**CS664AH2 - DATABASE MANAGEMENT SYSTEMS**

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**Title: Atlas Corporate Human Resource Data**

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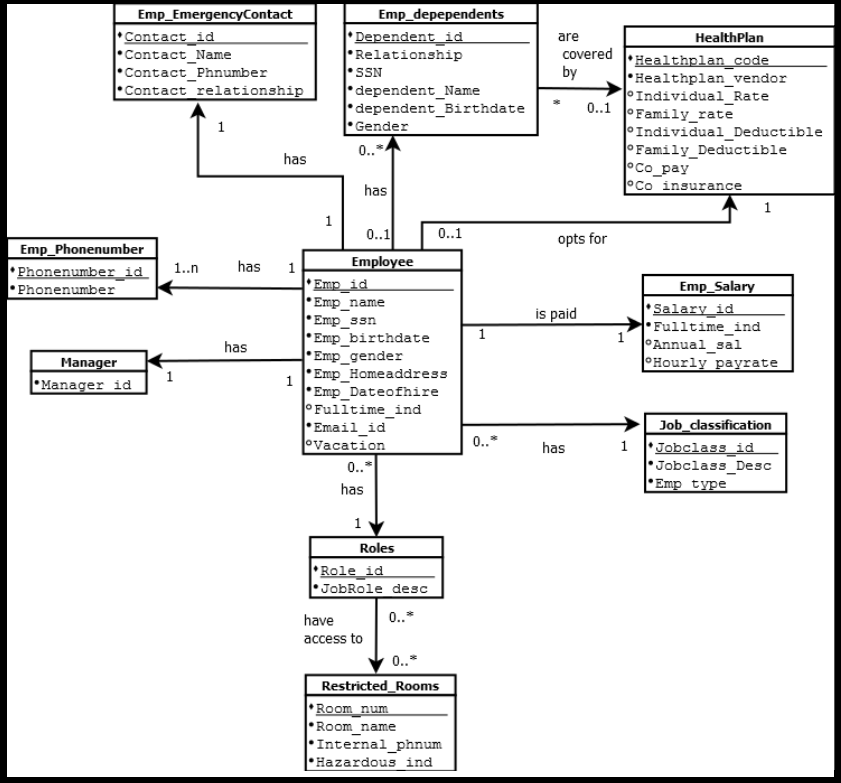
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# ER Diagram

Following is the Entity Relationship diagram for Atlas Corporate HR Data.



As per ER diagram following are the entities

* Employee : Stores personal data of 37 employees , his /her Date of hire, Email id and Vacation earned.
* Emp\_Dependents : Employees have Dependents. Employees may have multiple dependents or may not have at all. This entity stores details of Dependents.
* Emp\_EmergencyContact: Every employee has one Emergency contact. This entity stores details of that contact.
* Emp\_Phonenumber: Employee may have one or more Phonenumber . This entity stores phonenumber for those employees.
* Manager: Every employee except Owner has manager. This entity stores manager id details for all employees.
* Roles: This entity has 4 leadership roles details maintained. Addition to the leadership roles, Roles of other employee is also maintained.
* HealthPlan: This entity stores details of the Health Plan.
* Job Classification: This entity stores details of Job classification in the Atlas Corp. Classification details like Classification Class\_id, Exempt or Non exept is maintained.
* Emp\_Salary : This entity stores detail of Salary or Hourly rate based on Job classification associated to the employee
* Restricted Rooms: employees have access to Restricted Rooms based on Roles. This entity stores details of the Rooms in the Corporation and Roles who have access on those Rooms.

# Relationship Database Schema

Following tables gives details on how entities are converted into Relational Schema. Most Relationship from ER Diagram are converted into tables storing the Foreign key from tables.

|  |  |  |
| --- | --- | --- |
| Sno. | Table Name | Details |
| 1 | Roles | This table stores 4 leadership Roles for Atlas Corporation HR Data like the owner, the human resource director, the information systems director, and the operations director.  Apart from that it also stores other Roles for other Employees. |
| 2 | Job\_Classification | This tables stores the information on Job Classification like   * Exempt /Non Exempt * Jobclass\_id   There are no job classifications which are held by both exempt and non-exempt employees.  This information is required in Salary table to identify exempt and non-exempt employee and store information like Fulltime/Part-time for Non-exempt employee. |
| 3 | Employee | Stores personal data of 37 employees and his /her Date of hire,   * it also stores Foreign key to Role id referencing Role, * Job classification id referencing Job Classification * This table also stores Email id of Few employees who have some specific Job class id * It stores calculated value of Vacation in the table. |
| 4 | Emp\_Dependents | Stores information on employee’s dependents. Emp\_id is the foreign key referencing the Employee table to identify which dependent is associated to which employee. |
| 5 | Emp\_Phonenumber | Stores employees Phone number. Since one employee can have multiple phone numbers, it has that many records for an employee. |
| 6 | Emp\_emergencyContact | Stores Phone number, name of Emergency contact and Relationship to employee. |
| 7 | Emp\_hierarchy | Every employee has manager so this table stores details of Employee’s and manager’s Emp\_id. |
| 8 | Emp\_Salary | Stores information on Salary , Jobclass\_id for an employee |
| 9 | HealthPlan | Stores details of 3 health plans provided by the Company |
| 10 | Emp\_insurance | Stores information on which plan is opted by which employee and if they have covered their dependents or not.  Non Exempt who are part-time Employees are not allowed to avail the benefit so there entry is not in the table. |
| 11 | Insured\_Dependents | Stores details on dependent insured /covered as part of the HealthPlan. Employee in Emp\_insurance having Covereddependent\_ind indicator 1 has details in this table. |
| 12 | Restricted\_Rooms | Stores information on the Restricted Room and Room\_num available in Company. It also stores information on which Role has access to which Room.  Role\_id is a foreign key referencing Roles table |
| 13 | Restricted\_Access | This table stores information on which employee has access to which room.   * Employee having a specified Role is having access to the Room. * Supervisor of the employee is also allowed access. So record regarding the supervisor having access to Room is also stored in the table. |

