DBMS ASSIGNMENT

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Section : IT - B

SMART FARMING MANAGEMENT SYSTEM

ABSTRACT:

This project " Smart Farming systematic approach data management system" where it reduces the ecological footprint of farming. Minimized or site-specific application of inputs, such as fertilizers and pesticides, in precision agriculture systems will mitigate leaching problems as well as the emission of greenhouse gases. With current ICT, it is possible to create a sensor network allowing almost continuous monitoring of the farm.

Smart farming can make agriculture more profitable for the farmer. Decreasing resources input will save the farmer money and lobour, and increased reliability of spatially explicit data.

REQUIREMENTS ANALYSIS

List of tables:

- Farmer
- Uses
- Auto_robotic
- Soil_sensor
- Weather
- Govt_off
- Monitor
- Supp_team
- Search
- Gives

List of attributes with their domain types:

Farmer:

Farmer id: fid-Number()

Farmer name: fname-varchar()

Govt_off:

Govt id: gid – Number()

Govt name: gname-varchar()

Supp_team:

Supp id: sid –Number()

Supp name: sname varchar()

Search:

Search insects: type_inst – varchar()

Search problem: problem – varchar()

Auto_robotic:

Auto seeding: seeding-varchar()

Auto watering: auto_water –varchar()

Auto tractor: tractor-varchar()

Auto seeding: seeds-varchar()

Soil_sensor:

Soil report: soil_report-varchar()

Soil seeds: seed_result-varchar()

Weather:

Weather temperature: temp-varchar()

Uses:

