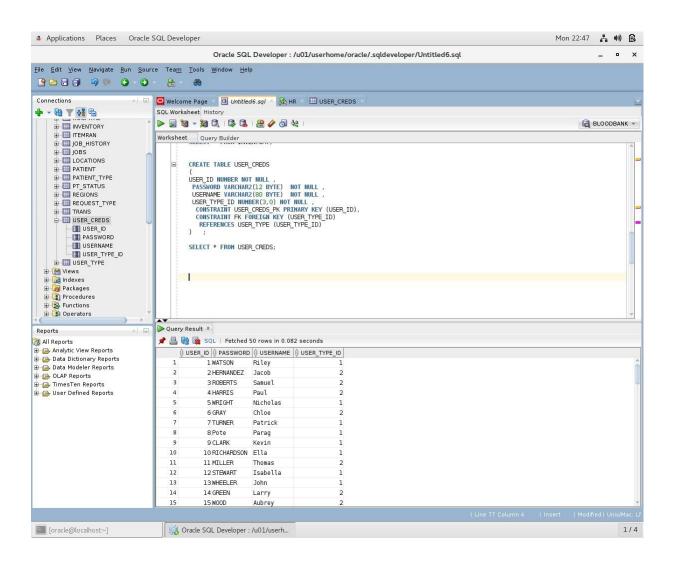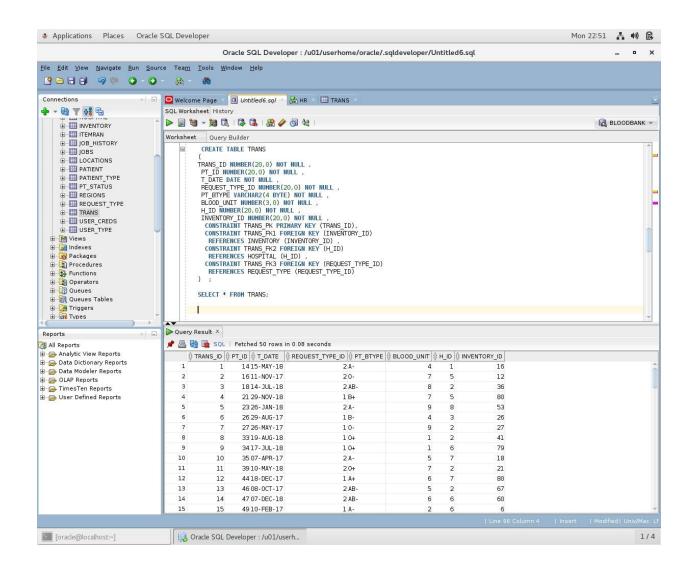# Project

1. DDL and DML

Below are Screen shots of tables created and sample data inserted for DDL.

Below screenshots also contains sample data inserted for DML.

Connections
Welcome Page | Untitled6.sql | HR | TRANS

SQL Worksheet History

Worksheet Query Builder

BLOODBANK

```sql
CREATE TABLE TRANS
(
TRANS_ID NUMBER(20,0) NOT NULL ,
 PT_ID NUMBER(20,0) NOT NULL ,
 T_DATE DATE NOT NULL ,
 REQUEST_TYPE_ID NUMBER(20,0) NOT NULL ,
 PT_BTYPE VARCHAR2(4 BYTE) NOT NULL ,
 BLOOD_UNIT NUMBER(3,0) NOT NULL ,
 H_ID NUMBER(20,0) NOT NULL ,
 INVENTORY_ID NUMBER(20,0) NOT NULL ,
  CONSTRAINT TRANS_PK PRIMARY KEY (TRANS_ID),
  CONSTRAINT TRANS_FK1 FOREIGN KEY (INVENTORY_ID)
   REFERENCES INVENTORY (INVENTORY_ID) ,
  CONSTRAINT TRANS_FK2 FOREIGN KEY (H_ID)
   REFERENCES HOSPITAL (H_ID) ,
  CONSTRAINT TRANS_FK3 FOREIGN KEY (REQUEST_TYPE_ID)
   REFERENCES REQUEST_TYPE (REQUEST_TYPE_ID)
)  ;

SELECT * FROM TRANS;
```

Connections panel:
- INVENTORY
- ITEMRAN
- JOB_HISTORY
- JOBS
- LOCATIONS
- PATIENT
- PATIENT_TYPE
- PT_STATUS
- REGIONS
- REQUEST_TYPE
- TRANS
- USER_CREDS
- USER_TYPE
- Views
- Indexes
- Packages
- Procedures
- Functions
- Operators
- Queues
- Queues Tables
- Triggers
- Types