Following are the list of view used in the model

|  |  |  |
| --- | --- | --- |
| Sno | View Name | Details |
| 1 | Emp\_w4 | * This is View to select the number of dependents of the Employee used for W4 tax information * It is calculated as count of dependents for every employee from  Emp\_dependents table |

### Roles

This table stores 4 leadership Roles for Atlas Corporation HR Data like the owner, the human resource director, the information systems director, and the operations director.

Apart from that it also stores other Roles for other Employees.

|  |  |  |
| --- | --- | --- |
| Roles | | |
| Role\_id | Numeric(4) | Primary key |
| JobRole\_desc | Varchar(40) | Not null |

### Job\_Classification

This tables stores the information on Job Classification like

* Exempt /Non Exempt
* Jobclass\_id

There are no job classifications which are held by both exempt and non-exempt employees.

This information is required in Salary table to identify exempt and non exempt employee on which job classication is for Non exempt employee.

|  |  |  |
| --- | --- | --- |
| Job\_Classification | | |
| Jobclass\_id | Varchar(3) | Primary key |
| Jobclass\_Desc | Varchar(15) | Not null |
| Emp\_type | Varchar(10) | Not null |

### Employee Table

Stores personal data of 37 employees and his /her Date of hire.

|  |  |  |
| --- | --- | --- |
| Employee | | |
| Emp\_id | Numeric(4) | Primary key |
| Emp\_name | Varchar(40) | Not null |
| Emp\_ssn | Varchar(11) | Not null |
| Emp\_birthdate | Date | Not null |
| Emp\_gender | Gender\_type | Not null |
| Emp\_Homeaddress | Varchar(100) | Not null |
| Emp\_DateofHire | Date | Not null |
| Role\_id | Varchar(5) | Foreign key to Roles.Role\_id |
| Jobclass\_id | Varchar(3) | Foreign key to JobClassification.Jobclass\_id |
| Fulltime\_ind | Numeric(1) |  |
| Email\_id | Varchar(50) |  |
| Vacation | Numeric(2) |  |

Gender\_type is user defined domain.

Fulltime\_ind stores either 0 or 1 (1 -the employee is Full time employee , And 0- Not a full time employee).

### Emp\_dependents

Stores information on employee’s dependents. Emp\_id is the foreign key referencing the Employee table to identify which dependent is associated to which employee.

|  |  |  |
| --- | --- | --- |
| Emp\_dependents | | |
| Dependent\_id | Varchar(4) | Primary key |
| Emp\_id | Numeric(4) | Foreign key |
| Relationship | Relationship\_type | Not null |
| SSN | Varchar(11) |  |
| Name | Varchar(40) | Not null |
| Birthdate | Date | Not null |
| Gender | Gender\_type | Not null |

Gender\_Type and Relationship\_type are user defined domain.

### Emp\_Phonenumber

Stores employees Phone number. Since one employee can have multiple phone numbers, this table has that many records for an employee.

|  |  |  |
| --- | --- | --- |
| Emp\_Phonenumber | | |
| Phonenumber\_id | Varchar(4) | Primary key |
| Emp\_id | numeric(4) | Foreign key |
| Phonenumber | Numeric(10) | Not null |

### Emp\_EmergencyContact

Stores Phone number, name of Emergency contact and Relationship to employee

|  |  |  |
| --- | --- | --- |
| Emp\_EmergencyContact | | |
| Contact\_id | Varchar(6) | Primary Key |
| Emp\_id | Numeric(4) | Foreign key |
| Contact\_name | Varchar(30) | Not null |
| Contact\_phnumber | Numeric(10) | Not null |
| Contact\_relationship | Relationship\_type | Not null |

### Emp\_Hierarchy

Stores details of Employee and manager’s Emp\_id.

|  |  |  |
| --- | --- | --- |
| Emp\_hierarchy | | |
| Emp\_id | Numeric(4) | Foreign key |
| Manager\_id | Numeric(4) |  |

### Emp\_Salary

Stores information on Salary , Jobclass\_id and Fulltime/Partime indicator for an employee

|  |  |  |
| --- | --- | --- |
| Emp\_Salary | | |
| Salary\_id | Varchar(4) | Primary key |
| Emp\_id | Numeric(4) | Foreign key |
| Fulltime\_ind | numeric(1) |  |
| Annual\_sal | Numeric(9) |  |
| Hourly\_rate | Numeric(4) |  |

