Q1: Decimal. Because we are recording temperatures for local weather with a decimal range of two. This would fit into the Decimal datatype as the average weather would likely at the lowest be around 0 degrees fahrenheit and 100 degrees fahrenheit roughly speaking this fits into Decimals range of (-10^38 + 1 to 10^38 -1)

Q2a:tinyint. The highest windspeed ever recorded in knots was 199.8 knots. Tinyint will store up to 255 (unsigned)

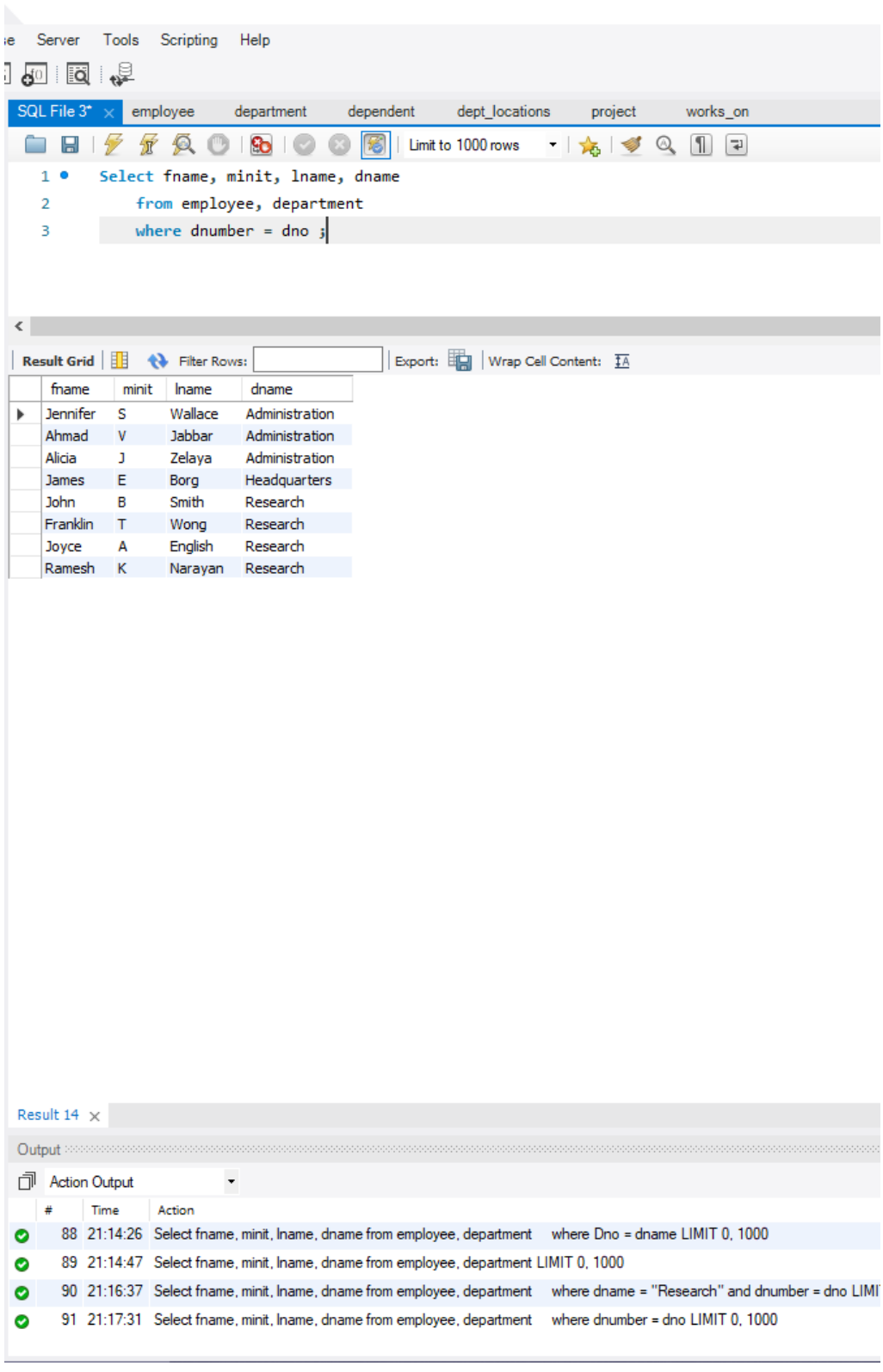
Q2b:tinyint. This also works for the 16 ordinal positions as the range for tinyint is 0 to 127/255 (signed vs unsigned).