Reports
- All Reports
- Analytic View Reports
- Data Dictionary Reports
- Data Modeler Reports
- OLAP Reports
- TimesTen Reports
- User Defined Reports

Query Result   Fetched 50 rows in 0.08 seconds

	TRANS_ID	PT_ID	T_DATE	REQUEST_TYPE_ID	PT_BTYPE	BLOOD_UNIT	H_ID	INVENTORY_ID
1	1	14	15-MAY-18	2	A-	4	1	16
2	2	16	11-NOV-17	2	O-	7	5	12
3	3	18	14-JUL-18	2	AB-	8	2	36
4	4	21	29-NOV-18	1	B+	7	5	80
5	5	23	26-JAN-18	2	A-	9	8	53
6	6	26	29-AUG-17	1	B-	4	3	26
7	7	27	26-MAY-17	1	O-	9	2	27
8	8	33	19-AUG-18	1	O+	1	2	41
9	9	34	17-JUL-18	1	O+	1	6	79
10	10	35	07-APR-17	2	A-	5	7	18
11	11	39	10-MAY-18	2	O+	7	2	21
12	12	44	18-DEC-17	1	A+	6	7	80
13	13	46	08-OCT-17	2	AB-	5	2	67
14	14	47	07-DEC-18	2	AB-	6	6	60
15	15	49	10-FEB-17	1	A-	2	6	6

Oracle SQL Developer : /u01/userhome/oracle/.sqldeveloper/Untitled6.sql

File Edit View Navigate Run Source Team Tools Window Help

Connections

Welcome Page   Untitled6.sql   HR   INVENTORY

SQL Worksheet History

BLOODBANK

Worksheet Query Builder

HOSPITAL
INVENTORY
ITEMRAN
JOB_HISTORY
JOBS
LOCATIONS
PATIENT
PATIENT_TYPE
PT_STATUS
REGIONS
REQUEST_TYPE
TRANS
USER_CREDS
USER_TYPE
Views
Indexes
Packages
Procedures
Functions
Operators
Queues
Queues Tables
Triggers
Types

```
CREATE TABLE INVENTORY
(
H_ID NUMBER(20,0) NOT NULL ,
 PT_BTYPE VARCHAR2(5 BYTE)  NOT NULL ,
 TOTAL_BLOOD_UNIT NUMBER(5,0) NOT NULL ,
 INVENTORY_ID NUMBER(20,0) NOT NULL ,
  CONSTRAINT INVENTORY_PK PRIMARY KEY (INVENTORY_ID),
  CONSTRAINT INVENTORY_FK1 FOREIGN KEY (H_ID),
   REFERENCES HOSPITAL (H_ID)
)  ;



SELECT * FROM INVENTORY;
```

Reports

All Reports
Analytic View Reports
Data Dictionary Reports
Data Modeler Reports
OLAP Reports
TimesTen Reports
User Defined Reports

Query Result

SQL | Fetched 50 rows in 0.045 seconds

	H_ID	PT_BTYPE	TOTAL_BLOOD_UNIT	INVENTORY_ID
1	1	A+	1802	1
2	1	A-	1433	2
3	1	B+	776	3
4	1	B-	1947	4
5	1	AB+	1678	5
6	1	A-	1926	6
7	1	O+	128	7
8	1	O-	1921	8
9	2	A+	1849	9
10	2	A-	1179	10
11	2	B+	1972	11
12	2	B-	1149	12
13	2	AB+	1191	13
14	2	A-	898	14
15	2	O+	695	15

| Line 60 Column 4 | Insert | Modified| Unix/Mac: LF

[oracle@localhost:~]   Oracle SQL Developer : /u01/userh...   1 / 4

Oracle SQL Developer : /u01/userhome/oracle/.sqldeveloper/Untitled6.sql

File Edit View Navigate Run Source Team Tools Window Help

Connections

Oracle Connections
- BLOODBANK
- HR
  - Tables (Filtered)
    - BILLING
    - COUNTRIES
    - DEPARTMENTS
    - EMPLOYEES
    - HOSPITAL
    - INVENTORY
    - ITEMRAN
    - JOB_HISTORY
    - JOBS
    - LOCATIONS
    - PATIENT
      - PT_ID
      - USER_ID
      - PT_FIRST_NAME
      - PT_LAST_NAME
      - PT_ADDRESS
      - PT_TYPE_ID
      - PT_GENDER
      - PT_AGE

