1. Draw entity-relationship diagram

Project

Assignment

Employee

has

JobClass

JobClass:

JobClassID  
Name  
ChargePerHour

Employee:  
EmployeeNumber  
EmployeeName  
JobClass

Project:

ProjectNumber  
ProjectName  
Cost  
ProjectLeaderID

Assignment:

ProjectNumber  
EmployeeNumber  
HoursBilled  
TotalCharge

1. Convert to schema (relations with attributes and keys)

Relationship

Assignment(ProjectNumber, EmployeeNumber, HoursBilled, TotalCharge)

Project(ProjectNumber, ProjectName, Cost, ProjectLeaderID)

JobClass(JobClassID, Name, ChargePerHour)

Employee(EmployeeNumber, EmployeeName, JobClass)

1. Write SQL code to defines those tables

Entity:

Project(ProjectNumber, ProjectName, Cost, ProjectLeaderID)

CREATE TABLE Project (

ProjectNumber int not null primary key,

ProjectName varchar(100),

Cost float,

ProjectLeaderID int

);

JobClass(JobClassID, Name, ChargePerHour)

CREATE TABLE JobClass (

JobClassID varchar(100) not null primary key,

Name varchar(100),

ChargePerHour float

);

Employee(EmployeeNumber, EmployeeName, JobClass)

CREATE TABLE Employee (

EmployeeNumber int not null primary key,

EmployeeName varchar(100),

JobClass varchar(100)

);

Assignment(ProjectNumber, EmployeeNumber, HoursBilled, TotalCharge)

CREATE TABLE Assignment (

ProjectNumber int not null primary key,

EmployeeNumber int,

HoursBilled float,

TotalCharge float

);

1. Write SQL to insert the data into those tables.

INSERT INTO Project (ProjectNumber, ProjectName, Cost, ProjectLeaderID)

VALUES

(15, “Evergreen”, 10549.7, 103),

(18, “Amber Wave”, 7171.47, 114),

(22, “Rolling Tide”, 13660.1, 105),

(25, “Starflight”, 17559.82, 107)

INSERT INTO Employee(EmployeeNumber, EmployeeName, Jobclass)

VALUES

(103, June E. Arbough, Elec. Engineer),

(101, John G. News, Database Designer),

(105, Alice K. Johnson, Database Designer),

(106, William Smithfield, Programmer),

(102, David H. Senior, Systems Analyst),

(114, Annelise Jones, Applications Designer),

(118, James J. Frommer, General Support),

(104, Anne K. Ramoras, Systems Analyst),

(112, Darlene M. Smithson, DSS Analyst),

(113, Delbert K. Joenbrood, Applications Designer),

(111, Geoff B. Wabash, Clerical Support),

(107, Maria D. Alonzo, Programmer),

(115, Travis B. Bawagni, Systems Analyst),

(114, Annelise Jones, Applications Designer),

(108, Ralph B. Washington, Systems Analyst),

INSERT INTO JobClass(JobClassID, Name, ChargePerHour)

VALUES

(1, Elec. Engineer, 84.5),

(2, Database Designer, 105),

(3, Programmer, 35.75),

(4, Systems Analyst, 96.75),

(5, Applications Designer, 48.1),

(6, General Support, 18.36),

(7, DSS Analyst, 45.95),

(8, Clerical Support, 26.87)

INSERT INTO Assignment(ProjectNumber, EmployeeNumber, HoursBilled, TotalCharge)

VALUES

(15, 103, 23.8, 2011.1),

(15, 101, 19.4,2037),

(15, 105, 35.7, 3748.5),

(15, 106, 12.6, 450.45),

(15, 102, 23.8, 2302.65),

(18, 114, 24.6, 1183.26),

(18, 118, 45.3, 831.71),

(18, 104, 32.4, 3135.7),

(18, 112, 44, 2021.8),

(22, 105, 64.7, 6793.5),

(22, 104, 48.4, 4682.7),

(22, 113, 23.6, 1135.16),

(22, 111, 22, 591.14),

(22, 106, 12.8, 457.6),

(25, 107, 24.6, 879.45),

(25, 115, 45.8, 4431.15),

(25, 101, 56.3, 5911.5),

(25, 114, 33.1, 1592.11),

(25, 108, 23.6, 2283.3),

(25, 118, 30.5, 559.98),

(25, 112, 41.4, 1902.33)