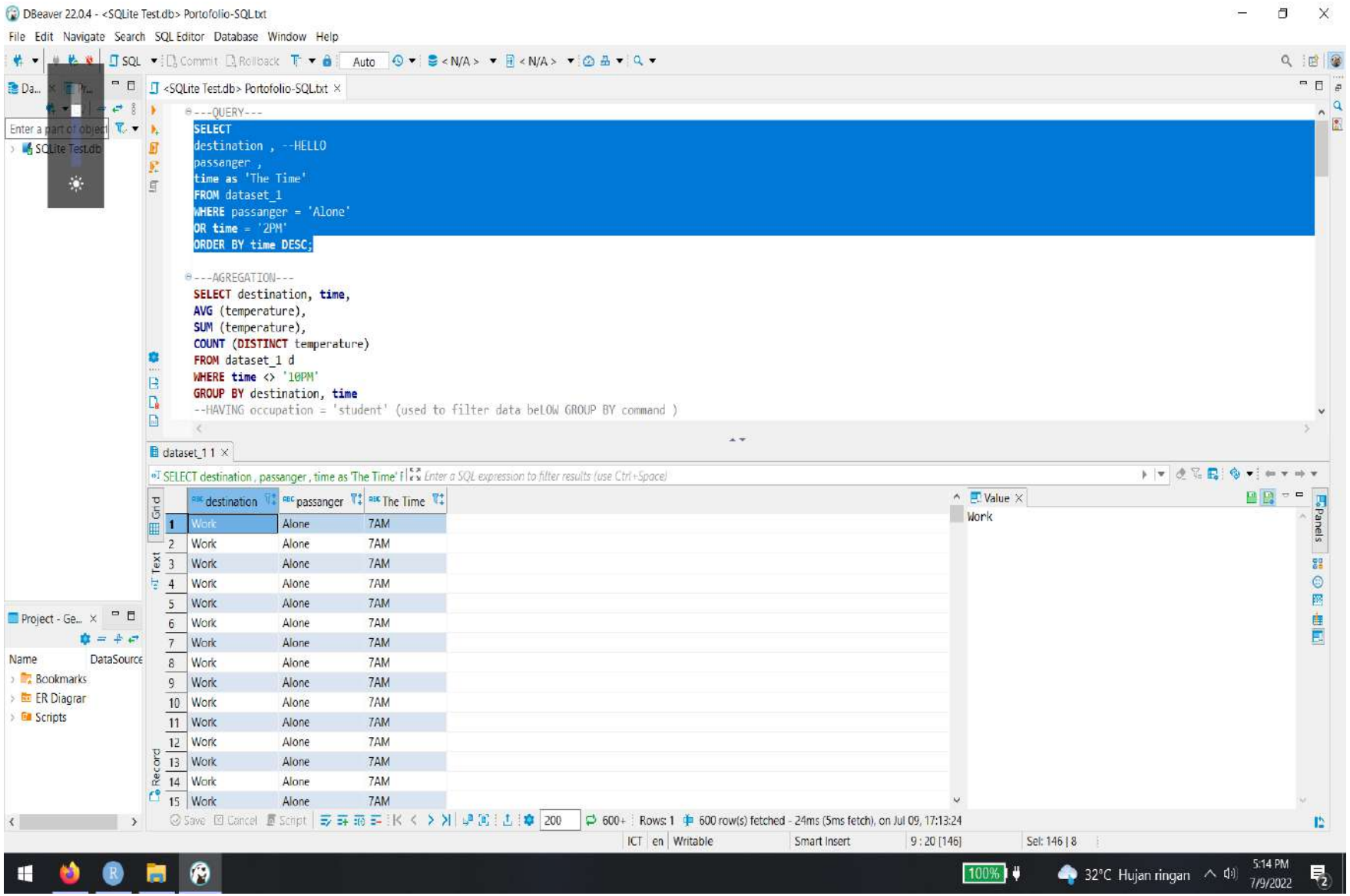
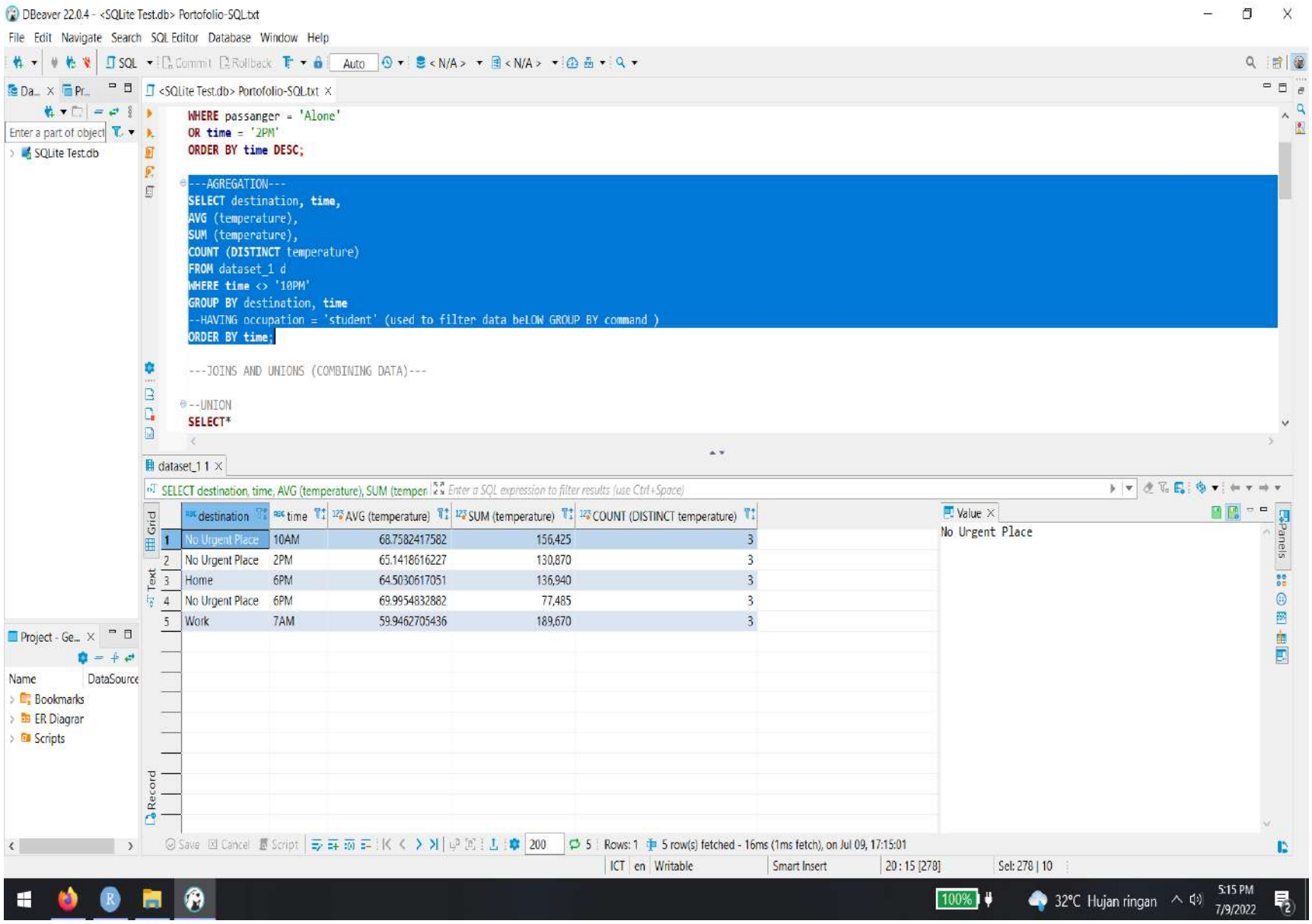
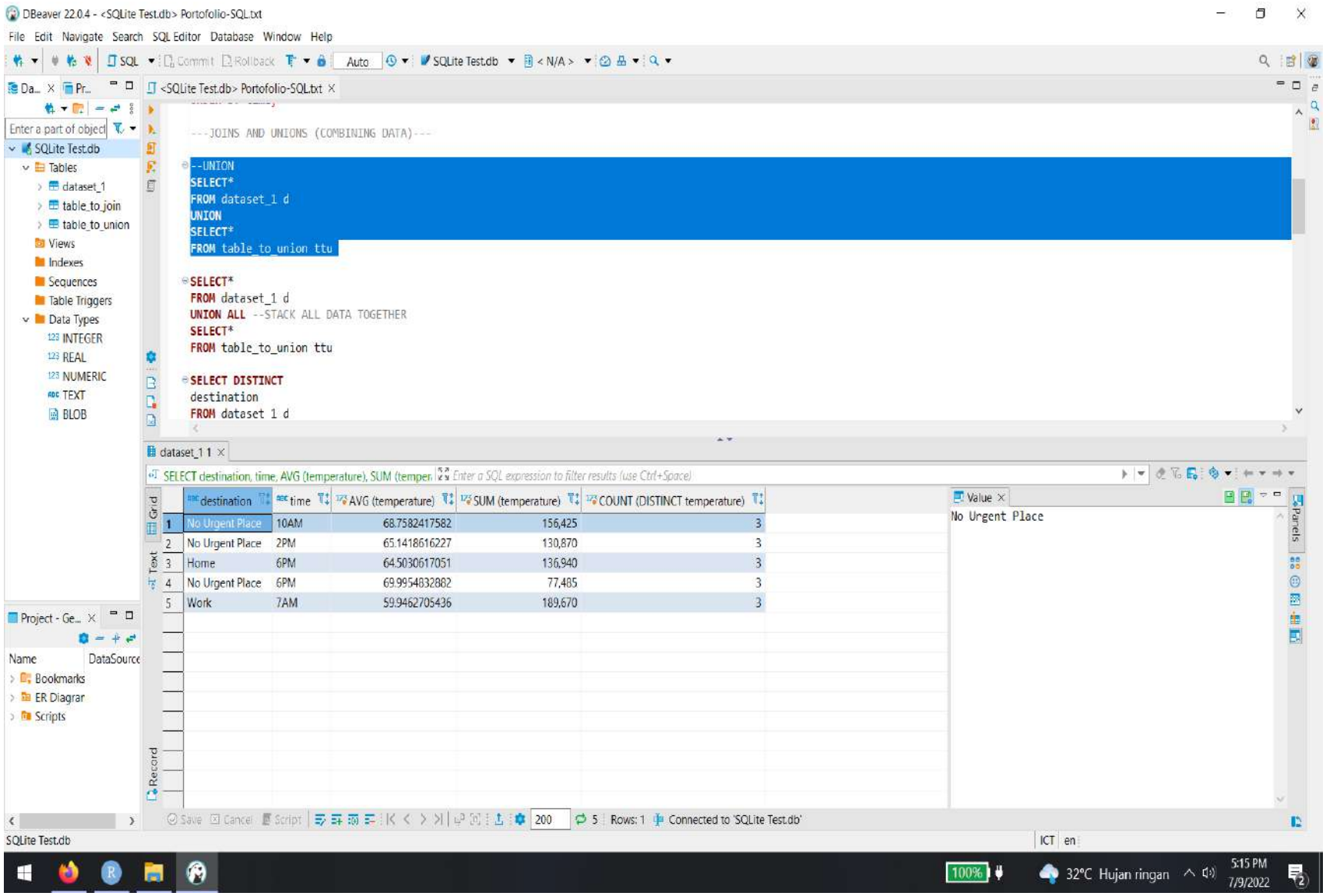
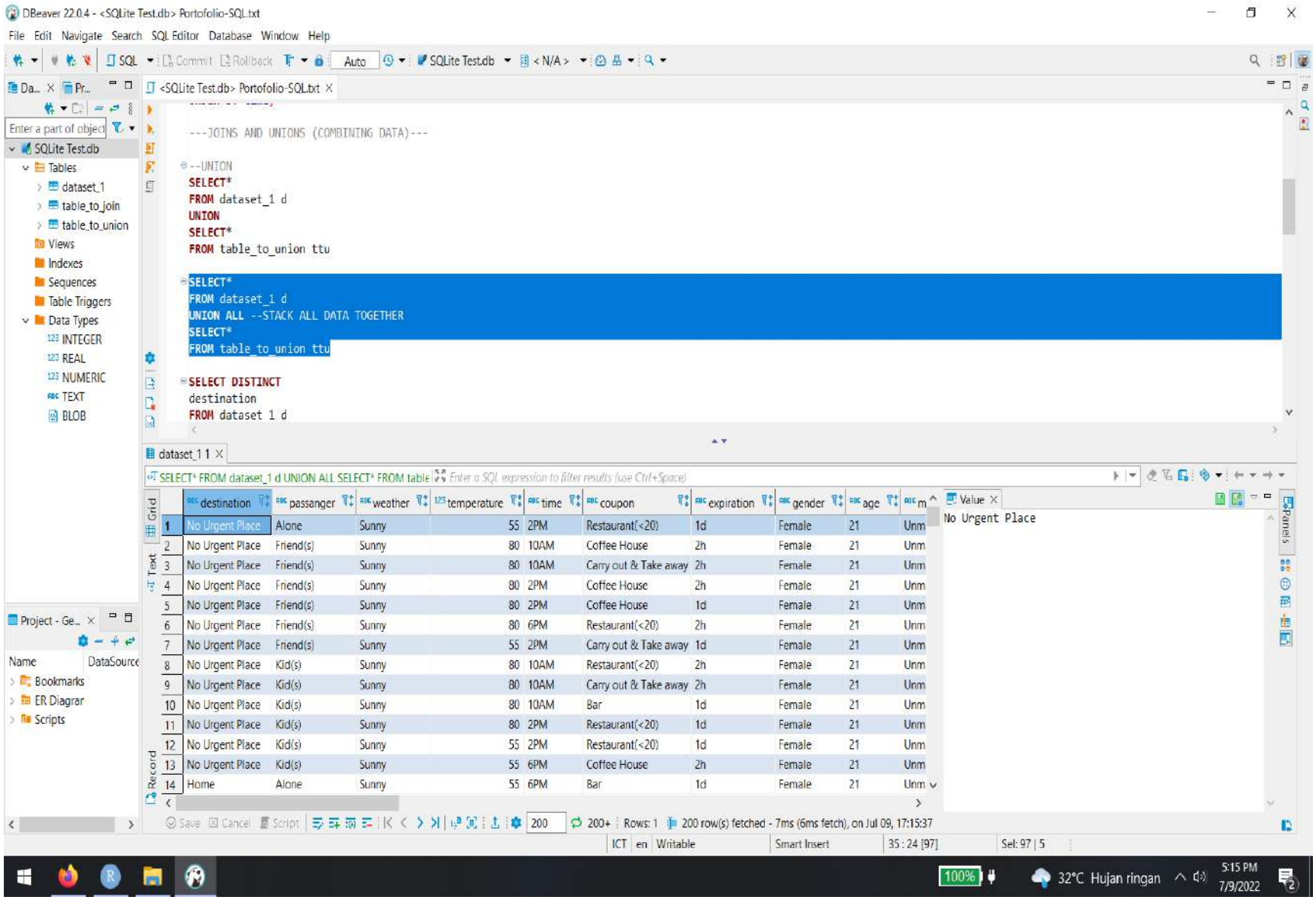
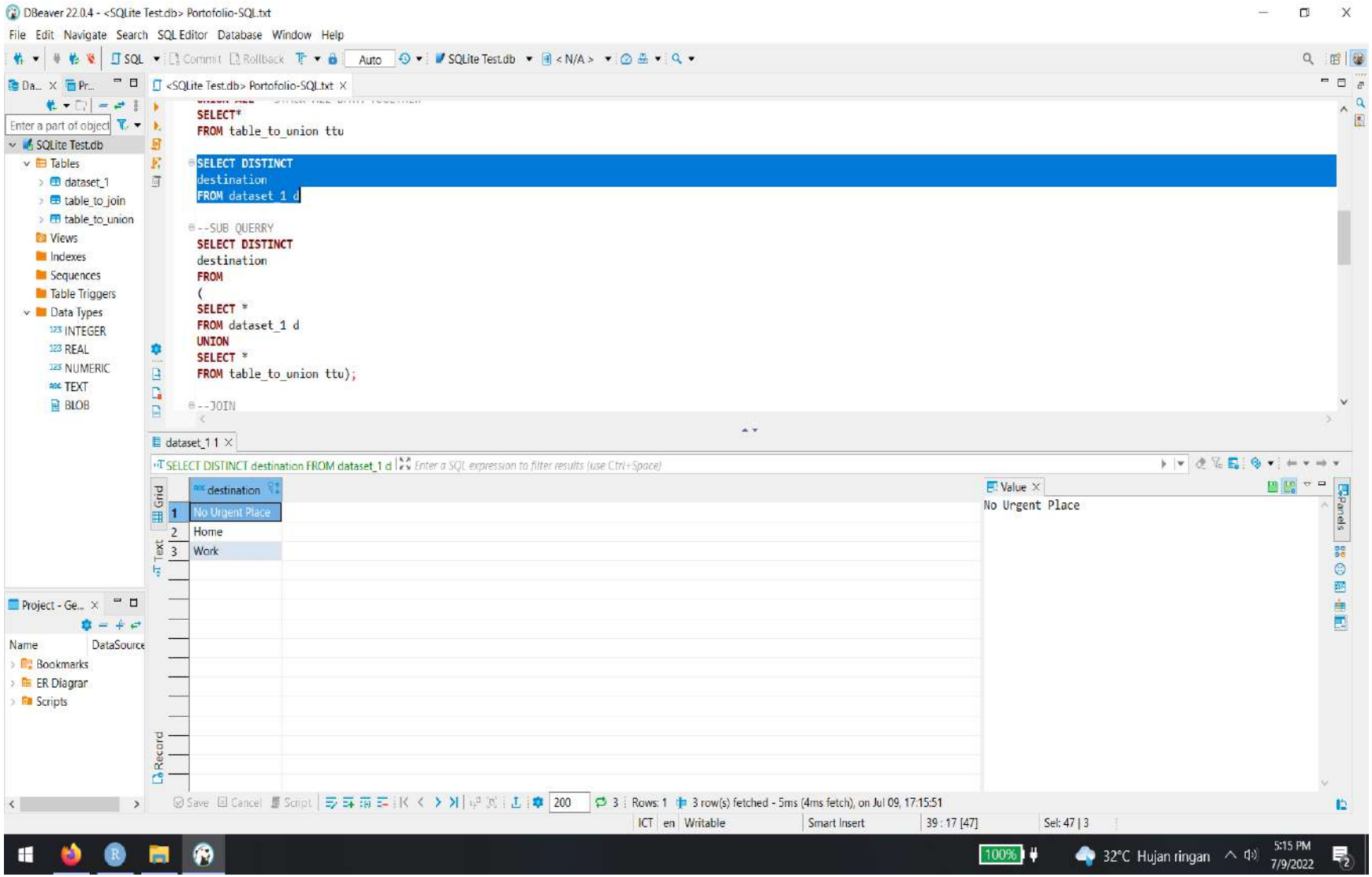
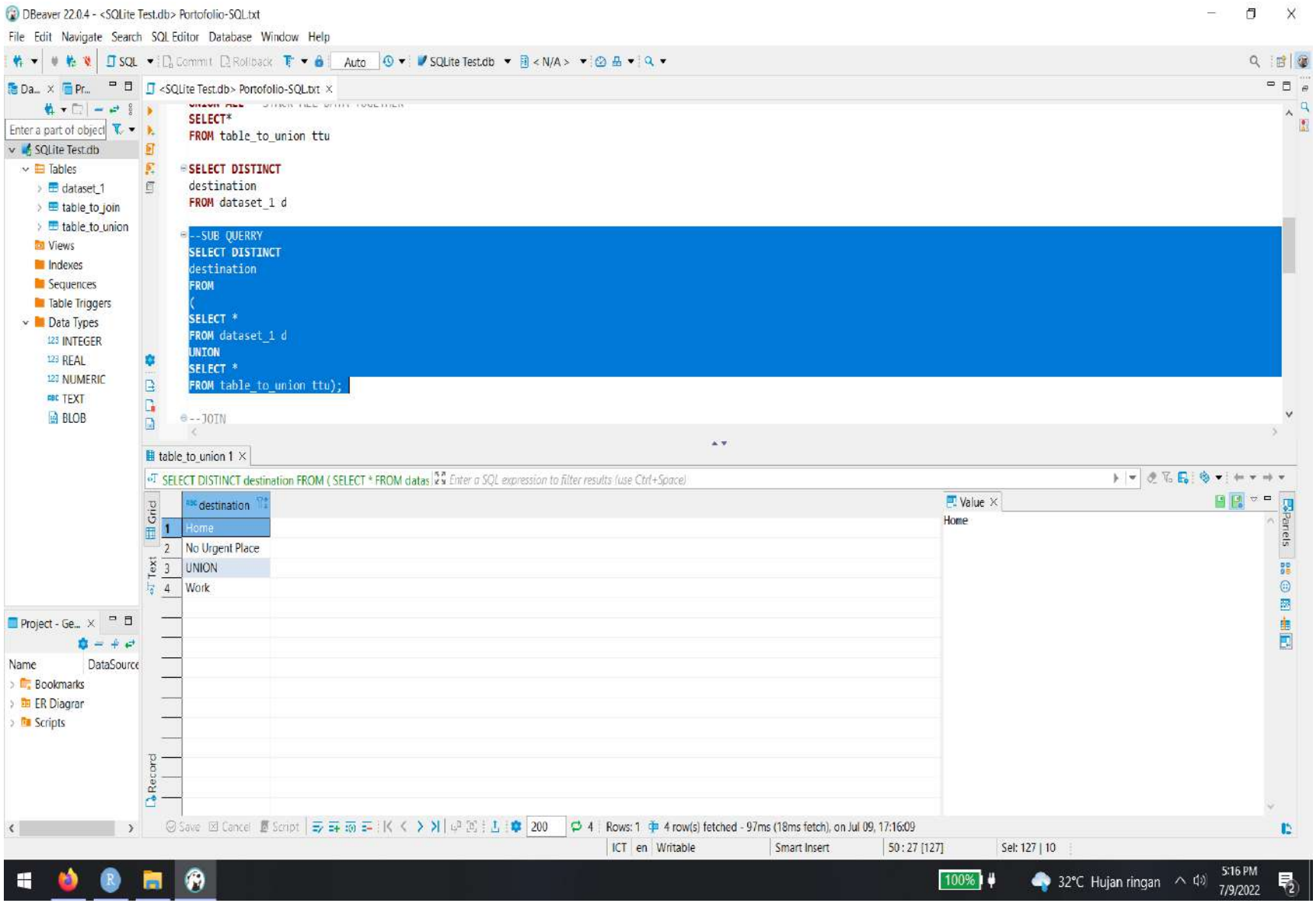