Welcome Page   Untitled6.sql   HR   PATIENT

SQL Worksheet History

BLOODBANK

Worksheet Query Builder

```sql
    CREATE TABLE PATIENT
    (
 PT_ID NUMBER(20,0) NOT NULL ,
  USER_ID NUMBER(3,0) NOT NULL ,
  PT_FIRST_NAME VARCHAR2(20 BYTE)   NOT NULL ,
  PT_LAST_NAME VARCHAR2(20 BYTE),
  PT_ADDRESS VARCHAR2(50 BYTE)  NOT NULL ,
  PT_TYPE_ID NUMBER(3,0) NOT NULL ,
  PT_GENDER VARCHAR2(6 BYTE)  NOT NULL ,
  PT_AGE VARCHAR2(20 BYTE)  NOT NULL ,
  PT_BTYPE VARCHAR2(4 BYTE)  NOT NULL ,
  PT_STD VARCHAR2(5 BYTE)  NOT NULL ,
  PT_PHONE VARCHAR2(20 BYTE)  NOT NULL ,
  CONSTRAINT PT_ID PRIMARY KEY (PT_ID),
  CONSTRAINT USER_ID FOREIGN KEY (USER_ID)
    REFERENCES USER_CREDS (USER_ID) ,
  CONSTRAINT PATIENT_TYPE_ID FOREIGN KEY (PT_TYPE_ID)
    REFERENCES PATIENT_TYPE (PT_TYPE_ID)
 ) ;

 SELECT * FROM PATIENT;
```

Query Result

SQL | Fetched 50 rows in 0.08 seconds

	PT_ID	USER_ID	PT_FIRST_NAME	PT_LAST_NAME	PT_ADDRESS	PT_TYPE_ID	PT_GENDER	PT_AGE	PT_BTYF
1	83	59	Jack	CAMPBELL	270 Newbury St Boston, MA 02116	1	M	47	AB+
2	84	89	Steven	MARTIN	117 Sutherland Road Boston, MA 02135	2	M	49	AB+
3	85	31	Elizabeth	BAILEY	331 Beacon Street Boston, MA 02116	2	F	32	O+
4	86	93	Michael	JOHNSON	63 Hancock St Boston, MA 02114	2	M	29	B+
5	87	76	Victoria	WARD	30 Fordham Rd Boston, MA 02134	1	F	49	O+
6	88	45	Aria	TORRES	40 Fisher Ave Boston, MA 02120	2	F	23	O-
7	89	84	Zoe	HUGHES	11 Peterborough Street Boston, MA 02215	2	F	60	AB+
8	90	60	Sofia	COOPER	1 Alpine Place Boston, MA 02119	2	F	29	A+
9	91	33	David	JONES	329 Summit Ave Boston, MA 02135	2	M	36	AB+
10	92	17	Benjamin	CARTER	4 Commonwealth Court Boston, MA 02135	2	M	35	AB+
11	93	63	Joshua	ROBINSON	370 Marlborough Street Boston, MA 02115	2	M	41	A+
12	94	18	Grace	PETERSON	68 Marginal Street Boston, MA 02128	2	F	29	A+
13	95	26	Paisley	SIMMONS	100 Northern Ave Boston, MA 02210	2	F	25	A+
14	96	62	Gregory	MITCHELL	100 Lovejoy Wharf Boston, MA 02109	1	M	27	AB-

Reports

All Reports
- Analytic View Reports
- Data Dictionary Reports
- Data Modeler Reports
- OLAP Reports
- TimesTen Reports
- User Defined Reports

| Line 38 Column 39 | Insert | Modified| Unix/Mac: LF

[oracle@localhost:~]   Oracle SQL Developer : /u01/userh...   1 / 4

Oracle SQL Developer : /u01/userhome/oracle/.sqldeveloper/Untitled5.sql

File Edit View Navigate Run Source Team Tools Window Help

Connections

...NK DatabaseCopy.04.15.2019-21.32.27.log Untitled4.sql BILLING Untitled5.sql

SQL Worksheet History

Worksheet Query Builder

BLOODBANK

```
CREATE TABLE BILLING
  (
  BILL_ID NUMBER(20,0) NOT NULL ,
  PT_ID NUMBER(20,0) NOT NULL ,
  AMOUNT NUMBER(6,0) NOT NULL ,
  TRANS_ID NUMBER(20,0) NOT NULL ,
  T_DATE DATE NOT NULL ,
    CONSTRAINT BILLING_PK PRIMARY KEY (BILL_ID),
    CONSTRAINT BILLING_FK2 FOREIGN KEY (PT_ID)
     REFERENCES PATIENT (PT_ID) ENABLE
  ) ;

SELECT * FROM BILLING;
```