### HealthPlan

Stores details of 3 health plans provided by the Company

|  |  |  |
| --- | --- | --- |
| HealthPlan | | |
| Healthplan\_code | Varchar(8) | Primary key |
| Healthplan\_vendor | Varchar(10) | Not null |
| Individual\_rate | Numeric(4) |  |
| Family\_rate | Numeric(4) |  |
| Individual\_deductibles | Numeric(4) |  |
| Family\_deductibles | Numeric(4) |  |
| Co\_pay | Numeric(2) |  |
| Co\_insurance | Numeric(2) |  |

### Emp\_Insurance

Stores information on which plan is opted by which employee and if they have covered their dependents

Non Exempt- part-time Employees are not allowed to avail the benefit so their entry is not in this table.

|  |  |  |
| --- | --- | --- |
| Emp\_insurance | | |
| Emp\_id | Numeric(4) | Foreign key |
| Healthplan\_code | Varchar(8) | Foreign key |
| Covereddependent\_ind | Numeric(1) | Not null |

Covereddependent\_ind stores either 0 or 1 (1 -the employee has dependents covered in health insurance plan , And 0- dependents not covered).

### Insured\_dependents

Stores details on dependent insured. Employee in Emp\_insurance having Covereddependent\_ind indicator 1 has details in this table.

|  |  |  |
| --- | --- | --- |
| Insured\_dependents | | |
| Emp\_id | Numeric(4) | Foreign key |
| Dependent\_id | Varchar(4) | Foreign key |

### Restricted\_Rooms

Stores information on the Restricted Room and Room\_num available in Company . It also stores information on which Role has access to the Room.

Role\_id is a foreign key referencing Roles table

|  |  |  |
| --- | --- | --- |
| Insured\_dependents | | |
| Room\_num | Varchar(4) | Primary key |
| Room\_name | Varchar(30) |  |
| Internal\_phnum | Numeric(10) |  |
| Hazardous\_ind | Numeric(1) |  |
| Role\_id | Varchar(5) | Foreign key |

### Restricted\_Access

This table stores information on which employee has access to which room. Employee id having a specified Role is having access to the Room. Supervisor of the employee is also allowed access. So record regarding the supervisor having access to Room is also stored in the table.

|  |  |  |
| --- | --- | --- |
| Restricted\_Access | | |
| Emp\_id | Numeric(4) | Foreign key |
| Room\_num | Varchar(4) | Foreign key |

### Emp\_W4

This is a view storing information on number of dependents reported by each employees.

# Relational Database Implementation

## Database

Below Script will create Database

-- Create Database

CREATE DATABASE AtlasCorpHRData;

### Domain

Here, 2 User defined Domains are created

-- Create Domain

CREATE domain Gender\_type as CHAR(1) CHECK (Value in ( 'M', 'F'));

CREATE domain Relationship\_type as CHAR(8) CHECK (Value in ( 'Spouse', 'Children', 'Friend', 'Parent'));

### Table Creation

Following Scripts Create Tables in Database . 4 queries from the Create script has been added here.

---Script to create tables on database

-- Create table Roles

create table Roles

(

role\_id varchar(5) primary key,

JobRole\_desc varchar(40) not null

);

-- Create tableJobclassification

Create table Jobclassification

( jobclass\_id varchar(3) ,

jobclass\_Desc varchar(15) not null,

Emp\_typ varchar(10) not null,

primary key (jobclass\_Id)

);

-- Create table Employee

Create table Employee

( Emp\_id numeric(4) ,

Emp\_name varchar(40) not null,

Emp\_ssn varchar(11) not null,

Emp\_birthdate date not null,

Emp\_gender gender\_type ,

Emp\_Homeaddress varchar(100),

Emp\_dateofhire date not null,

role\_id varchar(5) ,

jobclass\_id varchar(3),

Fulltime\_ind numeric(1) ,

Email\_id varchar(50),

Vacation numeric(2),

primary key ( Emp\_id),

foreign key (role\_id ) references Roles(Role\_id),

foreign key (jobclass\_id) references jobclassification(jobclass\_id) );

-- Create table Emp\_Dependents

create table Emp\_Dependents

( dependent\_id varchar(4),

emp\_id numeric(4) not null,

Relationship relationship\_type not null,

ssn varchar(11),

dependent\_name varchar(40) not null,

dependent\_birthdate date not null,

Gender gender\_type not null,

primary key(dependent\_id),

foreign key (emp\_id) references Employee( emp\_id)

);

-- Create table Emp\_Phonenumber

Create table Emp\_Phonenumber

( Phonenumber\_id varchar(4),

Emp\_id numeric(4) ,

Phonenumber numeric(10) ,

primary key ( Phonenumber\_id ),

foreign key (Emp\_id) references Employee(emp\_id)

);

-- Create table Emp\_emergencycontact

create table Emp\_emergencycontact

( contact\_id varchar(6) ,

emp\_id numeric(4),

Contact\_name varchar(30) not null ,

Çontact\_phonenumber numeric(10) not null,

Contact\_relationship RELATIONSHIP\_TYPE not null,

primary key (contact\_id),

foreign key (emp\_id) references Employee(emp\_id)

);