Q3:smallint. This is because the average amount of rainfall in an area of the U.S. is 767 mm so this works for smallint as its range is -32,768 to 32,767 and we needed a whole value.

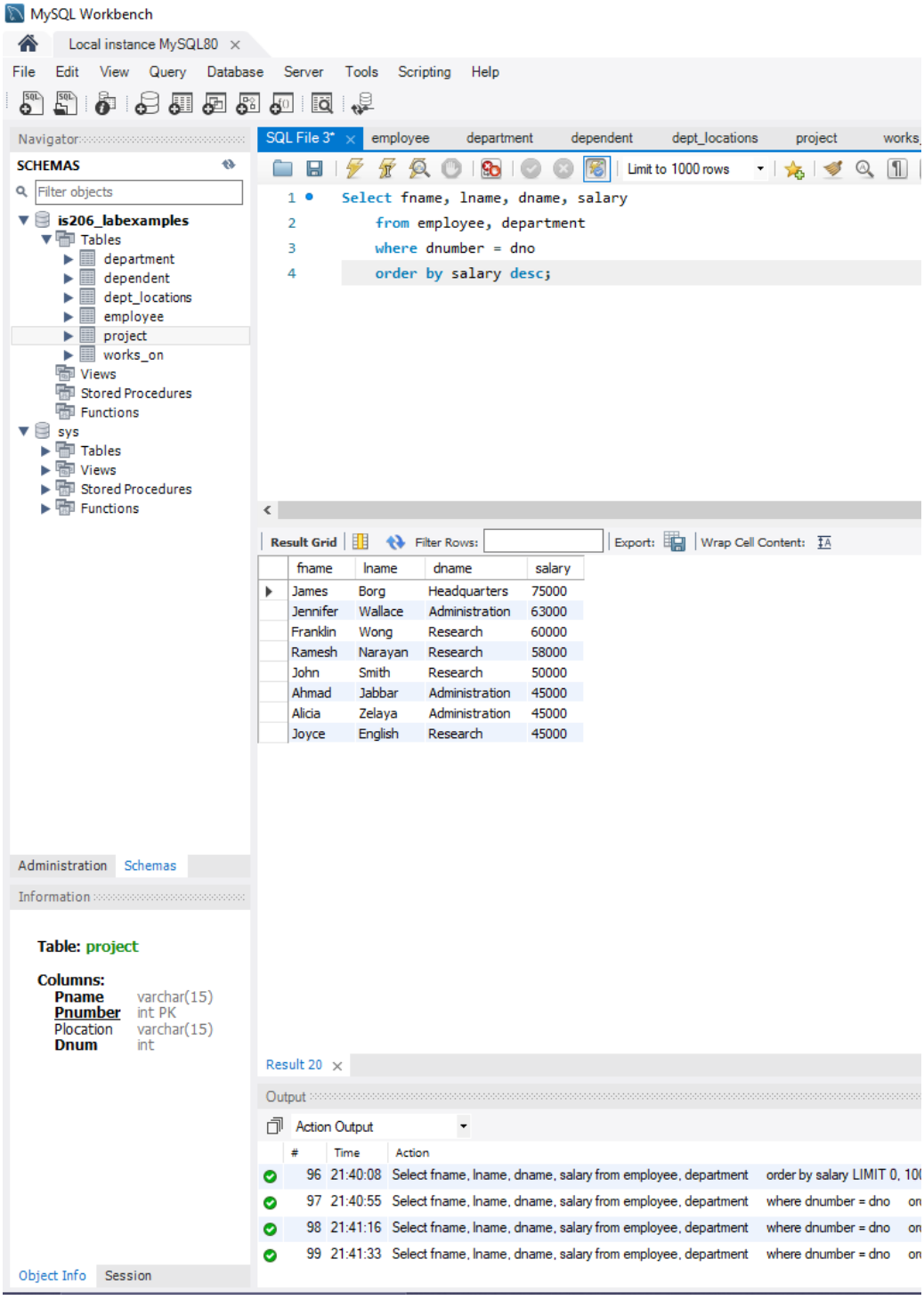
Q4: Decimal. This is because when you convert the average amount of rainfall 767mm to inches you get 30.20 (rounded) so you need a datatype that supports decimals and Decimal fits between (-10^38 + 1 to 10^38 -1)