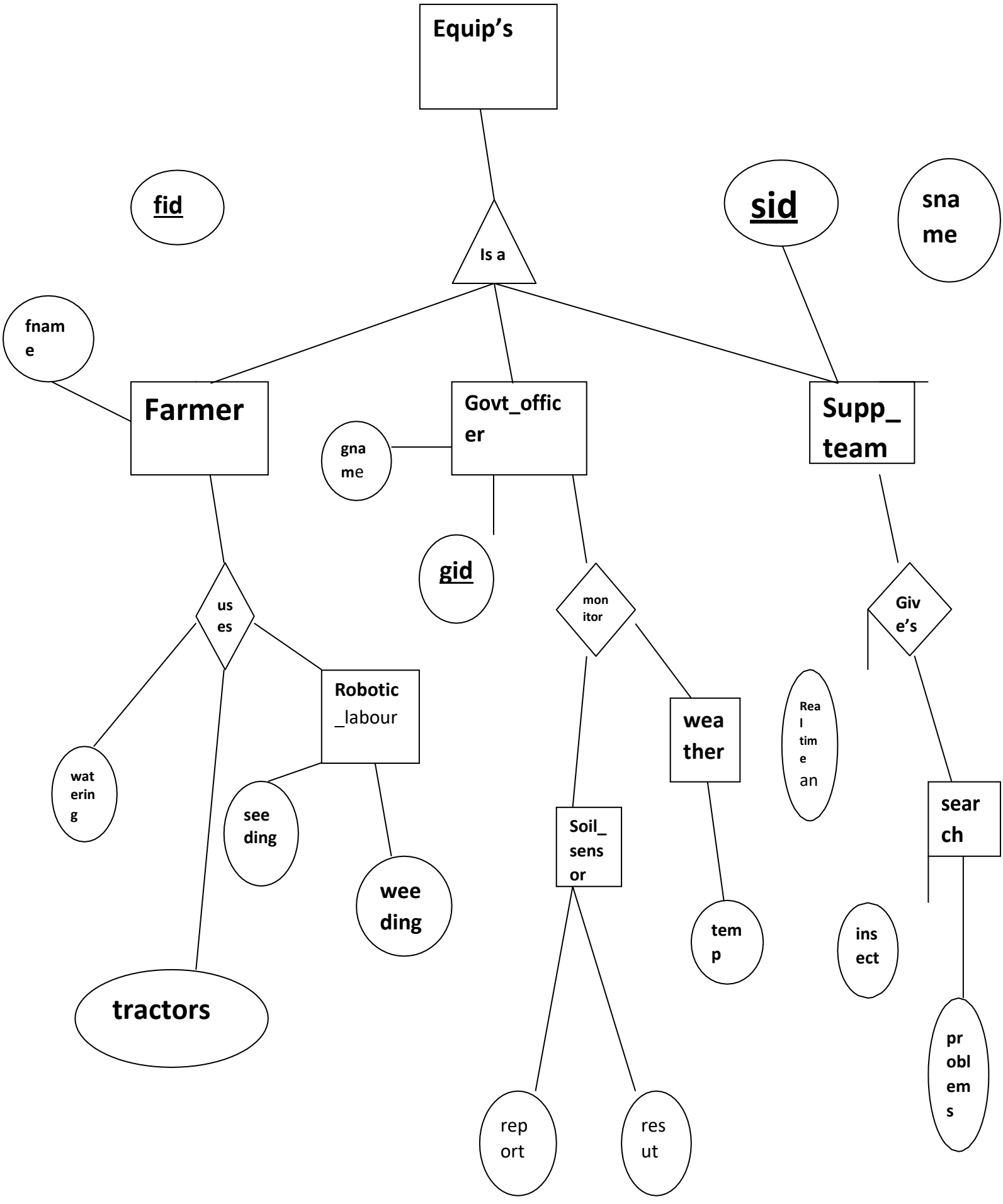
Tractor

Watering &Irrigation

Give's:

Real time analysis

ER- DIAGRAM:


Equip's
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Mapping Cardinalities and Participation Constraints:

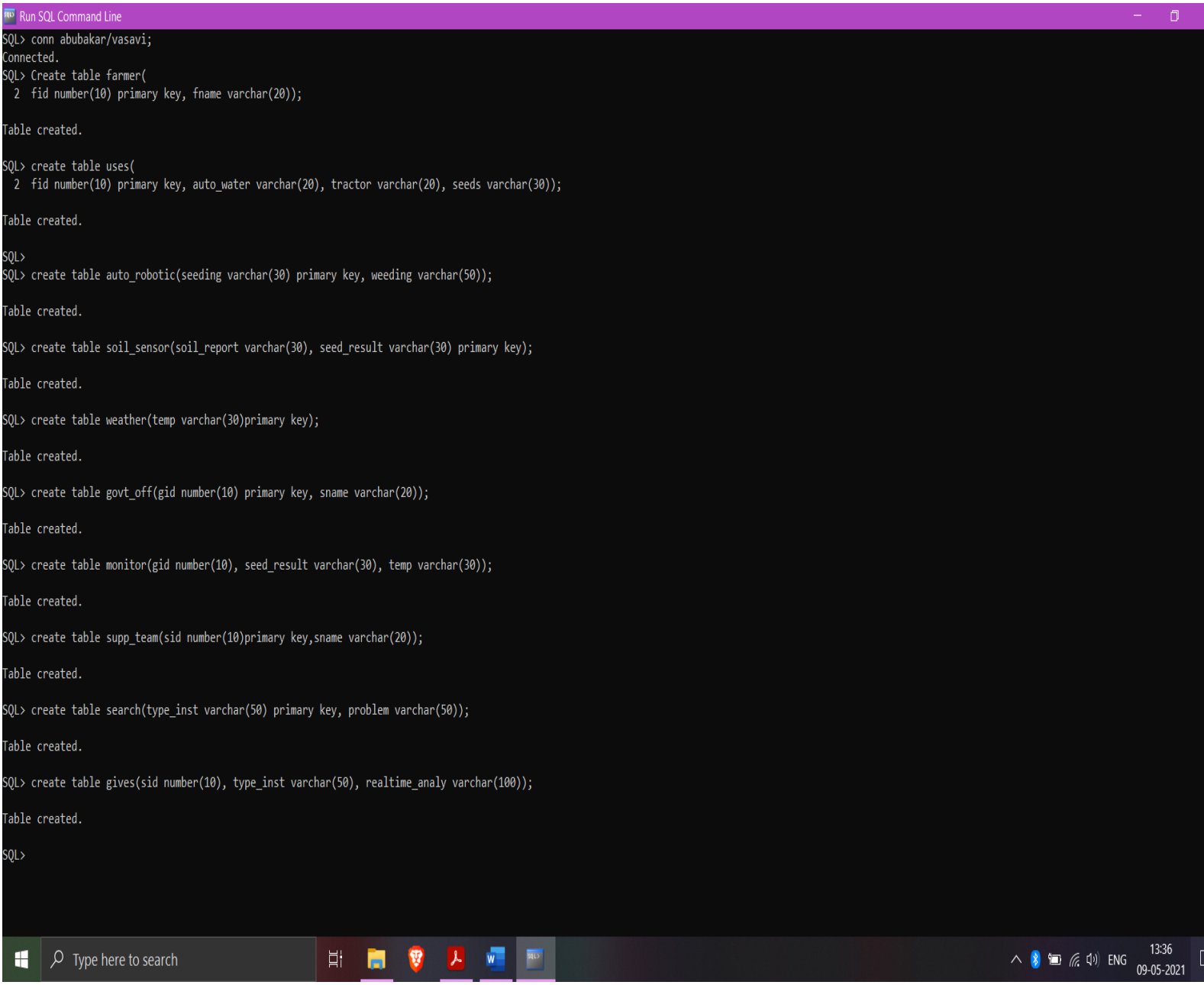
In the smart farming there are many types of users and there are uses and monitors to many sensors and reports so many to many mapping cardinalities between uses and farmer.