DBeaver 22.0.4 - <SQLite Test.db> Portofolio-SQL.txt
File Edit Navigate Search SQL Editor Database Window Help
<SQLite Test.db> Portofolio-SQL.txt
---QUERY---
SELECT
destination , --HELLO
passanger ,
time as 'The Time'
FROM dataset_1
WHERE passanger = 'Alone'
OR time = '2PM'
ORDER BY time DESC;
---AGREGATION---
SELECT destination, time,
AVG (temperature),
SUM (temperature),
COUNT (DISTINCT temperature)
FROM dataset_1 d
WHERE time <> '10PM'
GROUP BY destination, time
--HAVING occupation = 'student' (used to filter data beLOW GROUP BY command )
dataset_1 1
SELECT destination , passanger , time as 'The Time' f
Enter a SQL expression to filter results (use Ctrl+Space)
destination
passanger
The Time
1 Work Alone 7AM
2 Work Alone 7AM
3 Work Alone 7AM
4 Work Alone 7AM
5 Work Alone 7AM
6 Work Alone 7AM
7 Work Alone 7AM
8 Work Alone 7AM
9 Work Alone 7AM
10 Work Alone 7AM
11 Work Alone 7AM
12 Work Alone 7AM
13 Work Alone 7AM
14 Work Alone 7AM
15 Work Alone 7AM
Value
Work
Rows: 1
600 row(s) fetched - 24ms (5ms fetch), on Jul 09, 17:13:24
Project - Ge...
Name
DataSource
Bookmarks
ER Diagrar
Scripts
SQLite Test.db
32°C Hujan ringan
5:14 PM
7/9/2022