Tables (Filtered)
  AQ$_INTERNET_AGE
  AQ$_INTERNET_AGE
  AQ$_QUEUE_TABLE!
  AQ$_QUEUES
  AQ$_SCHEDULES
  BILLING
    BILL_ID
    PT_ID
    AMOUNT
    TRANS_ID
    T_DATE
  COUNTRIES
  DEPARTMENTS
  DEPT
  EMPLOYEES
  HELP
  HOSPITAL
  INVENTORY
  JOB_HISTORY
  JOBS
  LOCATIONS
  LOGMNR_AGE_SPILL
  LOGMNR_ATTRCOL$

Reports

All Reports
  Analytic View Reports
  Data Dictionary Reports
  Data Modeler Reports
  OLAP Reports
  TimesTen Reports
  User Defined Reports

Query Result

SQL | All Rows Fetched: 1 in 2.516 seconds

	BILL_ID	PT_ID	AMOUNT	TRANS_ID	T_DATE
1	1	20	1890	49	02-MAR-19

Messages - Log

Messages   Statements   Compiler   Logging Page

| Line 13 Column 26 | Insert | Modified| Unix/Mac: LF

[oracle@localhost:~]   Oracle SQL Developer : /u01/userh...   [Activity Digest since 4 hours ago fo...   1 / 4

Tables

a) **User_cred- 100 rows**
b) **Hospital- 10 rows**
c) **Patient-100 rows**
d) **Tras- 40 rows**
e) **Inventory-80 rows (Updated after insert trigger on trans)**
f) **User_type-3 rows**
g) **PT_type- 2 rows**
h) **Request_type-2 rows**
i) **PT_status- 10 rows (filled after insert trigger on patients)**
j) **Billings-10 rows (filled after insert trigger on trans)**

SQL scripts for triggers is given in the .sql file

2. SQL Reports

Below are SQL reports that can be generated from the database.

Oracle SQL Developer : /u01/userhome/oracle/.sqldeveloper/Untitled6.sql

File Edit View Navigate Run Source Team Tools Window Help

Connections

HR
  Tables (Filtered)
  Views
    BLOOD_TYPE_SEARCH
      H_NAME
      PT_BTYPE
      TOTAL_BLOOD_UNIT
    EMP_DETAILS_VIEW
  Indexes
  Packages
  Procedures
  Functions
  Operators
  Queues
  Queues Tables
  Triggers
    EMPLOYEES_EMPLOYEE_I[
    MY_TRIGGER
    MY_TRIGGER_1
    SECURE_EMPLOYEES
    T1
    TR_BILLING
    TR_BILLING_1

Welcome Page   Untitled6.sql   HR   BLOOD_TYPE_SEARCH

SQL Worksheet History

Worksheet   Query Builder

```sql
--blood type search by location

CREATE OR REPLACE  VIEW BLOOD_TYPE_SEARCH (H_NAME, PT_BTYPE, TOTAL_BLOOD_UNIT)  AS
  SELECT H.H_NAME, I.PT_BTYPE,I.TOTAL_BLOOD_UNIT
FROM HOSPITAL H
INNER JOIN INVENTORY I
ON H.H_ID=I.H_ID;


select * from Blood_type_search;
```

Query Result

SQL | Fetched 50 rows in 0.238 seconds

	H_NAME	PT_BTYPE	TOTAL_BLOOD_UNIT
1	Massachusetts General Hospital	O+	128
2	Massachusetts General Hospital	A-	1926
3	Massachusetts General Hospital	AB+	1678
4	Massachusetts General Hospital	B-	1947
5	Massachusetts General Hospital	B+	776
6	Massachusetts General Hospital	A-	1433
7	Massachusetts General Hospital	A+	1802
8	Massachusetts General Hospital	O-	1921
9	Brigham & Women's Hospital	O+	695
10	Brigham & Women's Hospital	A-	898
11	Brigham & Women's Hospital	AB+	1191
12	Brigham & Women's Hospital	B-	1149
13	Brigham & Women's Hospital	B+	1972
14	Brigham & Women's Hospital	A-	1179
15	Brigham & Women's Hospital	A+	1849