Q5:

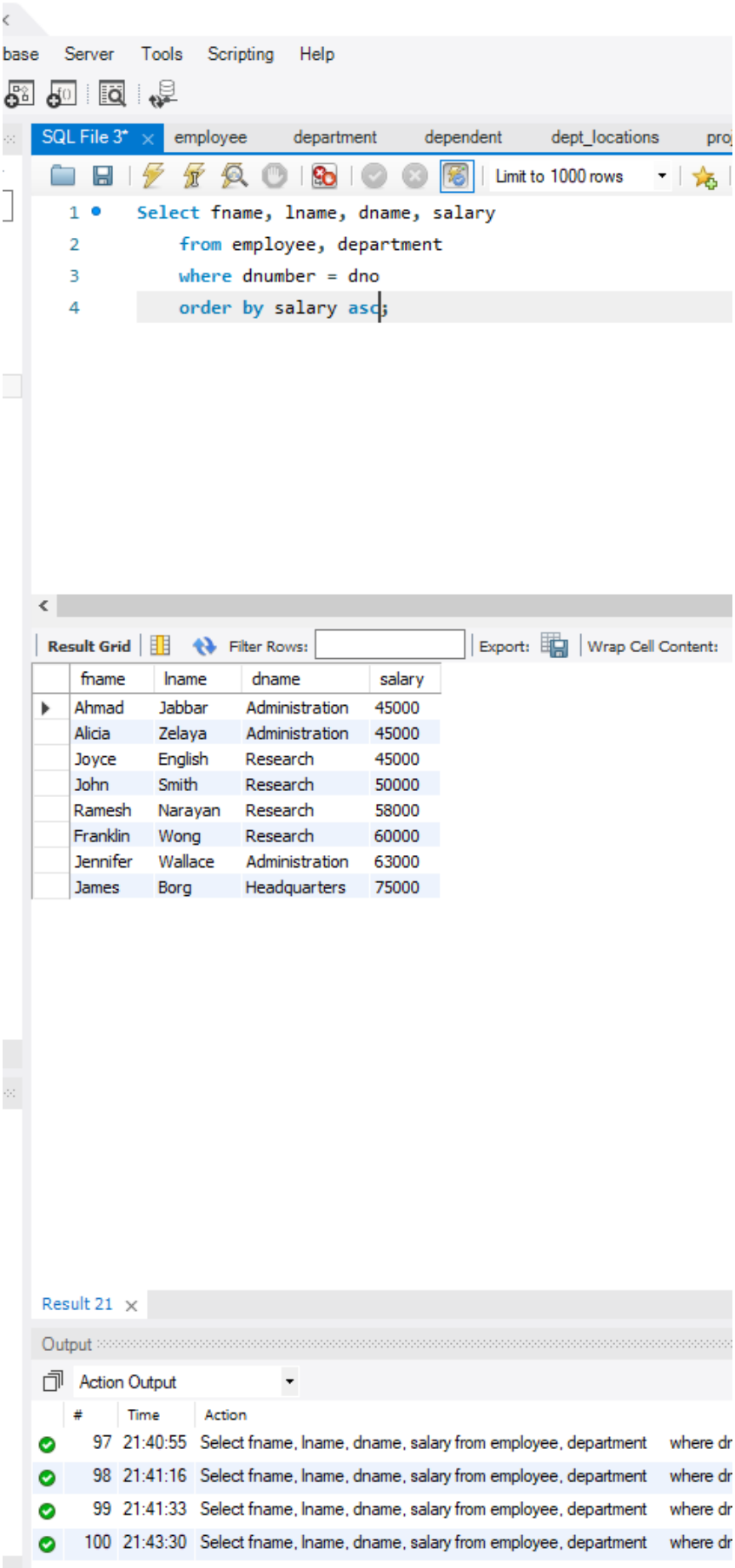
FieldName	Datatype	Example of Data
City	CHAR	TX
State	VARCHAR	Houston
Street Address	VARCHAR	731 Fondren
Zip Code	CHAR	77001
Department Location (dlocation)	VARCHAR	Houston