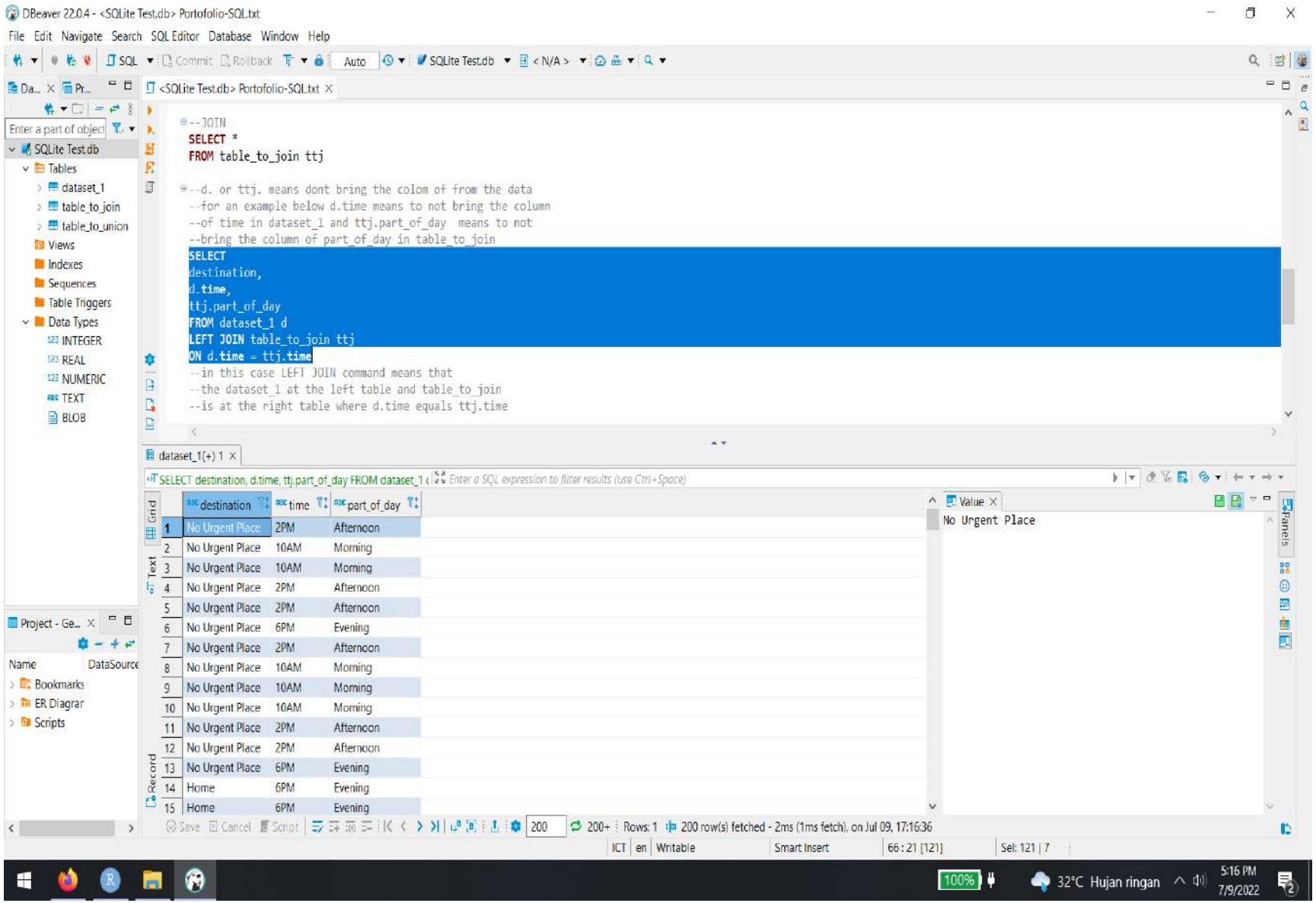

DBeaver 22.0.4 - <SQLite Test.db> Portofolio-SQL.txt
File Edit Navigate Search SQL Editor Database Window Help
<SQLite Test.db> Portofolio-SQL.txt
WHERE passanger = 'Alone'
OR time = '2PM'
ORDER BY time DESC;
---AGREGATION---
SELECT destination, time,
AVG (temperature),
SUM (temperature),
COUNT (DISTINCT temperature)
FROM dataset_1 d
WHERE time <> '10PM'
GROUP BY destination, time
--HAVING occupation = 'student' (used to filter data beLOW GROUP BY command )
ORDER BY time;
---JOINS AND UNIONS (COMBINING DATA)---
--UNION
SELECT*
dataset_1 1
SELECT destination, time, AVG (temperature), SUM (temper
Enter a SQL expression to filter results (use Ctrl+Space)
destination
time
AVG (temperature)
SUM (temperature)
COUNT (DISTINCT temperature)
1 No Urgent Place 10AM 68.7582417582 156,425 3
2 No Urgent Place 2PM 65.1418616227 130,870 3
3 Home 6PM 64.5030617051 136,940 3
4 No Urgent Place 6PM 69.9954832882 77,485 3
5 Work 7AM 59.9462705436 189,670 3
Value
No Urgent Place
Rows: 1
5 row(s) fetched - 16ms (1ms fetch), on Jul 09, 17:15:01
ICT en Writable Smart Insert 20 : 15 [278] Sel: 278 | 10
32°C Hujan ringan
5:15 PM
7/9/2022

