Part 1

```
SQL> @ C:\Users\gokhu\Desktop\assignment_2_1.sql

SQL> drop table ship;

drop table ship

           *

ERROR at line 1:

ORA-00942: table or view does not exist


SQL> Rem:Creating the ship table

SQL> create table ship(class varchar2(20) constraint class_pk primary key,

  2                                   type varchar2(2),

  3                                   country varchar2(20),

  4                                   numGuns number(1),

  5                                   bore number(2),

  6                                   displacement number(5));

Table created.


SQL> Rem:1. Add first two tuples from the above sample data. List the columns explicitly in the
INSERT

SQL> Rem:clause. (No ordering of columns)

SQL> insert into ship(class, type, country, numGuns, bore, displacement)

  2                        values('Bismark', 'bb', 'Germany', 8, 14, 32000);


1 row created.


SQL> insert into ship(class, type, country, numGuns, bore, displacement)

  2                        values('Iowa', 'bb', 'USA', 9, 16, 46000);

1 row created.
```

```
SQL> select * from ship;

CLASS                TY COUNTRY              NUMGUNS      BORE DISPLACEMENT
-------------------- -- -------------------- ---------- ---------- ------------
Bismark              bb Germany                       8         14        32000
Iowa                 bb USA                           9         16        46000

SQL> Rem:2. Populate the relation with the remaining set of tuples. This time, do not list the columns
in
SQL> Rem:the INSERT clause.
SQL> insert into ship values('Kongo', 'bc', 'Japan', 8, 15, 42000);

1 row created.

SQL> insert into ship values('North Carolina', 'bb', 'USA', 9, 16, 37000);

1 row created.

SQL> insert into ship values('Revenge', 'bb', 'Gt. Britan', 8, 15, 29000);

1 row created.

SQL> insert into ship values('Renown', 'bc', 'Gt. Britan', 6, 15, 32000);

1 row created.
```

```
SQL> Rem:3. Display the populated relation.

SQL> select * from ship;


CLASS               TY COUNTRY                NUMGUNS      BORE DISPLACEMENT

-------------------- -- -------------------- ---------- ---------- ------------

Bismark              bb Germany                     8         14        32000

Iowa                 bb USA                         9         16        46000

Kongo                bc Japan                       8         15        42000

North Carolina       bb USA                         9         16        37000

Revenge              bb Gt. Britan                  8         15        29000

Renown               bc Gt. Britan                  6         15        32000


6 rows selected.


SQL> Rem:4. Mark an intermediate point here in this transaction.

SQL> savepoint intermediate;


Savepoint created.


SQL> Rem:5. Change the displacement of Bismark to 34000.

SQL> update ship

  2  set displacement = 34000

  3  where class ='Bismark';


1 row updated.
```

```
SQL> select * from ship;

CLASS              TY COUNTRY              NUMGUNS      BORE DISPLACEMENT
-------------------- -- -------------------- ---------- ---------- ------------
Bismark            bb Germany                    8        14       34000
Iowa               bb USA                        9        16       46000
Kongo              bc Japan                      8        15       42000
North Carolina     bb USA                        9        16       37000
Revenge            bb Gt. Britan                 8        15       29000
Renown             bc Gt. Britan                 6        15       32000

6 rows selected.

SQL> Rem:6. For the battleships having at least 9 number of guns or the ships with at least 15 inch
bore,
SQL> Rem:increase the displacement by 10%. Verify your changes to the table.
SQL> update ship
  2  set displacement = displacement + displacement/10
  3  where numGuns>=9 or bore>=15;

5 rows updated.
```

```
SQL> select * from ship;

CLASS             TY COUNTRY              NUMGUNS     BORE DISPLACEMENT
-------------------- -- -------------------- ---------- ---------- ------------
Bismark            bb Germany                    8        14       34000
Iowa               bb USA                    9        16       50600
Kongo              bc Japan                   8        15       46200
North Carolina      bb USA                   9        16       40700
Revenge            bb Gt. Britan               8        15       31900
Renown             bc Gt. Britan               6        15       35200

6 rows selected.

SQL> Rem:7. Delete Kongo class of ship from Classes table.
SQL> delete from ship where class='Kongo';

1 row deleted.

SQL> Rem:8. Display your changes to the table.
SQL> select * from ship;

CLASS             TY COUNTRY              NUMGUNS     BORE DISPLACEMENT
-------------------- -- -------------------- ---------- ---------- ------------
Bismark            bb Germany                    8        14       34000
Iowa               bb USA                    9        16       50600
North Carolina      bb USA                   9        16       40700
Revenge            bb Gt. Britan               8        15       31900
Renown             bc Gt. Britan               6        15       35200
```

```
SQL> Rem:9. Discard the recent updates to the relation without discarding the earlier INSERT
operation(s).

SQL> rollback to intermediate;


Rollback complete.