-- Create table Emp\_hierarchy

Create table Emp\_hierarchy

(Emp\_id numeric(4) ,

Manager\_id numeric(4) ,

primary key (Emp\_id),

foreign key ( Emp\_id) references Employee( Emp\_id)

);

-- Create table Emp\_Salary

create table Emp\_Salary

( Salary\_id varchar(4) ,

Emp\_id numeric(4) ,

Annual\_Sal numeric(9),

hourly\_payrate numeric(4),

primary key (Salary\_id),

foreign key (Emp\_id) references Employee (Emp\_id)

);

-- Create table HealthPlan

Create table HealthPlan

( Healthplan\_code varchar(8) ,

Healthplan\_vendor varchar(10) not null,

Individual\_rate numeric(4),

Family\_rate numeric(4),

Individual\_deductibles numeric(4),

Family\_Deductibles numeric(4),

Co\_pay numeric(2),

Co\_insurance numeric(2),

primary key (Healthplan\_code)

);

-- Create table Emp\_Insurance

Create table Emp\_insurance

( Emp\_id numeric(4) ,

Healthplan\_code varchar(8) ,

Covereddependents\_ind numeric(1) not null,

primary key (Emp\_id),

foreign key (Emp\_id) references Employee( Emp\_id),

foreign key (Healthplan\_code) references Healthplan (Healthplan\_code)

);

-- Create table Insured\_Dependents

Create table Insured\_Dependents

( Emp\_id numeric(4) ,

Dependent\_id varchar(4) ,

primary key (dependent\_id),

foreign key (dependent\_id) references Emp\_dependents (dependent\_id),

foreign key (Emp\_id) references Emp\_insurance ( emp\_id)

);

-- Create table Restricted\_Room

Create table Restricted\_Room

( Room\_num varchar(4) ,

Room\_name varchar(30) not null,

Internal\_Phnum numeric(10) not null,

Hazardous\_ind numeric(1) not null,

Role\_id varchar(5) ,

primary key (room\_num),

foreign key (Role\_id) references Roles (Role\_id)

);

-- Create table Restricted\_Access

create table Restricted\_Access

(Emp\_id numeric(4) ,

Room\_num varchar(4) ,

primary key (emp\_id, Room\_num),

foreign key (Emp\_id) references Employee (Emp\_id),

foreign key (Room\_num) references Restricted\_Room (Room\_num)

);

## Views

Following Script creates Views

-- create view Emp\_w4

Create view Emp\_W4 as

select Emp\_id as Emp\_id, count(dependent\_id) Count\_of\_dependents from emp\_dependents

group by emp\_id ;

# Table Population

Following Script is used for Table Population

-- Populate Roles tables

insert into Roles (Role\_id, JobRole\_Desc)

Values

('R0001','Owner'),

('R0002','Human Resource Director'),

('R0003','Information System Director'),

('R0004','Operations Director'),

('R0005','Project Lead'),

('R0006','Team member'),

('R0007','Special HR Role'),

('R0008','Senior Analyst'),

('R0009','Server Room Technician ');

-- Populate Rows in Jobclassification

insert into Jobclassification ( jobclass\_id, jobclass\_desc, emp\_typ)

values

('E1','Executive','Exempt'),

('E2','Managers','Exempt'),

('E3','Leaders','Exempt'),

('E4','Skilled Workers','Exempt'),

('NE1','Executive','Non Exempt'),

('NE2','Managers','Non Exempt'),

('NE3','Leaders','Non Exempt '),

('NE4','Skilled Workers','Non Exempt');

-- Insert into table Employee for 37 employees

Insert into Employee ( Emp\_id, Emp\_name, Emp\_ssn, Emp\_birthdate, Emp\_gender, Emp\_Homeaddress, Emp\_dateofhire,Role\_id, Jobclass\_id,Fulltime\_ind,Email\_id)

Values (1001,'Mark Zukerberg','550-24-3090','12-may-1984','M','290 turnpike road, MA','01-mar-2004','R0001','E1',null,'Owner@atlas.com'),

(1002,'Dhanush Pulyala','599-60-4301','20-jun-1980','M','100 London street, CT','30-mar-2004','R0002','E2',null,'Hrdirector@atlas.com'),

(1003,'Prasad Rao','550-24-3091','12-jan-1984','M','3 Havard Road, MA','10-mar-2004','R0003','E2',null,'InformationDirector@atlas.com'),

(1004,'Bill Gates','599-60-4302','14-dec-1977','M','Beverly Hillls, California','10-mar-2004','R0004','NE2',1,null),

(1005,'Steve Jobs','550-24-3092','14-dec-1958','M','290 turnpike road, MA','10-mar-2004','R0005','NE3',0,null),

(1006,'John Smith','599-60-4303','14-dec-1959','M','100 London street, CT','10-mar-2004','R0005','E3',null,null),

(1007,'Eudardo Saverin','550-24-3093','14-dec-1960','M','3 Havard Road, MA','31-Dec-2004','R0006','E4',null,null),

(1008,'Sean Parker','599-60-4304','14-dec-1961','M','Beverly Hillls, California','31-Dec-2004','R0006','E4',null,null),

(1009,'Chris Hughes','550-24-3094','14-dec-1962','M','290 turnpike road, MA','31-Dec-2004','R0006','NE4',1,null),

