOT IN (SELECT Country
32 #10
33 d1 <- sqldf("SELECT * FROM s3 WHERE Country LIKE 'U%'")
34 d2 <- sqldf("SELECT * FROM s3 WHERE Country LIKE '%K%'")
35 d1
36 d2
37 #11
38 sqldf("SELECT Country FROM (SELECT Country FROM d1 UNION SELECT Country FROM d2)
39 #12
40 no_sales <- sqldf("SELECT * FROM s3 WHERE Country NOT IN (SELECT Country FROM (
41 no_sales
42 #13
43

```

R4.3.2 - / ~

```

2 UK East 600
3 UK North 890
4 Bangkok South 690
5 Bangkok West 899
6 Bangkok North 452
> #11
> sqldf("SELECT Country FROM (SELECT Country FROM d1 UNION SELECT Country FROM d2) A
5 countries_d1_d2"
  Country
1 Bangkok
2 UK
3 US

```

RStudio

```
sql queries on sales excel file.R
```

```

21 View(sqlSdf("select * from s3 where sales=(select Max(sales) from s3)"))
22 #5
23 View(sqlSdf("SELECT COUNT(DISTINCT country) AS total_countries FROM s3"))
24 #6
25 View(sqlSdf("SELECT * FROM s3 WHERE Region = 'East' AND Sales > 500"))
26 #7
27 View(sqlSdf("SELECT Country, Region, Sales FROM s3 WHERE Region IN (SELECT Region"))
28 #8
29 View(sqlSdf("SELECT DISTINCT Country, Region FROM s3 WHERE Region IN ('North', 'South')"))
30 #9
31 View(sqlSdf("SELECT DISTINCT Country FROM s3 WHERE Country NOT IN (SELECT Country FROM s1)"))
32 #10
33 d1 <- sqldf("SELECT * FROM s3 WHERE Country LIKE 'UK%'")
34 d2 <- sqldf("SELECT * FROM s3 WHERE Country LIKE '%UK'")
35 d1
36 d2
37 #11
38 sqldf("SELECT Country FROM (SELECT Country FROM d1 UNION SELECT Country FROM d2) AS countries_d1_d2")
39 #12
40 no_sales <- sqldf("SELECT * FROM s3 WHERE Country NOT IN (SELECT Country FROM (SELECT Country FROM d1 UNION SELECT Country FROM d2) AS countries_d1_d2)")
41 no_sales
42 #13
43 sqldf("SELECT COUNT(*) AS TotalObservations, COUNT(DISTINCT Country) AS Dimensions
        FROM no_sales")
        
```

R4.3.2 -/ ~

```

> #12
> no_sales <- sqldf("SELECT * FROM s3 WHERE Country NOT IN (SELECT Country FROM (SELECT Country FROM d1 UNION SELECT Country FROM d2) AS countries_d1_d2)")
> no_sales
  country Region Sales
1 INDIA   East    550
2 INDIA   West    980
3 INDIA   East    600
4 INDIA   South   623
5 Germany West    200
6 Australia East    540
7 Australia West    599
  
```

RStudio

```
sql queries on sales excel file.R
```

```

sqldf("SELECT COUNT(*) AS TotalObservations, COUNT(DISTINCT Country) AS Dimensions
        FROM no_sales")
  
```

R4.3.2 -/ ~

```

TotalObservations Dimensions
1                7            3
  
```

Showing 1 to 1 of 1 entries, 2 total columns

```

R4.3.2 -/ ~
> no_sales
  country Region Sales
1 INDIA   East    550
2 INDIA   West    980
3 INDIA   East    600
4 INDIA   South   623
5 Germany West    200
6 Australia East    540
7 Australia West    599
  
```

```

> #13
> View(sqldf("SELECT COUNT(*) AS TotalObservations, COUNT(DISTINCT Country) AS Dimensions
        FROM no_sales"))
  
```