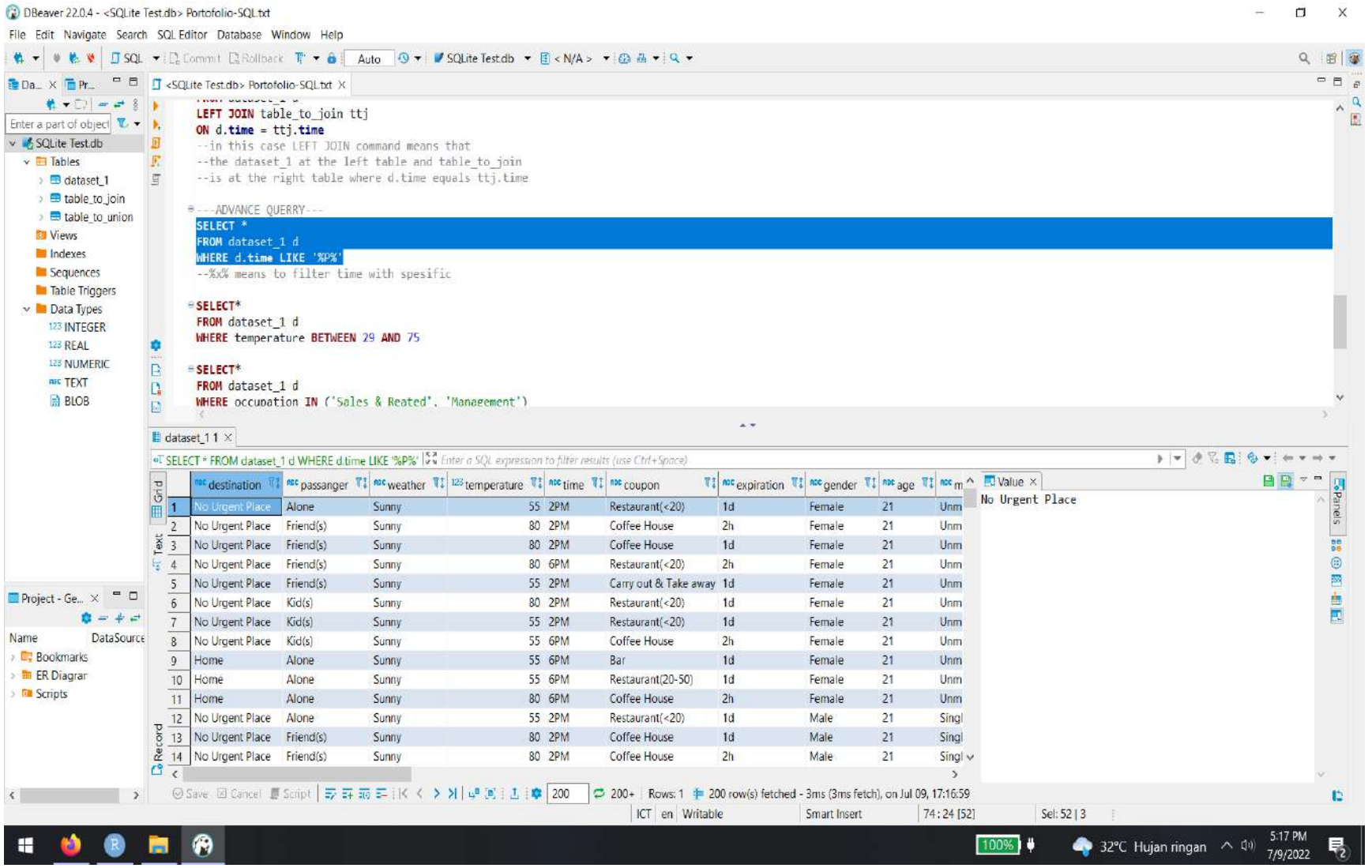

DBeaver 22.0.4 - <SQLite Test.db> Portofolio-SQL.txt
File Edit Navigate Search SQL Editor Database Window Help
SQLite Test.db
Tables
dataset_1
table_to_join
table_to_union
Views
Indexes
Sequences
Table Triggers
Data Types
INTEGER
REAL
NUMERIC
TEXT
BLOB
---JOINS AND UNIONS (COMBINING DATA)---
--UNION
SELECT*
FROM dataset_1 d
UNION
SELECT*
FROM table_to_union ttu
SELECT*
FROM dataset_1 d
UNION ALL --STACK ALL DATA TOGETHER
SELECT*
FROM table_to_union ttu
SELECT DISTINCT
destination
FROM dataset_1 d
dataset_1 1
SELECT destination, time, AVG (temperature), SUM (temper
destination time AVG (temperature) SUM (temperature) COUNT (DISTINCT temperature)
1 No Urgent Place 10AM 68.7582417582 156,425 3
2 No Urgent Place 2PM 65.1418616227 130,870 3
3 Home 6PM 64.5030617051 136,940 3
4 No Urgent Place 6PM 69.9954832882 77,485 3
5 Work 7AM 59.9462705436 189,670 3
Value
No Urgent Place
Rows: 1
Connected to 'SQLite Test.db'
32°C Hujan ringan
5:15 PM
7/9/2022