Server
Tools
Scripting
Help
SQL File 3*
employee
department
dependent
dept_locations
project
works_on
Limit to 1000 rows
1 Select fname, minit, lname, dname
2 from employee, department
3 where dnumber = dno ;
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
fname minit lname dname
Jennifer S Wallace Administration
Ahmad V Jabbar Administration
Alicia J Zelaya Administration
James E Borg Headquarters
John B Smith Research
Franklin T Wong Research
Joyce A English Research
Ramesh K Narayan Research
Result 14
Output
Action Output
Time Action
88 21:14:26 Select fname, minit, lname, dname from employee, department where Dno = dname LIMIT 0, 1000
89 21:14:47 Select fname, minit, lname, dname from employee, department LIMIT 0, 1000
90 21:16:37 Select fname, minit, lname, dname from employee, department where dname = "Research" and dnumber = dno LIMI
91 21:17:31 Select fname, minit, lname, dname from employee, department where dnumber = dno LIMIT 0, 1000

Q6:

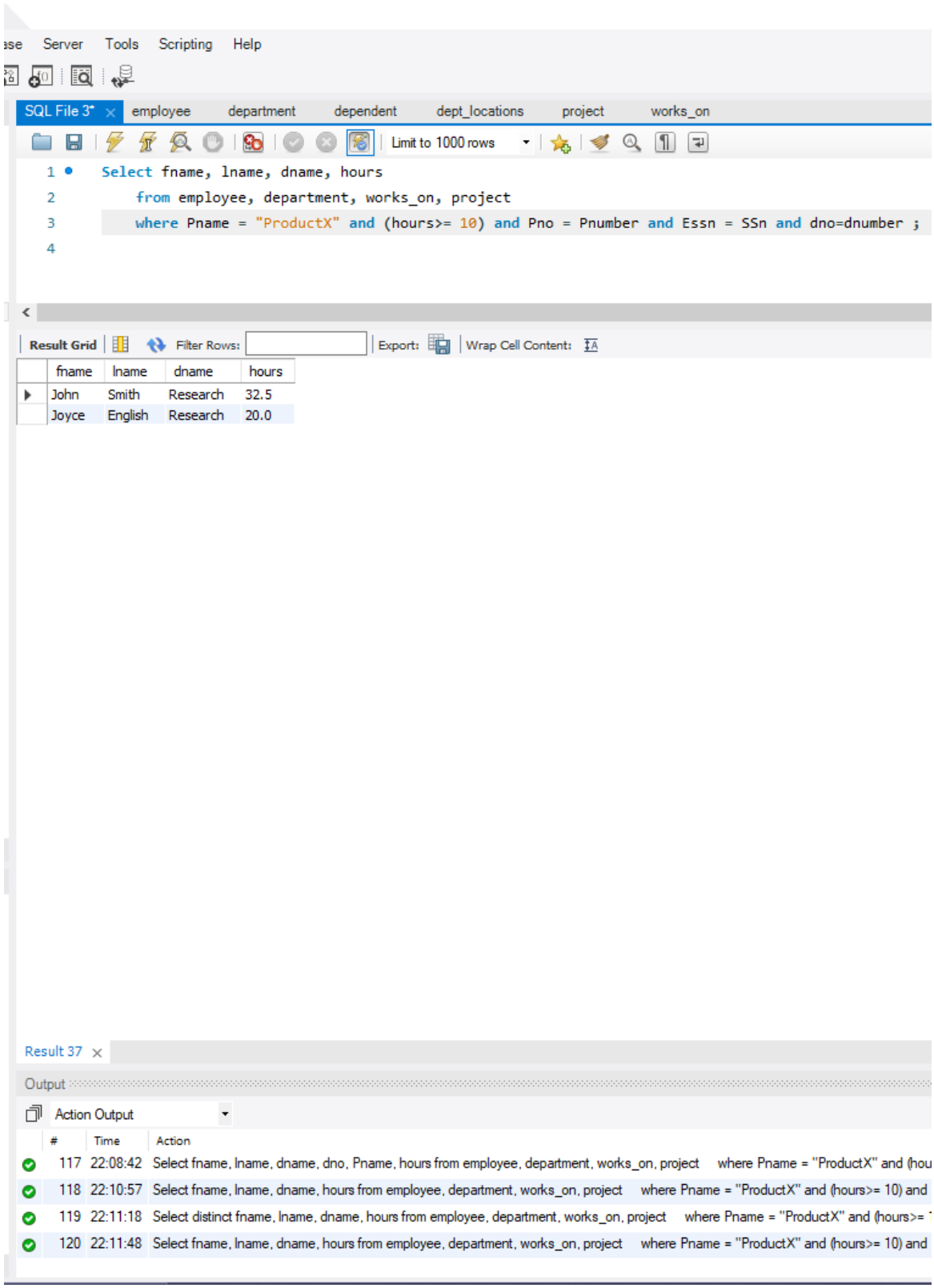

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
Navigator
SCHEMAS
Filter objects
is206_labexamples
Tables
department
dependent
dept_locations
employee
project
works_on
Views
Stored Procedures
Functions
sys
Tables
Views
Stored Procedures
Functions
Administration Schemas
Information
Table: project
Columns:
Pname varchar(15)
Pnumber int PK
Plocation varchar(15)
Dnum int
Object Info Session
SQL File 3* employee department dependent dept_locations project works_
Limit to 1000 rows
1 Select fname, lname, dname, salary
2 from employee, department
3 where dnumber = dno
4 order by salary desc;
Result Grid Filter Rows: Export: Wrap Cell Content:
fname lname dname salary
James Borg Headquarters 75000
Jennifer Wallace Administration 63000
Franklin Wong Research 60000
Ramesh Narayan Research 58000
John Smith Research 50000
Ahmad Jabbar Administration 45000
Alicia Zelaya Administration 45000
Joyce English Research 45000
Result 20
Output
Action Output
Time Action
96 21:40:08 Select fname, lname, dname, salary from employee, department order by salary LIMIT 0, 10
97 21:40:55 Select fname, lname, dname, salary from employee, department where dnumber = dno
98 21:41:16 Select fname, lname, dname, salary from employee, department where dnumber = dno
99 21:41:33 Select fname, lname, dname, salary from employee, department where dnumber = dno

Q7:

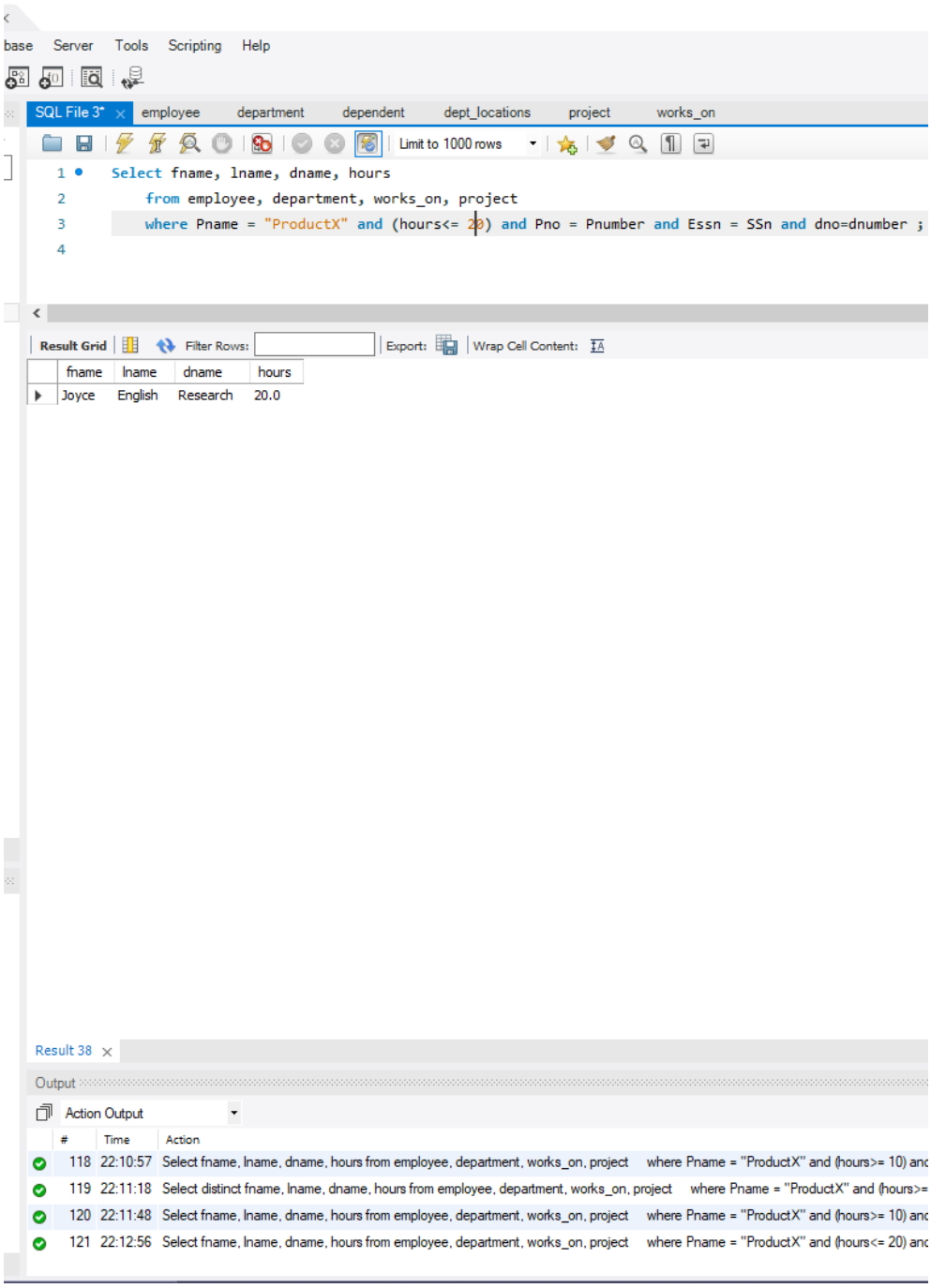

base Server Tools Scripting Help
SQL File 3* employee department dependent dept_locations
Limit to 1000 rows
1 Select fname, lname, dname, salary
2 from employee, department
3 where dnumber = dno
4 order by salary asc;
Result Grid Filter Rows: Export: Wrap Cell Content:
fname lname dname salary
Ahmad Jabbar Administration 45000
Alicia Zelaya Administration 45000
Joyce English Research 45000
John Smith Research 50000
Ramesh Narayan Research 58000
Franklin Wong Research 60000
Jennifer Wallace Administration 63000
James Borg Headquarters 75000
Result 21
Output
Action Output
Time Action
97 21:40:55 Select fname, lname, dname, salary from employee, department where dr
98 21:41:16 Select fname, lname, dname, salary from employee, department where dr
99 21:41:33 Select fname, lname, dname, salary from employee, department where dr
100 21:43:30 Select fname, lname, dname, salary from employee, department where dr

Q8:

Q9:


Server
Tools
Scripting
Help
SQL File 3*
employee
department
dependent
dept_locations
project
works_on
Limit to 1000 rows
1 Select fname, lname, dname, hours
2 from employee, department, works_on, project
3 where Pname = "ProductX" and (hours>= 10) and Pno = Pnumber and Essn = SSn and dno=dnumber ;
4
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
fname lname dname hours
John Smith Research 32.5
Joyce English Research 20.0
Result 37
Output
Action Output
Time Action