(1010,'Andrew McCollum','599-60-4305','14-dec-1963','M','100 London street, CT','31-Dec-2004','R0006','NE4',0,null),

(1011,'Gil Amelio','550-24-3095','14-dec-1964','M','3 Havard Road, MA','31-Dec-2004','R0007','E4',null,null),

(1012,'Warren Buffet','599-60-4306','14-dec-1965','M','Beverly Hillls, California','31-Dec-2004','R0006','E4',null,null),

(1013,'Indira Gandhi ','550-24-3096','14-dec-1966','F','290 turnpike road, MA','31-Dec-2004','R0005','E3',null,null),

(1014,'Hillary Clinton','599-60-4307','14-dec-1967','F','100 London street, CT','31-Dec-2004','R0005','NE3',1,null),

(1015,'Angela Markell','550-24-3097','14-dec-1968','F','3 Havard Road, MA','31-Dec-2004','R0006','NE4',0,null),

(1016,'Ivanka Trump','599-60-4308','14-dec-1969','F','Beverly Hillls, California','31-Dec-2004','R0006','E4',null,null),

(1017,'Chandra Kochhar','550-24-3098','14-dec-1970','F','290 turnpike road, MA','15-mar-2005','R0006','E4',null,null),

(1018,'Vijaylakshmi Iyer','599-60-4309','14-dec-1971','F','100 London street, CT','15-mar-2005','R0006','E4',null,null),

(1019,'Pratibha Patil','550-24-3099','14-dec-1972','F','3 Havard Road, MA','15-mar-2005','R0006','NE4',1,null),

(1020,'Indra Nooyi ','599-60-4310','14-dec-1973','F','Beverly Hillls, California','15-mar-2005','R0008','NE4',0,null),

(1021,'Tim Cook','550-24-3100','14-dec-1974','M','290 turnpike road, MA','15-mar-2005','R0005','E3',null,null),

(1022,'Cameron Winklevoss','599-60-4311','14-dec-1975','M','100 London street, CT','15-mar-2005','R0005','E3',null,null),

(1023,'Tyler Winklevoss','550-24-3101','14-dec-1976','M','3 Havard Road, MA','15-mar-2005','R0005','E3',null,null),

(1024,'Divya Narendra','599-60-4312','14-dec-1977','M','Beverly Hillls, California','15-mar-2005','R0006','NE4',1,null),

(1025,'Steve Woznaik','550-24-3102','14-dec-1978','M','290 turnpike road, MA','15-mar-2005','R0006','NE4',0,null),

(1026,'Ronald Wayne','599-60-4313','14-dec-1979','M','100 London street, CT','20-june-2005','R0006','E4',null,null),

(1027,'Mike Markulla','550-24-3103','14-dec-1980','M','3 Havard Road, MA','20-june-2005','R0006','E4',null,null),

(1028,'John Sculley ','599-60-4314','14-dec-1981','M','Beverly Hillls, California','20-june-2005','R0006','E4',null,null),

(1029,'Michael Spindler','550-24-3104','14-dec-1982','M','290 turnpike road, MA','20-june-2005','R0006','NE4',1,null),

(1030,'Venus Williams','599-60-4315','14-dec-1983','F','100 London street, CT','20-june-2008','R0006','NE4',0,null),

(1031,'Maria Sharapova','550-24-3105','14-dec-1984','F','3 Havard Road, MA','20-june-2009','R0006','E4',null,null),

(1032,'Serena Williams','599-60-4316','14-dec-1985','F','Beverly Hillls, California','20-june-2010','R0006','E4',null,null),

(1033,'Paul Allen','550-24-3106','14-dec-1986','M','290 turnpike road, MA','20-june-2011','R0006','E4',null,null),

(1034,'Steve Ballmer','599-60-4317','14-dec-1987','M','100 London street, CT','20-june-2012','R0006','NE4',1,null),

(1035,'Satya Nadella','550-24-3107','14-dec-1988','M','3 Havard Road, MA','20-june-2013','R0006','NE4',0,null),

(1036,'John Thompson','599-60-4318','14-dec-1989','M','Beverly Hillls, California','20-june-2014','R0009','E4',null,null),

(1037,'Brad Smith','550-24-3108','14-dec-1990','M','290 turnpike road, MA','20-june-2015','R0009','E4',null,null);

-- populate Emp\_dependents table

insert into Emp\_Dependents ( dependent\_id, emp\_id, Relationship, ssn, dependent\_name, dependent\_birthdate, Gender)