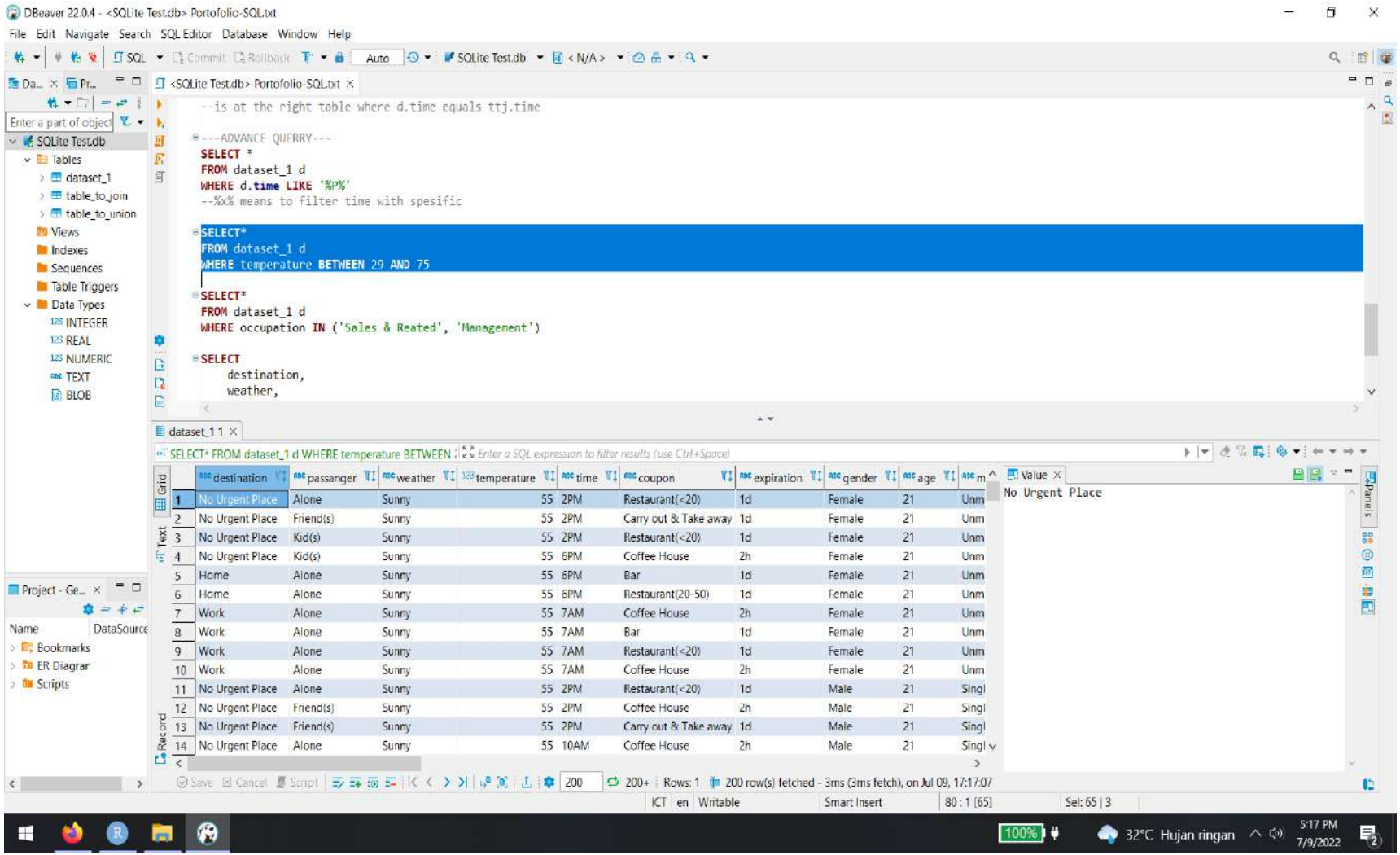

DBeaver 22.0.4 - <SQLite Test.db> Portofolio-SQL.txt
File Edit Navigate Search SQL Editor Database Window Help
<SQLite Test.db> Portofolio-SQL.txt
---JOINS AND UNIONS (COMBINING DATA)---
--UNION
SELECT*
FROM dataset_1 d
UNION
SELECT*
FROM table_to_union ttu
SELECT*
FROM dataset_1 d
UNION ALL --STACK ALL DATA TOGETHER
SELECT*
FROM table_to_union ttu
SELECT DISTINCT
destination
FROM dataset 1 d
SQLite Test.db
Tables
dataset_1
table_to_join
table_to_union
Views
Indexes
Sequences
Table Triggers
Data Types
INTEGER
REAL
NUMERIC
TEXT
BLOB
dataset_1 1
SELECT* FROM dataset_1 d UNION ALL SELECT* FROM table
Enter a SQL expression to filter results (use Ctrl+Space)
destination passanger weather temperature time coupon expiration gender age
1 No Urgent Place Alone Sunny 55 2PM Restaurant(<20) 1d Female 21 Unm
2 No Urgent Place Friend(s) Sunny 80 10AM Coffee House 2h Female 21 Unm
3 No Urgent Place Friend(s) Sunny 80 10AM Carry out & Take away 2h Female 21 Unm
4 No Urgent Place Friend(s) Sunny 80 2PM Coffee House 2h Female 21 Unm
5 No Urgent Place Friend(s) Sunny 80 2PM Coffee House 1d Female 21 Unm
6 No Urgent Place Friend(s) Sunny 80 6PM Restaurant(<20) 2h Female 21 Unm
7 No Urgent Place Friend(s) Sunny 55 2PM Carry out & Take away 1d Female 21 Unm
8 No Urgent Place Kid(s) Sunny 80 10AM Restaurant(<20) 2h Female 21 Unm
9 No Urgent Place Kid(s) Sunny 80 10AM Carry out & Take away 2h Female 21 Unm
10 No Urgent Place Kid(s) Sunny 80 10AM Bar 1d Female 21 Unm
11 No Urgent Place Kid(s) Sunny 80 2PM Restaurant(<20) 1d Female 21 Unm
12 No Urgent Place Kid(s) Sunny 55 2PM Restaurant(<20) 1d Female 21 Unm
13 No Urgent Place Kid(s) Sunny 55 6PM Coffee House 2h Female 21 Unm
14 Home Alone Sunny 55 6PM Bar 1d Female 21 Unm
Value
No Urgent Place
Rows: 1
200 row(s) fetched - 7ms (6ms fetch), on Jul 09, 17:15:37
32°C Hujan ringan
5:15 PM
7/9/2022

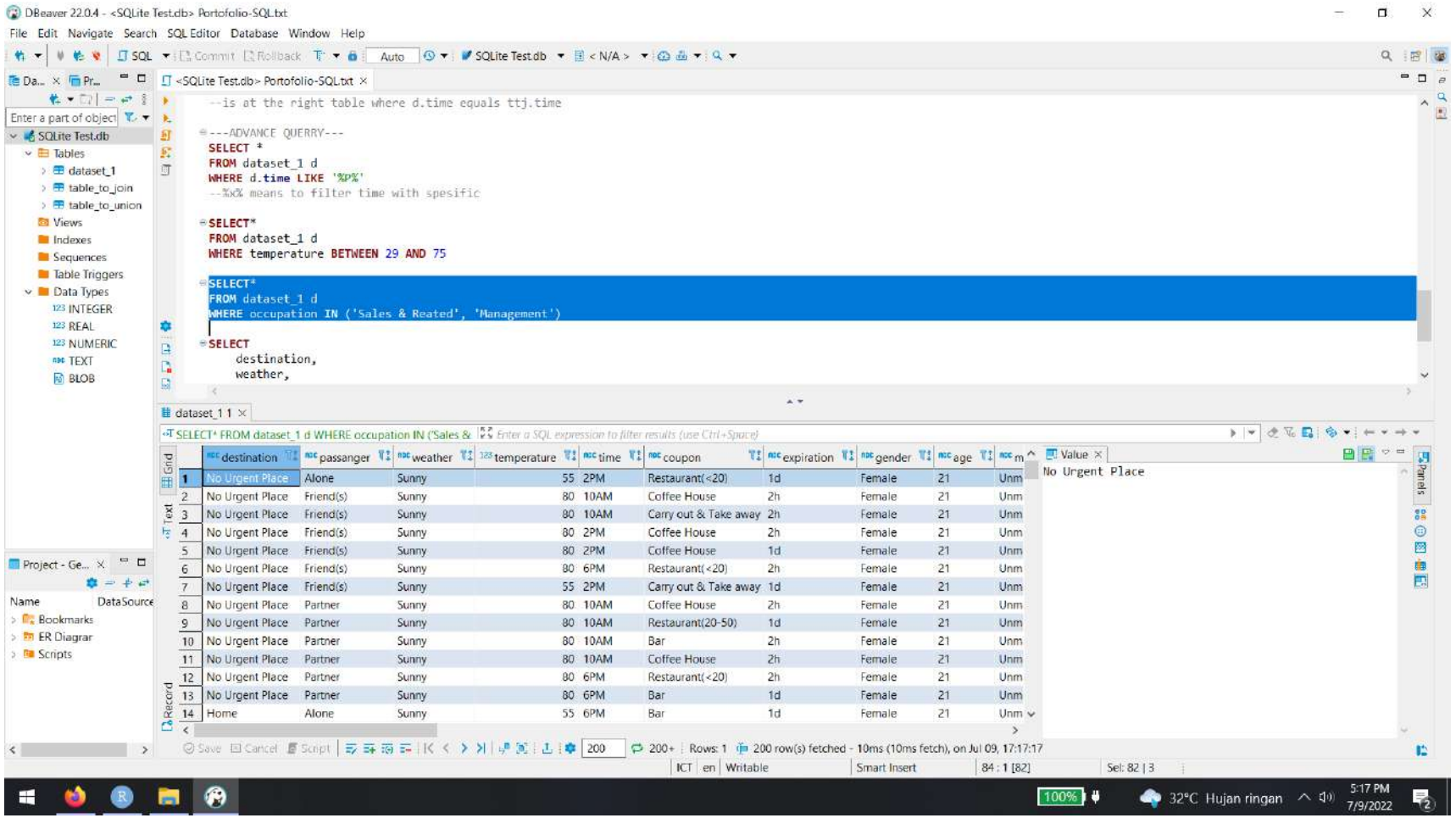

DBeaver 22.0.4 - <SQLite Test.db> Portofolio-SQL.txt
File Edit Navigate Search SQL Editor Database Window Help
SELECT*
FROM table_to_union ttu
SELECT DISTINCT
destination
FROM dataset_1 d
--SUB QUERRY
SELECT DISTINCT
destination
FROM
(
SELECT *
FROM dataset_1 d
UNION
SELECT *
FROM table_to_union ttu);
--JOIN
SQLite Test.db
Tables
dataset_1
table_to_join
table_to_union
Views
Indexes
Sequences
Table Triggers
Data Types
INTEGER
REAL
NUMERIC
TEXT
BLOB
destination
No Urgent Place
Home
Work
Value
No Urgent Place
Rows: 1
3 row(s) fetched - 5ms (4ms fetch), on Jul 09, 17:15:51
32°C Hujan ringan
5:15 PM
7/9/2022