A farmer will uses the tractors, watering, auto seeding ,weeding etc by smart equipments. It has many to many constraints.

A government officer will monitors the soils sensors, weather like temperature. An support team will checks the day to day real time analysis and gives the

report of the soil and crops. It has many to many constraints.

DDL COMMANDS:



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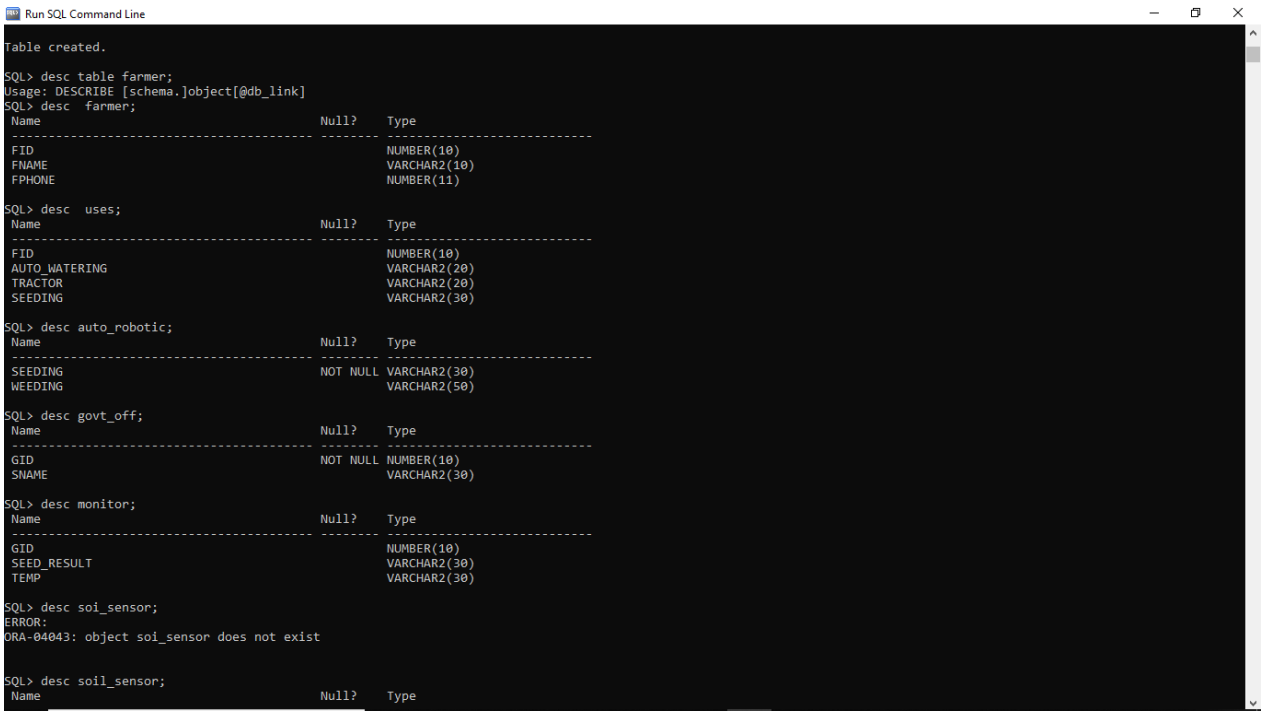
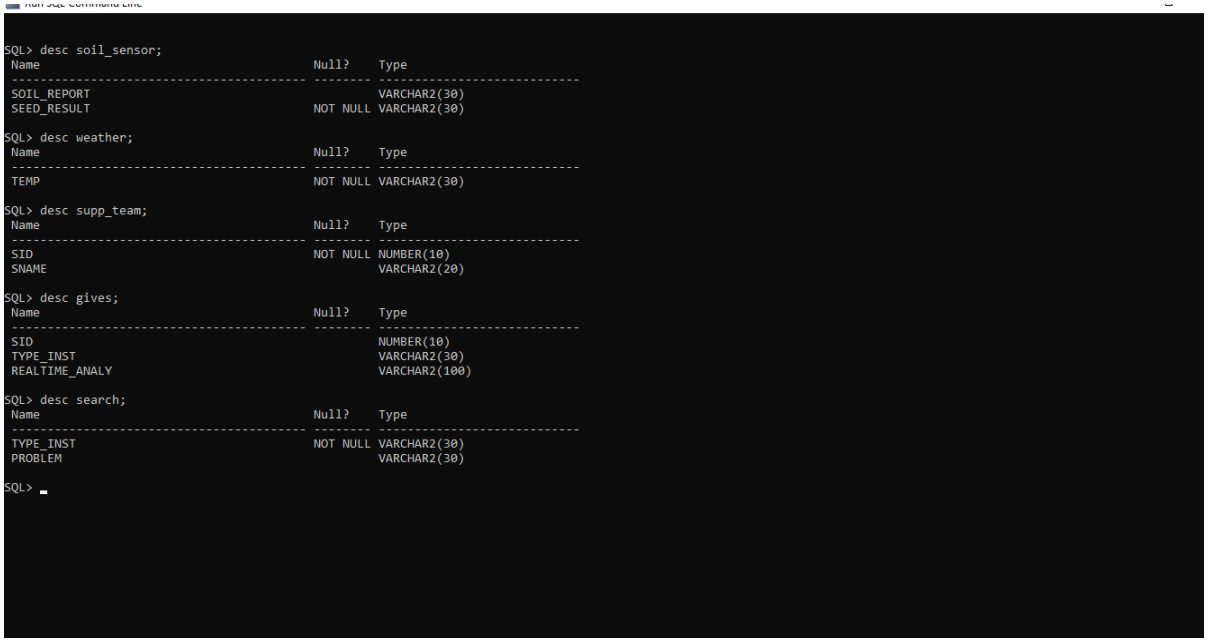
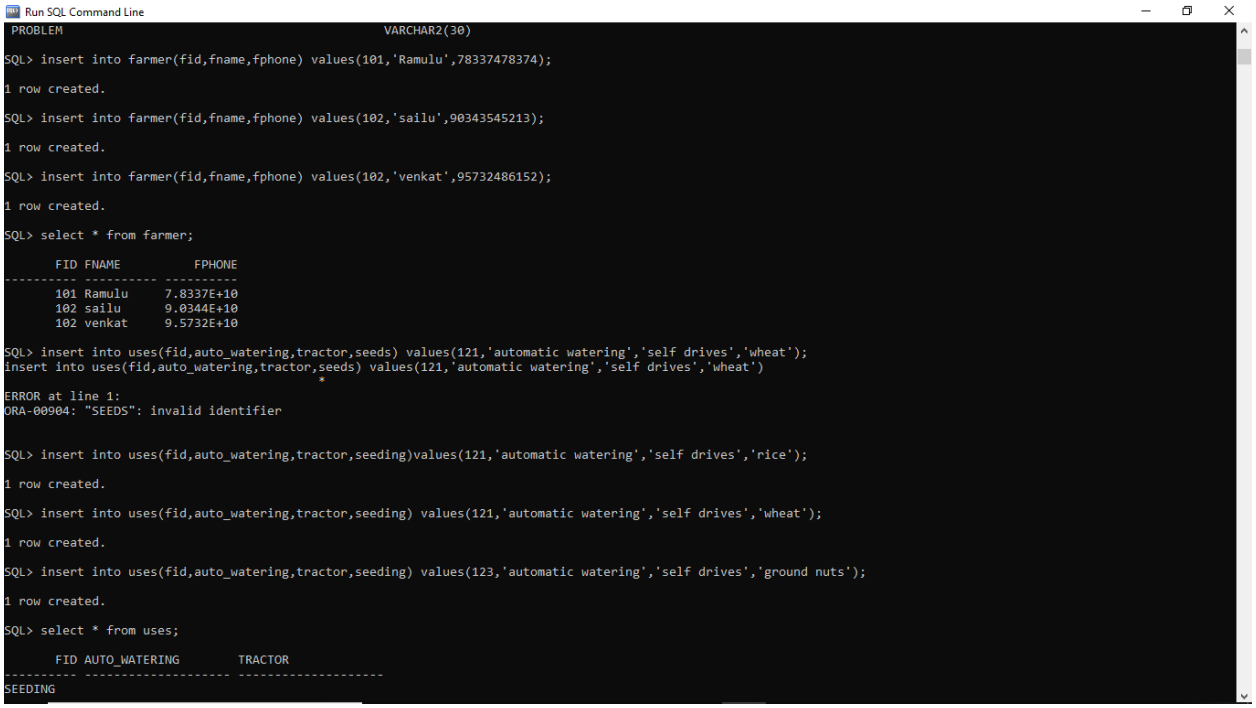
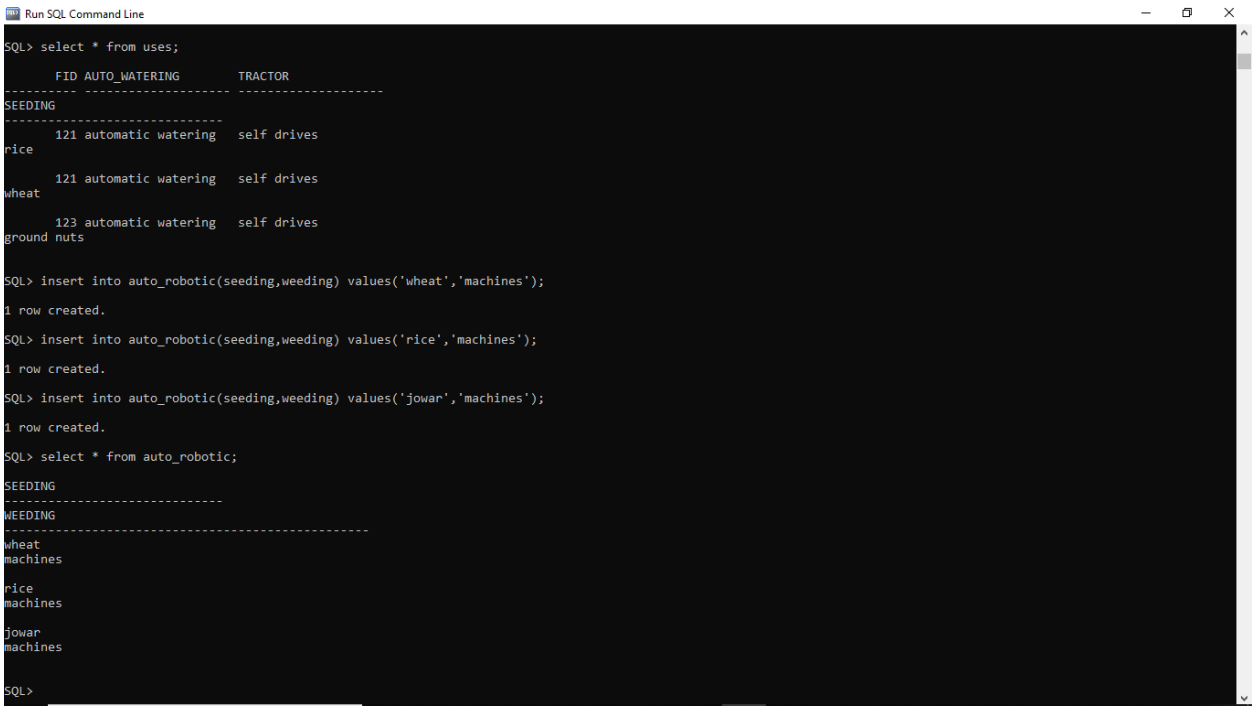
DML COMMANDS:


Run SQL Command Line
Table created.
SQL> desc table farmer;
Usage: DESCRIBE [schema.]object[@db_link]
SQL> desc farmer;
Name Null? Type
FID NUMBER(10)
FNAME VARCHAR2(10)
FPHONE NUMBER(11)
SQL> desc uses;
Name Null? Type
FID NUMBER(10)
AUTO_WATERING VARCHAR2(20)
TRACTOR VARCHAR2(20)
SEEDING VARCHAR2(30)
SQL> desc auto_robotic;
Name Null? Type
SEEDING NOT NULL VARCHAR2(30)
WEEDING VARCHAR2(50)
SQL> desc govt_off;
Name Null? Type
GID NOT NULL NUMBER(10)
SNAME VARCHAR2(30)
SQL> desc monitor;
Name Null? Type
GID NUMBER(10)
SEED_RESULT VARCHAR2(30)
TEMP VARCHAR2(30)
SQL> desc soi_sensor;
ERROR:
ORA-04043: object soi_sensor does not exist
SQL> desc soil_sensor;
Name Null? Type


SQL> desc soil_sensor;
Name Null? Type
SOIL_REPORT VARCHAR2(30)
SEED_RESULT NOT NULL VARCHAR2(30)
SQL> desc weather;
Name Null? Type
TEMP NOT NULL VARCHAR2(30)
SQL> desc supp_team;
Name Null? Type
SID NOT NULL NUMBER(10)
SNAME VARCHAR2(20)
SQL> desc gives;
Name Null? Type
SID NUMBER(10)
TYPE_INST VARCHAR2(30)
REALTIME_ANALY VARCHAR2(100)
SQL> desc search;
Name Null? Type
TYPE_INST NOT NULL VARCHAR2(30)
PROBLEM VARCHAR2(30)
SQL>


Run SQL Command Line
PROBLEM VARCHAR2(30)
SQL> insert into farmer(fid,fname,fphone) values(101,'Ramulu',78337478374);
1 row created.
SQL> insert into farmer(fid,fname,fphone) values(102,'sailu',90343545213);
1 row created.
SQL> insert into farmer(fid,fname,fphone) values(102,'venkat',95732486152);
1 row created.
SQL> select * from farmer;
FID FNAME FPHONE
101 Ramulu 7.8337E+10
102 sailu 9.0344E+10
102 venkat 9.5732E+10
SQL> insert into uses(fid,auto_watering,tractor,seeds) values(121,'automatic watering','self drives','wheat');
insert into uses(fid,auto_watering,tractor,seeds) values(121,'automatic watering','self drives','wheat')
*
ERROR at line 1:
ORA-00904: "SEEDS": invalid identifier
SQL> insert into uses(fid,auto_watering,tractor,seeding)values(121,'automatic watering','self drives','rice');
1 row created.
SQL> insert into uses(fid,auto_watering,tractor,seeding) values(121,'automatic watering','self drives','wheat');
1 row created.
SQL> insert into uses(fid,auto_watering,tractor,seeding) values(123,'automatic watering','self drives','ground nuts');
1 row created.
SQL> select * from uses;
FID AUTO_WATERING TRACTOR
SEEDING


Run SQL Command Line
SQL> select * from uses;
FID AUTO_WATERING TRACTOR
SEEDING
121 automatic watering self drives
rice
121 automatic watering self drives
wheat
123 automatic watering self drives
ground nuts
SQL> insert into auto_robotic(seeding,weeding) values('wheat','machines');
1 row created.
SQL> insert into auto_robotic(seeding,weeding) values('rice','machines');
1 row created.
SQL> insert into auto_robotic(seeding,weeding) values('jowar','machines');
1 row created.
SQL> select * from auto_robotic;
SEEDING
WEEDING
wheat
machines
rice
machines
jowar
machines
SQL>