Reports
  All Reports
  Analytic View Reports
  Data Dictionary Reports
  Data Modeler Reports
  OLAP Reports
  TimesTen Reports
  User Defined Reports

| Line 174 Column 4 | Insert | Modified| Unix/Mac: L|

[oracle@localhost:~]   Oracle SQL Developer : /u01/userh...   sql report - juneja.s@husky.neu.edu ...   1 / 4

Oracle SQL Developer : /u01/userhome/oracle/.sqldeveloper/Untitled6.sql

File Edit View Navigate Run Source Team Tools Window Help

Connections

  DEPARTMENTS
  EMPLOYEES
  HOSPITAL
  INVENTORY
  ITEMRAN
  JOB_HISTORY
  JOBS
  LOCATIONS
  PATIENT
  PATIENT_TYPE
  PT_STATUS
  REGIONS
  REQUEST_TYPE
  TRANS
    TRANS_ID
    PT_ID
    T_DATE
    REQUEST_TYPE_ID
    PT_BTYPE
    BLOOD_UNIT
    H_ID
    INVENTORY_ID
  USER_CREDS

Welcome Page   Untitled6.sql   HR   TRANS

SQL Worksheet History

Worksheet   Query Builder

```sql
---total transactions done by population with age <20;

select p.pt_age, count(pt_age) from trans t inner join patient p on t.pt_id=p.pt_id where p.pt_age<20 group by p.pt_age;
```

Query Result

SQL | All Rows Fetched: 2 in 0.871 seconds

	PT_AGE	COUNT(PT_AGE)
1	16	3
2	17	3

Reports
  All Reports
  Analytic View Reports
  Data Dictionary Reports
  Data Modeler Reports
  OLAP Reports
  TimesTen Reports
  User Defined Reports

| Line 160 Column 4 | Insert | Modified| Unix/Mac: L|

[oracle@localhost:~]   Oracle SQL Developer : /u01/userh...   sql report - juneja.s@husky.neu.edu ...   1 / 4

Oracle SQL Developer : /u01/userhome/oracle/.sqldeveloper/Untitled6.sql

File Edit View Navigate Run Source Team Tools Window Help

Connections

Welcome Page   Untitled6.sql   HR   TRANS

SQL Worksheet History

Worksheet   Query Builder

BLOODBANK

```
------transactions between 2 dates
select * from trans where t_date between '01-may-2017' and '01-may-2018';
```

Query Result ×

SQL | Fetched 50 rows in 0.216 seconds

	TRANS_ID	PT_ID	T_DATE	REQUEST_TYPE_ID	PT_BTYPE	BLOOD_UNIT	H_ID	INVENTORY_ID
1	2	16	11-NOV-17	2	0-	7	5	12
2	5	23	26-JAN-18	2	A-	9	8	53
3	6	26	29-AUG-17	1	B-	4	3	26
4	7	27	26-MAY-17	1	0-	9	2	27
5	12	44	18-DEC-17	1	A+	6	7	80
6	13	46	08-OCT-17	2	AB-	5	2	67
7	16	50	25-OCT-17	2	0+	2	3	45
8	17	52	04-APR-18	1	A+	4	10	14
9	18	53	28-NOV-17	1	0+	8	8	24
10	19	54	07-JUL-17	2	0-	8	5	28
11	20	58	28-AUG-17	2	A+	6	2	36
12	21	61	31-DEC-17	1	AB+	8	5	75
13	23	66	10-DEC-17	2	A-	1	2	31
14	25	69	03-NOV-17	1	A-	3	8	17
15	26	72	29-OCT-17	1	0-	7	6	22

Line 152 Column 4   Insert   Modified| Unix/Mac: L

[oracle@localhost:~]   Oracle SQL Developer : /u01/userh...   sql report - juneja.s@husky.neu.edu ...   1 / 4

Oracle SQL Developer : /u01/userhome/oracle/.sqldeveloper/Untitled6.sql

File Edit View Navigate Run Source Team Tools Window Help

Connections

Welcome Page   Untitled6.sql   HR   TRANS

SQL Worksheet History

Worksheet   Query Builder

BLOODBANK

```
-----list of patients donating or receiving blood from respective hospitals( hospital wise transaction)
select h.h_name, sum(blood_unit) as "total_blood_donated" from trans t left join hospital h on t.h_id=h.h_id where request_type_id=1 group by h.h_name;
```