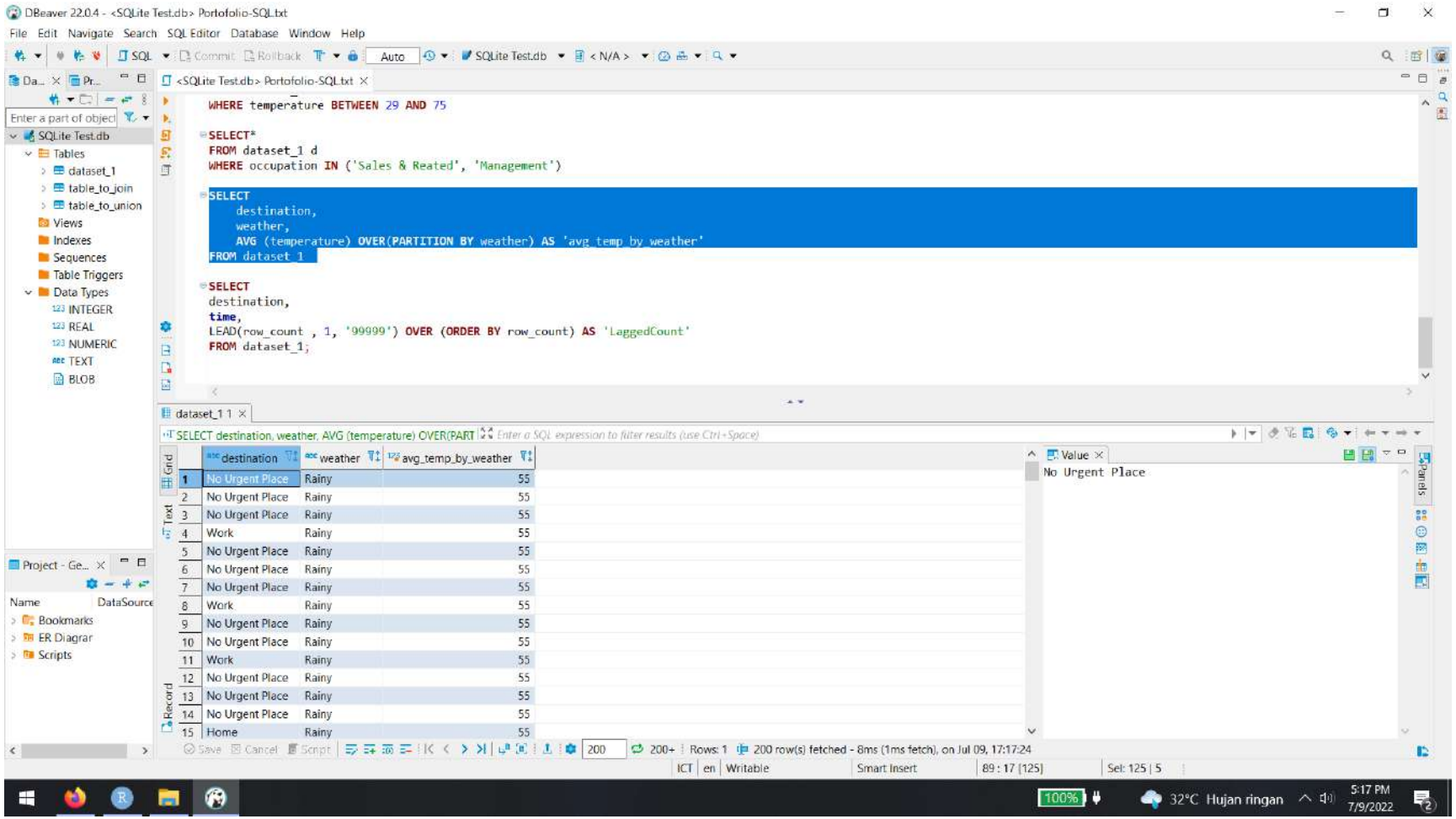

DBeaver 22.0.4 - <SQLite Test.db> Portofolio-SQL.txt
File Edit Navigate Search SQL Editor Database Window Help
SELECT*
FROM table_to_union ttu
SELECT DISTINCT
destination
FROM dataset_1 d
--SUB QUERRY
SELECT DISTINCT
destination
FROM
(
SELECT *
FROM dataset_1 d
UNION
SELECT *
FROM table_to_union ttu);
--JOIN
SQLite Test.db
Tables
dataset_1
table_to_join
table_to_union
Views
Indexes
Sequences
Table Triggers
Data Types
INTEGER
REAL
NUMERIC
TEXT
BLOB
table_to_union 1
SELECT DISTINCT destination FROM ( SELECT * FROM datas
destination
1 Home
2 No Urgent Place
3 UNION
4 Work
Value
Home
Rows: 1
4 row(s) fetched - 97ms (18ms fetch), on Jul 09, 17:16:09
ICT en Writable Smart Insert 50 : 27 [127] Sel: 127 | 10
100%
32°C Hujan ringan
5:16 PM
7/9/2022

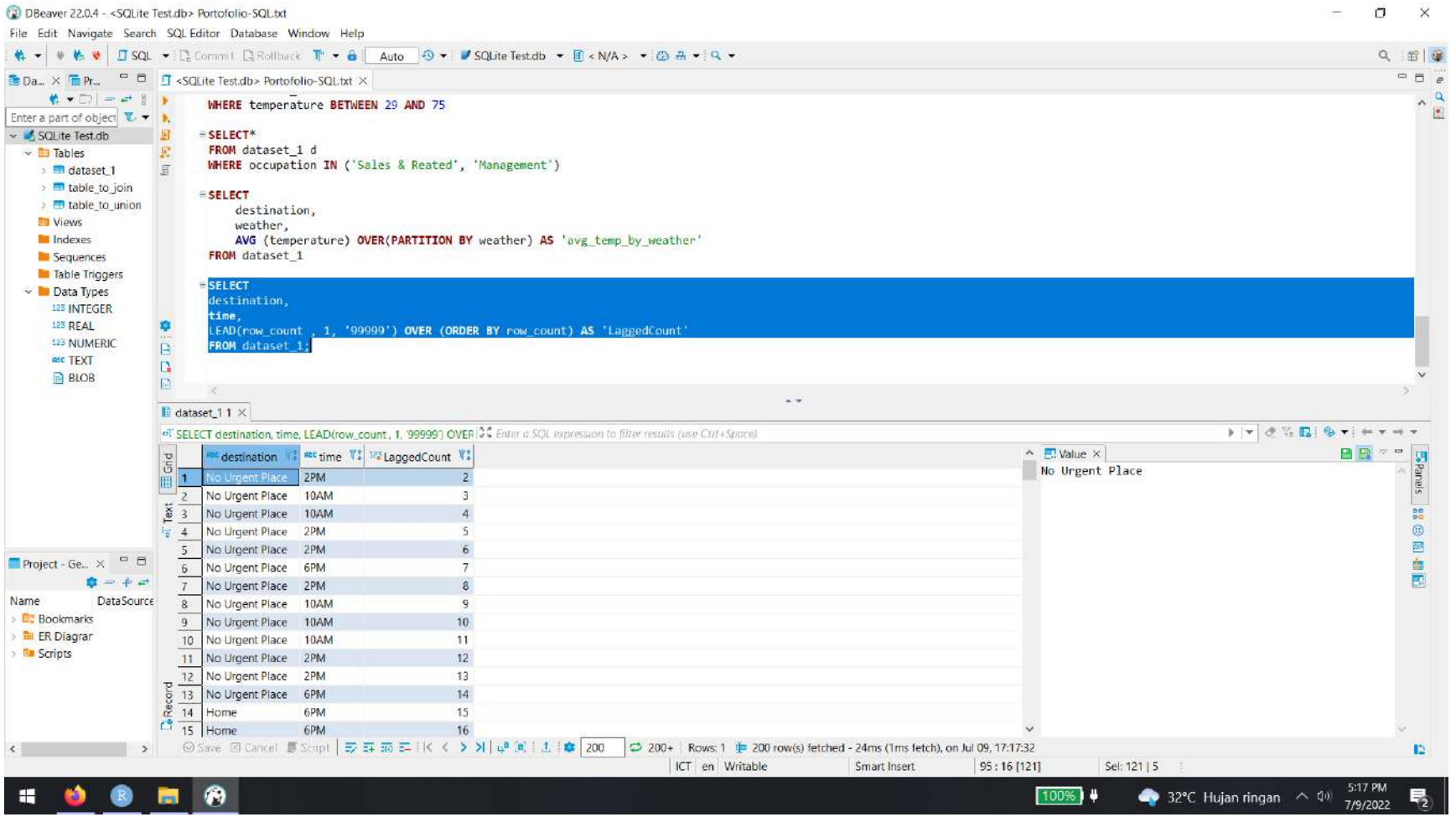

DBeaver 22.0.4 - <SQLite Test.db> Portofolio-SQL.txt
File Edit Navigate Search SQL Editor Database Window Help
<SQLite Test.db> Portofolio-SQL.txt
--JOIN
SELECT *
FROM table_to_join ttj
--d. or ttj. means dont bring the colom of from the data
--for an example below d.time means to not bring the column
--of time in dataset_1 and ttj.part_of_day means to not
--bring the column of part_of_day in table_to_join
SELECT
destination,
d.time,
ttj.part_of_day
FROM dataset_1 d
LEFT JOIN table_to_join ttj
ON d.time = ttj.time
--in this case LEFT JOIN command means that
--the dataset_1 at the left table and table_to_join
--is at the right table where d.time equals ttj.time
SQLite Test.db
Tables
dataset_1
table_to_join
table_to_union
Views
Indexes
Sequences
Table Triggers
Data Types
INTEGER
REAL
NUMERIC
TEXT
BLOB
dataset_1(+) 1
SELECT destination, d.time, ttj.part_of_day FROM dataset_1
destination time part_of_day
1 No Urgent Place 2PM Afternoon
2 No Urgent Place 10AM Morning
3 No Urgent Place 10AM Morning
4 No Urgent Place 2PM Afternoon
5 No Urgent Place 2PM Afternoon
6 No Urgent Place 6PM Evening
7 No Urgent Place 2PM Afternoon
8 No Urgent Place 10AM Morning
9 No Urgent Place 10AM Morning
10 No Urgent Place 10AM Morning
11 No Urgent Place 2PM Afternoon
12 No Urgent Place 2PM Afternoon
13 No Urgent Place 6PM Evening
14 Home 6PM Evening
15 Home 6PM Evening
Value
No Urgent Place
200 row(s) fetched - 2ms (1ms fetch), on Jul 09, 17:16:36
Project - Ge...
Name DataSource
Bookmarks
ER Diagrar
Scripts
32°C Hujan ringan
5:16 PM
7/9/2022