Run SQL Command Line

```
1 row created.

SQL> select * from monitor;

       GID SEED_RESULT                    TEMP
---------- ------------------------------ ------------------------------
        20 good                           45
        21 good                           38
        22 better                         46

SQL> insert into supp_team(sid,sname)values(1,'eesha');

1 row created.

SQL> insert into supp_team(sid,sname)values(2,'vinu');

1 row created.

SQL> insert into supp_team(sid,sname)values(3,'tanu');

1 row created.

SQL> select * from supp_team;

       SID SNAME
---------- --------------------
         1 eesha
         2 vinu
         3 tanu

SQL> insert into search(type_inst,problem)values('butterfly','no');

1 row created.

SQL> insert into search(type_inst,problem)values('housefly','yes');

1 row created.

SQL> select * from search;

TYPE_INST                      PROBLEM
------------------------------ ------------------------------
butterfly                      no
housefly                       yes

SQL>
```

Run SQL Command Line

```
machines


SQL> insert soil_sensor(soil_report,seed_result) values('normal','wheat');
insert soil_sensor(soil_report,seed_result) values('normal','wheat')
       *
ERROR at line 1:
ORA-00925: missing INTO keyword


SQL> insert into soil_sensor(soil_report,seed_result) values('normal','wheat');

1 row created.

SQL> insert into soil_sensor(soil_report,seed_result) values('normal','paddy');

1 row created.

SQL> select * from soil_sensor;

SOIL_REPORT                    SEED_RESULT
------------------------------ ------------------------------
normal                         wheat
normal                         paddy

SQL> insert into weather(temp) values(45);

1 row created.

SQL> insert into weather(temp)values(39);

1 row created.

SQL> insert into weather(temp)values(43);

1 row created.

SQL> select * from weather;

TEMP
------------------------------
45
39
43

SQL>
```

Run SQL Command Line

```
1 row created.

SQL> select * from search;

TYPE_INST                      PROBLEM
------------------------------ ------------------------------
butterfly                      no
housefly                       yes

SQL> insert into gives(sid type_inst,realtime_analy)values(101,'butterfly','good');
insert into gives(sid type_inst,realtime_analy)values(101,'butterfly','good')
                      *
ERROR at line 1:
ORA-00917: missing comma


SQL> insert into gives(sid,type_inst,realtime_analy)values(101,'butterfly','good');

1 row created.

SQL> insert into gives(sid,type_inst,realtime_analy)values(101,'housefly','not good');

1 row created.

SQL> select * fromgives;
select * fromgives
         *
ERROR at line 1:
ORA-00923: FROM keyword not found where expected


SQL> select * from gives;

       SID TYPE_INST
---------- ------------------------------
REALTIME_ANALY
--------------------------------------------------------------------------------
       101 butterfly
good

       101 housefly
not good


SQL>
```

Run SQL Command Line

```
ORA-00904: "GNAME": invalid identifier


SQL> insert into govt_off(gid,sname)values(20,'sowmya');

1 row created.

SQL> insert into govt_off(gid,sname)values(21,'sushma');

1 row created.

SQL> insert into givt_off(gid,sname)values(22,'ramya');
insert into givt_off(gid,sname)values(22,'ramya')
            *
ERROR at line 1:
ORA-00942: table or view does not exist


SQL> insert into govt_off(gid,sname)values(22,'ramya');

1 row created.

SQL> select  * from govt_off;

       GID SNAME
---------- ------------------------------
        20 sowmya
        21 sushma
        22 ramya

SQL> insert into monitor(gid,results,temp) values(20,'seed is good',45);
insert into monitor(gid,results,temp) values(20,'seed is good',45)
                        *
ERROR at line 1:
ORA-00904: "RESULTS": invalid identifier


SQL> insert into monitor(gid,seed_result,temp)values(20,'good',45);

1 row created.

SQL> insert into monitor(gid,seed_result,temp)values(21,'good',38);

1 row created.

SQL> insert into monitor(gid,seed_result,temp)values(22,'better',46);
```