SQL> select * from ship;


CLASS               TY COUNTRY                NUMGUNS       BORE DISPLACEMENT

-------------------- -- -------------------- ---------- ---------- ------------

Bismark              bb Germany                     8         14        32000

Iowa                 bb USA                         9         16        46000

Kongo                bc Japan                       8         15        42000

North Carolina       bb USA                         9         16        37000

Revenge              bb Gt. Britan                  8         15        29000

Renown               bc Gt. Britan                  6         15        32000


6 rows selected.


SQL> Rem:10. Commit the changes.

SQL> commit;


Commit complete.
```

Part 2

```
SQL> @ C:\Users\gokhu\Desktop\assignment_2_2.sql

SQL> Rem:11. Display firsy name, job id and salary of all the employees.

SQL> select FIRST_NAME, JOB_ID, SALARY from employees;


FIRST_NAME         JOB_ID       SALARY

-------------------- ---------- ----------

Steven             AD_PRES       24000

Neena              AD_VP         17000

Lex                AD_VP         17000

Alexander          IT_PROG        9000

Bruce              IT_PROG        6000

David              IT_PROG        4800

Valli              IT_PROG        4800

Diana              IT_PROG        4200

Kevin              ST_MAN         5800

Trenna             ST_CLERK       3500

Curtis             ST_CLERK       3100


FIRST_NAME         JOB_ID       SALARY

-------------------- ---------- ----------

Randall            ST_CLERK       2600

Peter              ST_CLERK       2500

Eleni              SA_MAN        10500

Ellen              SA_REP        11000

Jonathon           SA_REP         8600

Kimberely          SA_REP         7000

Jennifer           AD_ASST        4400
```

```
Michael            MK_MAN         13000

Pat                MK_REP         6000

Shelley            AC_MGR         12000

William            AC_ACCOUNT      8300


22 rows selected.


SQL> Rem:12. Display the id, name(first & last), salary and annual salary of all the employees. Sort
the

SQL> Rem:employees by first name. Label the columns as shown below:

SQL> Rem:(EMPLOYEE_ID, FULL NAME, MONTHLY SAL, ANNUAL SALARY)

SQL> select employee_id EMPLOYEE_ID, first_name || ' ' || last_name FULLNAME, salary
MONTHLY_SAL, salary*12 ANNUAL_SALARY from employees

  2              order by first_name;


EMPLOYEE_ID FULLNAME                                      MONTHLY_SAL ANNUAL_SALARY

----------- --------------------------------------------- ----------- -------------

        103 Alexander Hunold                                     9000        108000

        104 Bruce Ernst                                          6000         72000

        142 Curtis Davies                                        3100         37200

        105 David Austin                                         4800         57600

        107 Diana Lorentz                                        4200         50400

        149 Eleni Zlotkey                                       10500        126000

        174 Ellen Abel                                          11000        132000

        200 Jennifer Whalen                                      4400         52800

        176 Jonathon Taylor                                      8600        103200

        124 Kevin Mourgos                                        5800         69600

        178 Kimberely Grant                                      7000         84000
```

```
EMPLOYEE_ID FULLNAME                                      MONTHLY_SAL ANNUAL_SALARY
----------- --------------------------------------------- ----------- -------------
        102 Lex De Haan                                   17000       204000
        201 Michael Hartstein                               13000       156000
        101 Neena Kochhar                                   17000       204000
        202 Pat Fay                                    6000        72000
        144 Peter Vargas                                  2500        30000
        143 Randall Matos                                  2600        31200
        205 Shelley Higgins                               12000       144000
        100 Steven King                                  24000       288000
        141 Trenna Rajs                                   3500        42000
        106 Valli Pataballa                               4800        57600
        206 William Gietz                                 8300        99600

22 rows selected.

SQL> Rem:13. List the different jobs in which the employees are working for.
SQL> select job_id from employees
  2             group by job_id;

JOB_ID
----------
IT_PROG
AC_MGR
AC_ACCOUNT
ST_MAN
AD_ASST
AD_VP
```

```
SA_MAN

MK_MAN

AD_PRES

SA_REP

MK_REP


JOB_ID

----------

ST_CLERK

12 rows selected.


SQL> Rem:14. Display the id, first name, job id, salary and commission of employees who are earning

SQL> Rem:commissions.

SQL> select employee_id, first_name, job_id, salary, department_id from employees

  2         where commission_pct>0;


EMPLOYEE_ID FIRST_NAME         JOB_ID       SALARY DEPARTMENT_ID

----------- -------------------- ---------- ---------- -------------

       149 Eleni              SA_MAN        10500          80

       174 Ellen              SA_REP        11000          80

       176 Jonathon           SA_REP         8600          80

       178 Kimberely          SA_REP         7000


SQL> Rem:15. Display the details (id, first name, job id, salary and dept id) of employees who are

SQL> Rem:MANAGERS.