DBeaver 22.0.4 - <SQLite Test.db> Portofolio-SQL.txt
File Edit Navigate Search SQL Editor Database Window Help
<SQLite Test.db> Portofolio-SQL.txt
LEFT JOIN table_to_join ttj
ON d.time = ttj.time
--in this case LEFT JOIN command means that
--the dataset_1 at the left table and table_to_join
--is at the right table where d.time equals ttj.time
---ADVANCE QUERRY---
SELECT *
FROM dataset_1 d
WHERE d.time LIKE '%P%'
--%x% means to filter time with spesific
SELECT*
FROM dataset_1 d
WHERE temperature BETWEEN 29 AND 75
SELECT*
FROM dataset_1 d
WHERE occupation IN ('Sales & Reated', 'Management')
SQLite Test.db
Tables
dataset_1
table_to_join
table_to_union
Views
Indexes
Sequences
Table Triggers
Data Types
INTEGER
REAL
NUMERIC
TEXT
BLOB
dataset_1 1
SELECT * FROM dataset_1 d WHERE d.time LIKE '%P%'
destination passanger weather temperature time coupon expiration gender age
1 No Urgent Place Alone Sunny 55 2PM Restaurant(<20) 1d Female 21
2 No Urgent Place Friend(s) Sunny 80 2PM Coffee House 2h Female 21
3 No Urgent Place Friend(s) Sunny 80 2PM Coffee House 1d Female 21
4 No Urgent Place Friend(s) Sunny 80 6PM Restaurant(<20) 2h Female 21
5 No Urgent Place Friend(s) Sunny 55 2PM Carry out & Take away 1d Female 21
6 No Urgent Place Kid(s) Sunny 80 2PM Restaurant(<20) 1d Female 21
7 No Urgent Place Kid(s) Sunny 55 2PM Restaurant(<20) 1d Female 21
8 No Urgent Place Kid(s) Sunny 55 6PM Coffee House 2h Female 21
9 Home Alone Sunny 55 6PM Bar 1d Female 21
10 Home Alone Sunny 55 6PM Restaurant(20-50) 1d Female 21
11 Home Alone Sunny 80 6PM Coffee House 2h Female 21
12 No Urgent Place Alone Sunny 55 2PM Restaurant(<20) 1d Male 21
13 No Urgent Place Friend(s) Sunny 80 2PM Coffee House 1d Male 21
14 No Urgent Place Friend(s) Sunny 80 2PM Coffee House 2h Male 21
Value
No Urgent Place
Rows: 1 200 row(s) fetched - 3ms (3ms fetch), on Jul 09, 17:16:59
Project - Ge...
Name DataSource
Bookmarks
ER Diagrar
Scripts
32°C Hujan ringan
5:17 PM
7/9/2022


DBeaver 22.0.4 - <SQLite Test.db> Portofolio-SQL.txt
File Edit Navigate Search SQL Editor Database Window Help
<SQLite Test.db> Portofolio-SQL.txt
--is at the right table where d.time equals ttj.time
---ADVANCE QUERRY---
SELECT *
FROM dataset_1 d
WHERE d.time LIKE '%P%'
--%x% means to filter time with spesific
SELECT*
FROM dataset_1 d
WHERE temperature BETWEEN 29 AND 75
SELECT*
FROM dataset_1 d
WHERE occupation IN ('Sales & Reated', 'Management')
SELECT
destination,
weather,
SQLite Test.db
Tables
dataset_1
table_to_join
table_to_union
Views
Indexes
Sequences
Table Triggers
Data Types
INTEGER
REAL
NUMERIC
TEXT
BLOB
dataset_1 1
SELECT* FROM dataset_1 d WHERE temperature BETWEEN
destination passanger weather temperature time coupon expiration gender age
1 No Urgent Place Alone Sunny 55 2PM Restaurant(<20) 1d Female 21
2 No Urgent Place Friend(s) Sunny 55 2PM Carry out & Take away 1d Female 21
3 No Urgent Place Kid(s) Sunny 55 2PM Restaurant(<20) 1d Female 21
4 No Urgent Place Kid(s) Sunny 55 6PM Coffee House 2h Female 21
5 Home Alone Sunny 55 6PM Bar 1d Female 21
6 Home Alone Sunny 55 6PM Restaurant(20-50) 1d Female 21
7 Work Alone Sunny 55 7AM Coffee House 2h Female 21
8 Work Alone Sunny 55 7AM Bar 1d Female 21
9 Work Alone Sunny 55 7AM Restaurant(<20) 1d Female 21
10 Work Alone Sunny 55 7AM Coffee House 2h Female 21
11 No Urgent Place Alone Sunny 55 2PM Restaurant(<20) 1d Male 21
12 No Urgent Place Friend(s) Sunny 55 2PM Coffee House 2h Male 21
13 No Urgent Place Friend(s) Sunny 55 2PM Carry out & Take away 1d Male 21
14 No Urgent Place Alone Sunny 55 10AM Coffee House 2h Male 21
Value
No Urgent Place
Rows: 1
200 row(s) fetched - 3ms (3ms fetch), on Jul 09, 17:17:07
ICT en Writable Smart Insert 80 : 1 [65] Sel: 65 | 3
32°C Hujan ringan
5:17 PM
7/9/2022


DBeaver 22.0.4 - <SQLite Test.db> Portofolio-SQL.txt
File Edit Navigate Search SQL Editor Database Window Help
<SQLite Test.db> Portofolio-SQL.txt
--is at the right table where d.time equals ttj.time
---ADVANCE QUERRY---
SELECT *
FROM dataset_1 d
WHERE d.time LIKE '%P%'
--%x% means to filter time with spesific
SELECT*
FROM dataset_1 d
WHERE temperature BETWEEN 29 AND 75
SELECT*
FROM dataset_1 d
WHERE occupation IN ('Sales & Reated', 'Management')
SELECT
destination,
weather,
SQLite Test.db
Tables
dataset_1
table_to_join
table_to_union
Views
Indexes
Sequences
Table Triggers
Data Types
INTEGER
REAL
NUMERIC
TEXT
BLOB
dataset_1 1
destination passanger weather temperature time coupon expiration gender age
1 No Urgent Place Alone Sunny 55 2PM Restaurant(<20) 1d Female 21
2 No Urgent Place Friend(s) Sunny 80 10AM Coffee House 2h Female 21
3 No Urgent Place Friend(s) Sunny 80 10AM Carry out & Take away 2h Female 21
4 No Urgent Place Friend(s) Sunny 80 2PM Coffee House 2h Female 21
5 No Urgent Place Friend(s) Sunny 80 2PM Coffee House 1d Female 21
6 No Urgent Place Friend(s) Sunny 80 6PM Restaurant(<20) 2h Female 21
7 No Urgent Place Friend(s) Sunny 55 2PM Carry out & Take away 1d Female 21
8 No Urgent Place Partner Sunny 80 10AM Coffee House 2h Female 21
9 No Urgent Place Partner Sunny 80 10AM Restaurant(20-50) 1d Female 21
10 No Urgent Place Partner Sunny 80 10AM Bar 2h Female 21
11 No Urgent Place Partner Sunny 80 10AM Coffee House 2h Female 21
12 No Urgent Place Partner Sunny 80 6PM Restaurant(<20) 2h Female 21
13 No Urgent Place Partner Sunny 80 6PM Bar 1d Female 21
14 Home Alone Sunny 55 6PM Bar 1d Female 21
Value
No Urgent Place
200 Rows: 1 200 row(s) fetched - 10ms (10ms fetch), on Jul 09, 17:17:17
84 : 1 [82]
Sel: 82 | 3
32°C Hujan ringan
5:17 PM
7/9/2022


DBeaver 22.0.4 - <SQLite Test.db> Portofolio-SQL.txt
File Edit Navigate Search SQL Editor Database Window Help
<SQLite Test.db> Portofolio-SQL.txt
WHERE temperature BETWEEN 29 AND 75
SELECT*
FROM dataset_1 d
WHERE occupation IN ('Sales & Reated', 'Management')
SELECT
destination,
weather,
AVG (temperature) OVER(PARTITION BY weather) AS 'avg_temp_by_weather'
FROM dataset_1
SELECT
destination,
time,
LEAD(row_count , 1, '99999') OVER (ORDER BY row_count) AS 'LaggedCount'
FROM dataset_1;
SQLite Test.db
Tables
dataset_1
table_to_join
table_to_union
Views
Indexes
Sequences
Table Triggers
Data Types
INTEGER
REAL
NUMERIC
TEXT
BLOB
dataset_1 1
SELECT destination, weather, AVG (temperature) OVER(PART
destination weather avg_temp_by_weather
1 No Urgent Place Rainy 55
2 No Urgent Place Rainy 55
3 No Urgent Place Rainy 55
4 Work Rainy 55
5 No Urgent Place Rainy 55
6 No Urgent Place Rainy 55
7 No Urgent Place Rainy 55
8 Work Rainy 55
9 No Urgent Place Rainy 55
10 No Urgent Place Rainy 55
11 Work Rainy 55
12 No Urgent Place Rainy 55
13 No Urgent Place Rainy 55
14 No Urgent Place Rainy 55
15 Home Rainy 55
Value
No Urgent Place
Rows: 1
200 row(s) fetched - 8ms (1ms fetch), on Jul 09, 17:17:24
Project - Ge...
Bookmarks
ER Diagrar
Scripts
32°C Hujan ringan
5:17 PM
7/9/2022


DBeaver 22.0.4 - <SQLite Test.db> Portofolio-SQL.txt
File Edit Navigate Search SQL Editor Database Window Help
<SQLite Test.db> Portofolio-SQL.txt
WHERE temperature BETWEEN 29 AND 75
SELECT*
FROM dataset_1 d
WHERE occupation IN ('Sales & Reated', 'Management')
SELECT
destination,
weather,
AVG (temperature) OVER(PARTITION BY weather) AS 'avg_temp_by_weather'
FROM dataset_1
SELECT
destination,
time,
LEAD(row_count , 1, '99999') OVER (ORDER BY row_count) AS 'LaggedCount'
FROM dataset_1;
dataset_1 1
destination time LaggedCount
1 No Urgent Place 2PM 2
2 No Urgent Place 10AM 3
3 No Urgent Place 10AM 4
4 No Urgent Place 2PM 5
5 No Urgent Place 2PM 6
6 No Urgent Place 6PM 7
7 No Urgent Place 2PM 8
8 No Urgent Place 10AM 9
9 No Urgent Place 10AM 10
10 No Urgent Place 10AM 11
11 No Urgent Place 2PM 12
12 No Urgent Place 2PM 13
13 No Urgent Place 6PM 14
14 Home 6PM 15
15 Home 6PM 16
Value
No Urgent Place
Rows: 1
200 row(s) fetched - 24ms (1ms fetch), on Jul 09, 17:17:32
32°C Hujan ringan
5:17 PM
7/9/2022

# TWO WAY ANOVA

Aditya Nur Afrianda

12/21/2021

```
library (data.table)
library (dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:data.table':
##
##     between, first, last
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

#DATA