values

('D001','1006','Spouse','800-34-1234','Karen Smith','19-Nov-1984','F'),

('D002','1006','Children','865-23-3000','Nicole Smith','15-Mar-2000','F'),

('D003','1006','Children','800-34-1235','Kevin Smith','25-dec-2001','M'),

('D004','1001','Spouse','865-23-3001','Pricilla Chan','15-Mar-1983','F'),

('D005','1001','Children','800-34-1236','Jack Zukerberg','12-Apr-2015','M'),

('D006','1004','Spouse','865-23-3002','Melinda Gates','27-Oct-1970','F'),

('D007','1005','Children','800-34-1237','Jennifer Hogan','12-Apr-2015','F'),

('D008','1006','Children','865-23-3003','Kathy Ford','12-Apr-2015','F'),

('D009','1007','Spouse','800-34-1238','Rachel Saverin','16-Aug-1984','F'),

('D010','1008','Children','865-23-3004','George Clooney','01-May-2003','M'),

('D011','1009','Spouse','800-34-1239','Diandra Anderson','27-nov-1975','F'),

('D012','1010','Children','865-23-3005','Jenna Carlson','12-Apr-2001','M'),

('D013','1011','Children','800-34-1240','Mike Watson','01-May-2002','M'),

('D014','1012','Children','865-23-3006','Michael Beaton','30-Apr-2003','M'),

('D015','1013','Children','800-34-1241','Shannon Harris','12-mar-2004','F'),

('D016','1014','Children','865-23-3007','Karen Clinton','12-Apr-2005','F'),

('D017','1015','Children','800-34-1242','Donald Lewis','12-Apr-2001','M'),

('D018','1016','Children','865-23-3008','Jeff Goldblum','01-May-2002','M'),

('D019','1017','Children','800-34-1243','Eric Roberts','12-Apr-2003','M'),

('D020','1018','Children','865-23-3009','Pranav Kher','10-mar-2004','M'),

('D021','1019','Children','800-34-1244','Rachel Patil','10-Apr-2005','F'),

('D022','1020','Children','865-23-3010','Samuel Jackson','10-Apr-2001','M'),

('D023','1021','Children','800-34-1245','Jim Morgan','01-May-2002','M'),

('D024','1022','Children','865-23-3011','Alexander Bell','10-Apr-2003','M'),

('D025','1023','Children','800-34-1246','Jessica Shannon','13-mar-2004','F'),

('D026','1024','Children','865-23-3012','Brandon Wright','13-Apr-2005','M'),

('D027','1025','Children','800-34-1247','Matthew Roberts','13-Apr-2001','M'),

('D028','1026','Children','865-23-3013','Joseph Thomas','05-May-2002','M');

-- Populate Emp\_Phonenumber

Insert into Emp\_Phonenumber ( Phonenumber\_id, Emp\_id, Phonenumber)

values

('P001',1001,9100034590),

('P002',1002,9101034653),

('P003',1003,9102034716),

('P004',1003,9103034779),

('P005',1003,9104034842),

('P006',1004,9105034905),

('P007',1005,9106034968),

('P008',1006,9107035031),

('P009',1007,9108035094),

('P010',1008,9109035157),

('P011',1009,9110035220),

('P012',1010,9111035283),

('P013',1011,9112035346),

('P014',1012,9113035409),

('P015',1013,9114035472),

('P016',1014,9115035535),

('P017',1015,9116035598),

('P018',1016,9117035661),

('P019',1017,9118035724),

('P020',1018,9119035787),

('P021',1019,9120035850),

('P022',1020,9121035913),

('P023',1021,9122035976),

('P024',1022,9123036039),

('P025',1023,9124036102),

('P026',1024,9125036165),

('P027',1025,9126036228),

('P028',1026,9127036291),

('P029',1027,9128036354),

('P030',1028,9129036417),

('P031',1029,9130036480),

('P032',1030,9131036543),

('P033',1031,9132036606),

('P034',1032,9133036669),

('P035',1033,9134036732),

('P036',1034,9135036795),

('P037',1035,9136036858),

('P038',1036,9137036921),

('P039',1037,9138036984);