Query Result ×

SQL | All Rows Fetched: 8 in 0.57 seconds

	H_NAME	total_blood_donated
1	Massachusetts General Hospital	20
2	New England Baptist Hospital	61
3	Massachusetts General Hospital Yawkey Outpatient Care Center	57
4	Newton-Wellesley Hospital	21
5	Brigham & Women's Hospital	60
6	Mount Auburn Hospital	69
7	Beth Israel Deaconess HealthCare	33
8	CHA Cambridge Hospital	55

Line 135 Column 4   Insert   Modified| Unix/Mac: L

[oracle@localhost:~]   Oracle SQL Developer : /u01/userh...   sql report - juneja.s@husky.neu.edu ...   1 / 4

Oracle SQL Developer : /u01/userhome/oracle/.sqldeveloper/Untitled6.sql

File Edit View Navigate Run Source Team Tools Window Help

Connections

DEPARTMENTS
EMPLOYEES
HOSPITAL
INVENTORY
ITEMRAN
JOB_HISTORY
JOBS
LOCATIONS
PATIENT
PATIENT_TYPE
PT_STATUS
REGIONS
REQUEST_TYPE
TRANS
    TRANS_ID
    PT_ID
    T_DATE
    REQUEST_TYPE_ID
    PT_BTYPE
    BLOOD_UNIT
    H_ID
    INVENTORY_ID
USER_CREDS

Welcome Page   Untitled6.sql   HR   TRANS

SQL Worksheet History

Worksheet   Query Builder

BLOODBANK

```
---list of total blood units donated by a patient
select pt_id,sum(blood_unit) as "total_blood _donated" from trans where request_type_id=1 group by pt_id;
```

Reports

All Reports
Analytic View Reports
Data Dictionary Reports
Data Modeler Reports
OLAP Reports
TimesTen Reports
User Defined Reports

Query Result

SQL | All Rows Fetched: 22 in 0.165 seconds

	PT_ID	total_blood _donated
1	27	27
2	52	12
3	72	21
4	23	34
5	14	20
6	68	30
7	78	9
8	85	6
9	99	15
10	34	3
11	44	18
12	62	18
13	21	21
14	76	15
15	49	6

| Line 115 Column 4 | Insert | Modified| Unix/Mac: LF

[oracle@localhost:~]   Oracle SQL Developer : /u01/userh...   sql report - juneja.s@husky.neu.edu ...   1 / 4

Oracle SQL Developer : /u01/userhome/oracle/.sqldeveloper/Untitled6.sql   _ ▫ ✕

File Edit View Navigate Run Source Team Tools Window Help

Connections   ⊙ Welcome Page × ⊙ *Untitled6.sql × HR × TRANS ×
                                             SQL Worksheet History
Oracle Connections   BLOODBANK ▾
  BLOODBANK
  HR   Worksheet   Query Builder
    Tables (Filtered)
    Views   ---list of hospitals to donate or receive blood
    Indexes
    Packages   select distinct h.h_name from inventory i left join hospital h on i.h_id=h.h_id;
    Procedures
    Functions
    Operators
    Queues |
    Queues Tables
    Triggers
      EMPLOYEES_EMPLOYEE_ID
      MY_TRIGGER
      MY_TRIGGER_1
      SECURE_EMPLOYEES
      T1
      TR_BILLING
      TR_BILLING_1
      TR_INVENTORY
      TR_INVENTORY_A
      TR_INVENTORY_B

Reports   ▶ Query Result ×
All Reports   📌 🖨 🔢 📋 | SQL | All Rows Fetched: 10 in 1.2 seconds
  Analytic View Reports
  Data Dictionary Reports   H_NAME
  Data Modeler Reports   1 Massachusetts General Hospital
  OLAP Reports   2 Floating Hospital For Children
  TimesTen Reports   3 Boston Children's Hospital
  User Defined Reports   4 New England Baptist Hospital
                                               5 Massachusetts General Hospital Yawkey Outpatient Care Center
                                               6 Newton-Wellesley Hospital
                                               7 Brigham & Women's Hospital
                                               8 Mount Auburn Hospital
                                               9 Beth Israel Deaconess HealthCare
                                              10 CHA Cambridge Hospital

                                                                      | Line 105 Column 4 | Insert | Modified| Unix/Mac: LF

[oracle@localhost:~]   Oracle SQL Developer : /u01/userh...   sql report - juneja.s@husky.neu.edu ...   1 / 4