```
c_A = c(84,79,83)
c_B = c(80,77,78)
c_C = c(83,80,80)
c_D = c(79,79,78)
```

#TABEL

```
hari = rep(c("1","2","3"),4)
agen = rep(c("A","B","C","D"),each=3)
konsentrasi = c(c_A,c_B,c_C,c_D)
suhu = runif(12,30,30.5)
tabel = data.table(hari,agen,konsentrasi,suhu)
tabel
```

```
##     hari agen konsentrasi     suhu
##  1:    1    A          84 30.48618
##  2:    2    A          79 30.35479
##  3:    3    A          83 30.14439
##  4:    1    B          80 30.00686
##  5:    2    B          77 30.02730
##  6:    3    B          78 30.16761
##  7:    1    C          83 30.38324
##  8:    2    C          80 30.48371
##  9:    3    C          80 30.04096
## 10:    1    D          79 30.18852
## 11:    2    D          79 30.36945
## 12:    3    D          78 30.28233
```

# TWO-WAY ANOVA

```
hasil_ANOVA = aov(konsentrasi~agen*hari*suhu)
summary(hasil_ANOVA)
```

```
##             Df Sum Sq Mean Sq
## agen         3 28.667   9.556
## hari         2 15.500   7.750
## suhu         1  0.664   0.664
## agen:hari    5  9.169   1.834
```

```
hasil_ANOVA = aov(konsentrasi~agen+hari+suhu)
summary(hasil_ANOVA)
```

```
##             Df Sum Sq Mean Sq F value Pr(>F)
## agen         3 28.667   9.556   5.211 0.0535 .
## hari         2 15.500   7.750   4.226 0.0842 .
## suhu         1  0.664   0.664   0.362 0.5735
## Residuals    5  9.169   1.834
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

#Agen pengelat paling menentukan dalam eksperimen dan berbeda secara signifikan karena pr>1

# Praktikum Kemometri

Aditya Nur Afrianda

1/11/2022

```
library (data.table)
library (dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:data.table':
##
##     between, first, last
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

## Sungai Citarum

```
c_A = c(5,10,15,20)
c_B = c(15,6,12,18)
c_C = c(15,10,7,11)
c_D = c(15,12,10,6)
c_E = c(10,12,10,8)
```

```
hari = rep(c("1","2","3","4","5"),4)
suhu = rep(c("25","28","30","32"),each=5)
konsentrasi = c(c_A,c_B,c_C,c_D,c_E)
tabel = data.table(hari,suhu,konsentrasi)
tabel
```

```
##     hari suhu konsentrasi
##  1:    1   25           5
##  2:    2   25          10
##  3:    3   25          15
##  4:    4   25          20
##  5:    5   25          15
##  6:    1   28           6
##  7:    2   28          12
##  8:    3   28          18
##  9:    4   28          15
## 10:    5   28          10
## 11:    1   30           7
## 12:    2   30          11
## 13:    3   30          15
## 14:    4   30          12
## 15:    5   30          10
## 16:    1   32           6
## 17:    2   32          10
## 18:    3   32          12
## 19:    4   32          10
## 20:    5   32           8
```

```
aov2 = aov(konsentrasi~suhu+hari, data=tabel)
summary(aov2)
```

```
##             Df Sum Sq Mean Sq F value  Pr(>F)
## suhu         3  40.95   13.65   2.508 0.10839
## hari         4 204.30   51.08   9.386 0.00112 **
## Residuals   12  65.30    5.44
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

#Dari uji ANOVA yang dilakukan, faktor manakah yang paling berpengaruh dalam menentukan konsentrasi enzim yang dihasilkan di Sungai Citarum? #Jawab :Yang paling berpengaruh adalah hari/waktu pengambilan

## Sungai Boyong

```
c_A = c(10,10,12,12)
c_B = c(10,12,12,15)
c_C = c(11,10,22,25)
c_D = c(24,25,25,12)
c_E = c(14,18,15,10)
```

```
hari = rep(c("1","2","3","4","5"),4)
suhu = rep(c("25","28","30","32"),each=5)
konsentrasi = c(c_A,c_B,c_C,c_D,c_E)
tabel = data.table(hari,suhu,konsentrasi)
tabel
```

```
##     hari suhu konsentrasi
##  1:    1   25          10
##  2:    2   25          10
##  3:    3   25          12
##  4:    4   25          12
##  5:    5   25          10
##  6:    1   28          12
##  7:    2   28          12
##  8:    3   28          15
##  9:    4   28          11
## 10:    5   28          10
## 11:    1   30          22
## 12:    2   30          25
## 13:    3   30          24
## 14:    4   30          25
## 15:    5   30          25
## 16:    1   32          12
## 17:    2   32          14
## 18:    3   32          18
## 19:    4   32          15
## 20:    5   32          10
```

```
aov2 = aov(konsentrasi~suhu+hari, data=tabel)
summary(aov2)
```

```
##             Df Sum Sq Mean Sq F value Pr(>F)
## suhu         3  562.8  187.60  74.543  5e-08 ***
## hari         4   32.2    8.05   3.199 0.0526 .
## Residuals   12   30.2    2.52
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

#Dengan menggunakan syntax ANOVA yang sama dengan kasus sebelumnya, tentukan apakah konsentrasi enzim yang diperoleh dari sungai Boyong lebih terpengaruh oleh suhu atau oleh waktu pengambilan? #Jawab = lebih terpengaruhi oleh suhu

# 105119011_UASKEMOMETRI

Aditya Nur Afrianda

1/26/2022

```
library (data.table)
library (dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:data.table':
##
##     between, first, last
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

# NO 3

#a.) Reproduksi hasil percobaan

```
A = runif(500,40,50)
B = runif(500,30,40)
C = runif(500,20,50)
D = runif(500,45,50)
```

#b.) Tabel dari hasil percobaan

```
hari = rep(c("1","2","3","4","5"),400)
agen_pengompleks = rep(c("A","B","C","D"),each=5)
konsentrasi_protein = c(A,B,C,D)
tabel = data.table(hari,agen_pengompleks,konsentrasi_protein)
tabel
```

```
##       hari agen_pengompleks konsentrasi_protein
##    1:    1                A            45.20724
##    2:    2                A            40.75125
##    3:    3                A            42.52159
##    4:    4                A            47.71391
##    5:    5                A            48.00757
##   ---
## 1996:    1                D            45.35132
## 1997:    2                D            48.41969
## 1998:    3                D            47.78817
## 1999:    4                D            46.80336
## 2000:    5                D            45.91895
```

#c.) Analisa TWO Way ANOVA

```
aov2 = aov(konsentrasi_protein~agen_pengompleks+hari, data=tabel)
summary(aov2)
```

```
##                   Df Sum Sq Mean Sq F value Pr(>F)
## agen_pengompleks    3    126   42.02   0.735  0.531
## hari                4     49   12.22   0.214  0.931
## Residuals        1992 113942   57.20
```

#Berdasarkan hasil analisis Two Way ANOVA, faktor yang paling berpengaruh dalam percobaan adalah Agen pengompleks

# NO 1

```
library (neuralnet)
```

```
## Warning: package 'neuralnet' was built under R version 4.1.2
```

```
##
## Attaching package: 'neuralnet'
```

```
## The following object is masked from 'package:dplyr':
##
##     compute
```

```
library (data.table)
```

#a.) Model neural network hidden layer

```
pasien <- c("A","B","C","D","E","F","G","H","I","J")
laju_respirasi <- c(30,25,12,20,26,30,12,22,18,30)
tekanan_darah <- c(220,80,111,120,250,180,130,90,200,113)
denyut_nadi <- c(130,30,60,70,135,60,70,39.75,60,70)
suhu_tubuh <- c(39,36.8,36.8,37.3,37,39,40,39.2,37.8,39)
parameter_uji <- c(1,1,0,0,1,1,0,1,0,0)
```

```
tabel <- data.table(pasien,laju_respirasi,tekanan_darah,denyut_nadi,suhu_tubuh, parameter_uji)
tabel
```

```
##     pasien laju_respirasi tekanan_darah denyut_nadi suhu_tubuh parameter_uji
##  1:      A             30           220      130.00       39.0             1
##  2:      B             25            80       30.00       36.8             1
##  3:      C             12           111       60.00       36.8             0
##  4:      D             20           120       70.00       37.3             0
##  5:      E             26           250      135.00       37.0             1
##  6:      F             30           180       60.00       39.0             1
##  7:      G             12           130       70.00       40.0             0
##  8:      H             22            90       39.75       39.2             1
##  9:      I             18           200       60.00       37.8             0
## 10:      J             30           113       70.00       39.0             0
```

```
ne<-neuralnet(parameter_uji~laju_respirasi+tekanan_darah + denyut_nadi+suhu_tubuh, data=tabel, hidden =6, act.fct
="logistic", linear.output = F)
```

```
plot(ne)
```

#b.) Penentuan status infeksi pasien

```
pasien <- c("K","L","M")
laju_respirasi <- c(31,12,35)
tekanan_darah <- c(120,111,250)
denyut_nadi <- c(70,43,44)
suhu_tubuh <- c(36.7,37,36.8)
test<-data.table(pasien,laju_respirasi,tekanan_darah,denyut_nadi,suhu_tubuh)
```

```
prediksi <-compute(ne, test)
prediksi$net.result
```

```
##              [,1]
## [1,] 0.0286256259
## [2,] 0.0283733872
## [3,] 0.0008858739
```

```
prob <-prediksi$net.result
prediksi <-ifelse(prob>0.5,1,0)
prediksi
```

```
##      [,1]
## [1,]    0
## [2,]    0
## [3,]    0
```

#kesimpulannya pasien K, L dan M tidak terinfeksi COVID-19