-- Populate Emp\_Emergencycontact

Insert into Emp\_emergencycontact

values

('E00101',1006,'Michael Smith',8898999992,'Parent'),

('E00102',1005,'Pricilla Chan',9001002301,'Spouse'),

('E00103',1004,'Melinda Gates',9103004610,'Spouse'),

('E00104',1005,'Jennifer Hogan',9205006919,'Children'),

('E00105',1007,'Rachel Saverin',9307009228,'Children'),

('E00106',1008,'George Clooney',9409011537,'Children'),

('E00107',1009,'Diandra Anderson',9511013846,'Children'),

('E00108',1010,'Jenna Carlson',9613016155,'Children'),

('E00109',1011,'Mike Watson',9715018464,'Children'),

('E00110',1012,'Michael Beaton',9817020773,'Children'),

('E00111',1013,'Rajeev Dave',1449057717,'Friend'),

('E00112',1014,'Melinda Gates',9103004610,'Friend'),

('E00113',1015,'Donald Lewis',1123027700,'Children'),

('E00114',1016,'Rajeev Dave',9449057717,'Friend'),

('E00115',1017,'Eric Roberts',9449057718,'Children'),

('E00116',1018,'Pranav Kher',9449057719,'Children'),

('E00117',1019,'Rachel Patil',9449057720,'Children'),

('E00118',1020,'Samuel Jackson',9449057721,'Children'),

('E00119',1021,'Jim Morgan',9449057722,'Children'),

('E00120',1022,'Alexander Bell',9449057723,'Children'),

('E00121',1023,'Jessica Shannon',9449057724,'Children'),

('E00122',1024,'Brandon Wright',9449057725,'Children'),

('E00123',1025,'Matthew Roberts',9449057726,'Children'),

('E00124',1026,'Joseph Thomas',9449057727,'Children'),

('E00125',1003,'Sachin Kumar',9449057728,'Friend'),

('E00126',1002,'Rajeev Dave',9449057729,'Friend'),

('E00127',1027,'Matthew Roberts',9449057730,'Friend'),

('E00128',1028,'Jessica Shannon',9449057731,'Friend'),

('E00129',1029,'Brandon Wright',9449057732,'Friend'),

('E00130',1030,'Matthew Roberts',9449057733,'Friend'),

('E00131',1031,'Joseph Thomas',9449057734,'Friend'),

('E00132',1032,'Sachin Kumar',9449057735,'Friend'),

('E00133',1033,'Matthew Roberts',9449057736,'Friend'),

('E00134',1034,'Matthew Roberts',9449057737,'Friend'),

('E00135',1035,'Matthew Roberts',9449057738,'Friend'),

('E00136',1036,'Matthew Roberts',9449057739,'Friend'),

('E00137',1037,'Matthew Roberts',9449057740,'Friend');

-- Populate Emp\_hierarchy

Insert into Emp\_hierarchy

values

(1001,null),

(1002,1001),

(1003,1001),

(1004,1001),

(1005,1002),

(1006,1002),

(1007,1005),

(1008,1005),

(1009,1005),

(1010,1006),

(1011,1006),

(1012,1006),

(1013,1003),

(1014,1003),

(1015,1013),

(1016,1013),

(1017,1013),

(1018,1014),

(1019,1014),

(1020,1014),

(1021,1004),

(1022,1004),

(1023,1004),

(1024,1021),

(1025,1021),

(1026,1021),

(1027,1021),

(1028,1022),

(1029,1022),

(1030,1022),

(1031,1022),

(1032,1022),

(1033,1023),

(1034,1023),

(1035,1023),

(1036,1023),

(1037,1023);

-- Populate Emp\_Salary table

Insert into Emp\_Salary (Salary\_id, Emp\_id, Annual\_sal, hourly\_payrate)

values('S001',1001,5000000,null),

('S002',1002,4000000,null),

('S003',1003,4000000,null),

('S004',1004,null,200),

('S005',1005,null,150),

('S006',1006,3000000,null),

('S007',1007,250000,null),

('S008',1008,300000,null),

('S009',1009,null,125),

('S010',1010,null,125),

('S011',1011,400000,null),

('S012',1012,250000,null),

('S013',1013,3000000,null),

('S014',1014,null,150),

('S015',1015,null,125),

('S016',1016,250000,null),

('S017',1017,250000,null),

('S018',1018,550000,null),

('S019',1019,null,120),

('S020',1020,null,125),

('S021',1021,3000000,null),

('S022',1022,3000000,null),

('S023',1023,3000000,null),

('S024',1024,null,120),

('S025',1025,null,110),

('S026',1026,250000,null),

('S027',1027,250000,null),

('S028',1028,600000,null),

('S029',1029,null,125),

('S030',1030,null,125),

('S031',1031,250000,null),

('S032',1032,250000,null),

('S033',1033,880000,null),

('S034',1034,null,125),

('S035',1035,null,130),

('S036',1036,250000,null),

('S037',1037,250000,null);

-- Populate HealthPlan table

insert into HealthPlan( Healthplan\_code, Healthplan\_vendor, Individual\_rate, Family\_Rate, Individual\_Deductibles,Family\_Deductibles, Co\_pay, Co\_insurance)

values

('Acme HMO','Acme',500,1000,1000,1500,20,10),

('BCBS HMO','BCBS',480,900,1200,2000,30,15),

('UHC HMO','UHC',450,800,1200,3000,30,20);

-- Populate Emp\_insurance table

insert into Emp\_insurance (Emp\_id, Healthplan\_code,Covereddependents\_ind)

values

(1001,'Acme HMO',1),

(1002,'BCBS HMO',0),

(1003,'UHC HMO',0),

(1004,'Acme HMO',1),

(1006,'Acme HMO',1),

(1007,'BCBS HMO',0),

(1008,'UHC HMO',0),

(1009,'BCBS HMO',0),

(1011,'Acme HMO',0),

(1012,'BCBS HMO',0),

(1013,'UHC HMO',0),

(1014,'UHC HMO',1),

(1016,'Acme HMO',0),

(1017,'BCBS HMO',0),

(1018,'UHC HMO',0),

(1019,'Acme HMO',1),

(1021,'Acme HMO',0),

(1022,'BCBS HMO',0),

(1023,'UHC HMO',0),

(1024,'Acme HMO',1),

(1026,'Acme HMO',0),

(1027,'BCBS HMO',0),

(1028,'UHC HMO',0),

(1029,'Acme HMO',1),

(1031,'Acme HMO',0),

(1032,'BCBS HMO',0),

(1033,'UHC HMO',0),

(1034,'Acme HMO',0),

(1036,'BCBS HMO',0),

(1037,'UHC HMO',0);

-- Populate Insured\_Dependents

insert into Insured\_Dependents ( Emp\_id, Dependent\_id)

values

(1001,'D004'),

(1001,'D005'),

(1004,'D006'),

(1006,'D001'),

(1006,'D002'),

(1006,'D003'),

(1006,'D008'),

(1014,'D016'),

(1019,'D019'),

(1024,'D026'),

(1029,'D028');