117 22:08:42 Select fname, lname, dname, dno, Pname, hours from employee, department, works_on, project where Pname = "ProductX" and (hou
118 22:10:57 Select fname, lname, dname, hours from employee, department, works_on, project where Pname = "ProductX" and (hours>= 10) and
119 22:11:18 Select distinct fname, lname, dname, hours from employee, department, works_on, project where Pname = "ProductX" and (hours>=
120 22:11:48 Select fname, lname, dname, hours from employee, department, works_on, project where Pname = "ProductX" and (hours>= 10) and

Q10:


base Server Tools Scripting Help
SQL File 3* employee department dependent dept_locations project works_on
Limit to 1000 rows
1 Select fname, lname, dname, hours
2 from employee, department, works_on, project
3 where Pname = "ProductX" and (hours<= 20) and Pno = Pnumber and Essn = SSn and dno=dnumber ;
4
Result Grid Filter Rows: Export: Wrap Cell Content:
fname lname dname hours
Joyce English Research 20.0
Result 38
Output
Action Output
Time Action
118 22:10:57 Select fname, lname, dname, hours from employee, department, works_on, project where Pname = "ProductX" and (hours>= 10) and
119 22:11:18 Select distinct fname, lname, dname, hours from employee, department, works_on, project where Pname = "ProductX" and (hours>=
120 22:11:48 Select fname, lname, dname, hours from employee, department, works_on, project where Pname = "ProductX" and (hours>= 10) and
121 22:12:56 Select fname, lname, dname, hours from employee, department, works_on, project where Pname = "ProductX" and (hours<= 20) and