SQL> select employee_id,first_name,job_id,salary,department_id from employees

  2         where employee_id in (select manager_id from employees);
```

```
EMPLOYEE_ID FIRST_NAME           JOB_ID         SALARY DEPARTMENT_ID
----------- -------------------- ---------- ---------- -------------
        100 Steven               AD_PRES         24000            90
        102 Lex                  AD_VP           17000            90
        103 Alexander            IT_PROG          9000            60
        124 Kevin                ST_MAN           5800            50
        149 Eleni                SA_MAN          10500            80
        101 Neena                AD_VP           17000            90
        201 Michael              MK_MAN          13000            20
        205 Shelley              AC_MGR          12000           110

8 rows selected.

SQL> Rem:16. Display the details of employees other than sales representatives (id, first name, hire date,
SQL> Rem:job id, salary and dept id) who are hired after ‘01May1999’
SQL> Rem:or whose salary is at least 10000.
SQL> select employee_id,first_name,hire_date,job_id,salary,department_id from employees
  2          where job_id!='SA_REP' and (hire_date>'01-May-1999' or salary>=10000);

EMPLOYEE_ID FIRST_NAME           HIRE_DATE JOB_ID         SALARY DEPARTMENT_ID
----------- -------------------- --------- ---------- ---------- -------------
        100 Steven               17-JUN-87 AD_PRES         24000            90
        101 Neena                21-SEP-89 AD_VP           17000            90
        102 Lex                  13-JAN-93 AD_VP           17000            90
        124 Kevin                16-NOV-99 ST_MAN           5800            50
        149 Eleni                29-JAN-00 SA_MAN          10500            80
        201 Michael              17-FEB-96 MK_MAN          13000            20
```

```
       205 Shelley              07-JUN-94 AC_MGR         12000          110

7 rows selected.

SQL> Rem:17. Display the employee details (first name, salary, hire date and dept id) whose salary
falls in
SQL> Rem:the range of 5000 to 15000 and his/her name begins with any of characters (A,J,K,S). Sort
SQL> Rem:the output by first name.
SQL> select first_name,hire_date,department_id from employees
  2             where (salary>=5000 and salary<=15000) and (first_name like 'A%' or first_name like 'J%'
or first_name like 'K%' or first_name like 'S%')
  3             order by first_name;

FIRST_NAME           HIRE_DATE DEPARTMENT_ID
-------------------- --------- -------------
Alexander            03-JAN-90            60
Jonathon             24-MAR-98            80
Kevin                16-NOV-99            50
Kimberely            24-MAY-99
Shelley              07-JUN-94           110

SQL> Rem:18. Display the experience of employees in no. of years and months who were hired after
1998.
SQL> Rem:Label the columns as: (EMPLOYEE_ID, FIRST_NAME, HIRE_DATE, EXPYRS, EXPMONTHS)
SQL> select employee_id,first_name,hire_date,months_between(sysdate,hire_date)/12
EXP_YRS,months_between(sysdate,hire_date) EXP_MONTHS from employees
  2             where extract(year from hire_date)>1998;

EMPLOYEE_ID FIRST_NAME           HIRE_DATE    EXP_YRS EXP_MONTHS
```

```
----------- -------------------- --------- ---------- ----------
       107 Diana                07-FEB-99 21.0241536 252.289843
       124 Kevin                16-NOV-99   20.24996  242.99952
       149 Eleni                29-JAN-00 20.0483471 240.580165
       178 Kimberely            24-MAY-99 20.7284546 248.741456

SQL> Rem:19. Display the total number of departments.
SQL> select count(distinct department_id) num_of_depts from employees
  2         order by department_id;

NUM_OF_DEPTS
------------
           7

SQL> Rem:20. Show the number of employees hired by yearwise.
SQL> Rem:Sort the result by yearwise.
SQL> select count(extract (year from hire_date)) num_of_emps,extract(year from hire_date)
year_wise from employees
  2         group by extract(year from hire_date)
  3         order by extract(year from hire_date);

NUM_OF_EMPS  YEAR_WISE
----------- ----------
          2       1987
          1       1989
          1       1990
          1       1991
          1       1993
```

```
         2       1994

         1       1995

         2       1996

         3       1997

         4       1998

         3       1999

NUM_OF_EMPS  YEAR_WISE
----------- ----------
         1       2000

12 rows selected.

SQL> Rem:21. Display the minimum, maximum and average salary, number of employees for each
SQL> Rem:department. Exclude the employee(s) who are not in any department. Include the
SQL> REm:department(s) with at least 2 employees and the average salary is more than 10000. Sort the
SQL> Rem:result by minimum salary in descending order.
SQL> select min(salary),max(salary),avg(salary),count(department_id),department_id from employees
  2     where department_id is not null
  3     having count(department_id)>2 and avg(salary)>10000
  4     group by department_id
  5     order by min(salary) desc;

MIN(SALARY) MAX(SALARY) AVG(SALARY) COUNT(DEPARTMENT_ID) DEPARTMENT_ID
----------- ----------- ----------- -------------------- -------------
      17000       24000  19333.3333                    3            90
       8600       11000  10033.3333                    3            80
```