-- Populate Restricted\_Room table

insert into Restricted\_Room ( Room\_num , Room\_name, Internal\_Phnum, Hazardous\_ind , Role\_id )

values

('R001','Operations Room',3433339000,1,'R0008'),

('R002','Server Room',3433332300,0,'R0009'),

('R003','HR Confidential data Room',3433331101,0,'R0007');

-- Populate Restricted\_Access table

insert into Restricted\_Access (emp\_id, Room\_num)

values

(1001,'R001'),

(1001,'R002'),

(1001,'R003'),

(1002,'R003'),

(1003,'R001'),

(1004,'R002'),

(1006,'R003'),

(1011,'R003'),

(1014,'R001'),

(1020,'R001'),

(1023,'R002'),

(1036,'R002'),

(1037,'R002');

--update column vacation

Update Employee

set vacation = ( current\_date -emp\_dateofhire) /(365\*3) +2

--end

# Database Operational Testing

Following are the various Script that will be used for Testing . Few of the queries used are listed below based on Scenarios.

-- script for finding who is supervisor

select a.emp\_name Employee\_name, c.emp\_name Manager\_name, r.JobRole\_desc

from employee a inner join emp\_hierarchy b on a.emp\_id = b.Emp\_id

inner join employee c on b.Manager\_id = c.emp\_id

inner join roles r on a.Role\_id= r.role\_id

order by c.emp\_id

---- What is the name of the Atlas Corporation owner?

Select a.Emp\_name

from Employee a inner join Emp\_hierarchy b on a.emp\_id = b.Emp\_id

inner join Roles c on a.Role\_id = c.Role\_id

where C.JobRole\_desc ='Owner'

--- What are the names of employees who directly reports to the Atlas Corporation human resources director?

Select d.Emp\_name from Roles a inner join employee b on a.role\_id = b.Role\_id and a.JobRole\_desc ='Human Resource Director'

inner join emp\_hierarchy c on c.Manager\_id = b.Emp\_id

inner join Employee d on c.Emp\_id = d.Emp\_id

--What are the names of employees who have access to restricted room 'Server Room' ?

Select c.Emp\_name From Restricted\_Room a

inner join Restricted\_Access b on a.Room\_num = b.Room\_num and a.Room\_name ='Server Room'

inner join Employee c on c.Emp\_id = b.Emp\_id

--How many employees have chosen the Acme HMO health plan?

Select count(1) from Emp\_Insurance a where Healthplan\_code ='Acme HMO'

--How many dependents does each employee have?

select a.Emp\_name as Emp\_name, count(dependent\_id) Count\_of\_dependents from Employee a

inner join Emp\_Dependents b on a.Emp\_id =b.Emp\_id

Group by a.Emp\_name

-- What is the name of employee John Smith's emergency contact?

Select a.Contact\_name from Emp\_EmergencyContact a

inner join Employee b on a.Emp\_id = b.emp\_id

where b.Emp\_name ='John Smith'

-- What is employee John Smith's job description?

select a.Emp\_name, b.Jobrole\_desc from Employee a inner join Roles b on a.Role\_id = b.Role\_id

and a.Emp\_name ='John Smith'

-- What are the restricted rooms to which John Smith has access (if any)?

Select c.Room\_name from Restricted\_Access a inner join employee b on a.emp\_id =b.emp\_id and b.Emp\_name ='John Smith'

inner join Restricted\_Room c on a.Room\_num = c.Room\_num

-- Which of the health insurance plans has the most employees enrolled?

select Healthplan\_code, count(emp\_id)

from Emp\_Insurance Group by HealthPlan\_code

having count(emp\_id)

in

(select max(a.Emp\_count) from

(Select Healthplan\_code, count(emp\_id) Emp\_count from Emp\_Insurance

Group by HealthPlan\_code) a

)

--List all dependents of male employee whose salary is >300000

Select b.Emp\_id,b.emp\_name, a.Dependent\_name from emp\_dependents a inner join Employee b on a.Emp\_id = b.Emp\_id and b.Emp\_gender ='M'

inner join Emp\_salary c on b.emp\_id = c.Emp\_id and c.Annual\_Sal >300000

order by b.emp\_id

-- Name of Female Employee having authorised access to Server Room

Select Emp\_name from Employee a inner join Restricted\_Access b on a.Emp\_id = b.Emp\_id and a.Emp\_gender ='F'

inner join Restricted\_Room c on b.Room\_num = c.Room\_num and c.Room\_name ='Server Room'

-- Employees born after 1/1/1990

select Emp\_name, Emp\_birthdate from Employee where Emp\_birthdate > cast('01/01/1990 ' as date);

-- list of employess who work under manager Cameroon Winklevoss after 2010

select c.Emp\_name from Employee a inner join Emp\_hierarchy b on a.Emp\_id = b.Manager\_id and a.Emp\_name ='Cameron Winklevoss'

inner join Employee c on b.Emp\_id = c.Emp\_id

and c.Emp\_Dateofhire > cast('12/31/2009 ' as date)

-- Youngest male employee

select Emp\_name from Employee where Emp\_gender='M' and (current\_date - Emp\_birthdate)

in (

select min(current\_date - Emp\_birthdate) from Employee where Emp\_gender ='M')