DBS201 Assignment

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**Normalization**

**User View 1: Invoice Statement**

**UNF:**

INVOICE[InvNum,InvDate, CustID, CustName, WT, cPostalCode, Addr, (EquipmentID,EquipmentUsed), (ServCode, ServDesc, HourlyCharge, WorkDur)]

**1NF:**

INVOICE\_EQUIPMENT[InvNum, EquipmentID, Equipment Used]

INVOICE\_SERVICE[InvNum,ServCode, InvDate, CustID, CustName, WT, cPostalCode, cAddr, EquipmentUsed, ServDesc, HourlyCharge, WorkDur]

**2NF:**

INVOICE[InvNum, InvDate, CustID, CustName, WT, cPostalCode, cAddr,]

SERVICE[ServCode, ServDesc, HourlyCharge]

EQUIPMENT[EquipmentID, EquipmentUsed]

INVOICE\_EQUIPMENT[InvNum, EquipmentID]

INVOICE\_SERVICE[InvNum,ServCode, WorkDur]

**3NF:**

INVOICE[InvNum, InvDate, WorkT(FK), CustID(FK)]

CUSTOMER[CustID, CustName, CustPostal(FK)]

SERVICE[ServCode, ServDesc, HourlyCharge]

EQUIPMENT[EquipmentID, EquipmentUsed]

INVOICE\_EQUIPMENT[InvNum(FK), EquipmentID(FK), EquipmentUsed]

INVOICE\_SERVICE[InvNum(FK), ServCode(FK), WorkDur]

**User View 2: Employee Reports**

**UNF:**

EMPLOYEE[EmpId, TeamId, TeamDesc, (Position, Name, OhipNo, PhoneNo, StartDate), (SkillDesc)]

**1NF:**

Employee [EmpId, Skill\_ID, TeamId, TeamDesc, Position, Name, OhipNo, PhoneNo, StartDate, SkillDesc]

**2NF:**

EMPLOYEE[EmpID, TeamID, TeamDesc, Name, Position, OhipNo, PhoneNo, StartDate]

SKILLS[Skill\_ID, SkillDesc]

EMPLOYEE\_SKILL[EmpID, Skill\_ID]

**3NF:**

EMPLOYEE[EmpID, TeamId(FK), Name, Position, OhipNo, PhoneNo, Skill\_ID (FK), StartDate]

SKILLS[Skill\_ID, Skill Desc]

EMPLOYEE\_SKILL[EmpId(FK), Skill\_ID(FK)]

TEAM[TeamID, TeamDesc]

**User View 3: Product Sales Report**

**UNF:**

SALES[InvoiceId, InvoiceDate, AssistID, AssistName, CustNo(ProdClass, ProdId, Product, Qty)]

**1NF:**

SALES\_PRODUCT[InvoiceId, ProdId, InvoiceDate, AssistID, AssistName, CustNo, ProdClass, Product, Qty]

**2NF:**

SALES[InvoiceId, InvoiceDate, AssistID, AssistName, CustNo]

PRODUCT[ProdId, ProdClass, Product]

SALES\_PRODUCT[InvoiceId, ProdId, Qty]

**3NF:**

SALES[InvoiceId, InvoiceDate, CustNo(FK), AssistID(FK)]

PRODUCT[ProdId, ProdClass, ProductDesc]

SALES\_PRODUCT[InvoiceId(FK), ProdId(FK), Qty]

SALESASSIST[AssistID, AssistName]

**User View 4: Product Report**

**UNF:**

PRODUCT[ProdClass, ProdClassification, Markup, (ProdId, ProdDesc, Cost)]

**1NF:**

PRODUCT[ProdClass, ProdClassification, Markup]

PRODUCT\_PRODID[ProdClass, ProdID, ProdDesc, Cost]

**2NF:**

PRODUCT[ProdClass, ProdClassification, Markup]

PRODUCT\_PRODID[ProdClass, ProdID]

PROD\_DETAIL[ProdId, ProdDesc, Cost]

**3NF:**

PRODUCT[ProdClass, ProdClassification, Markup]

PRODUCT\_PRODID[ProdClass, ProdID]

PRODUCT\_DETAIL[ProdId, ProdDesc, Cost]

**User View 5: Inventory**

**UNF:**

INVENTORY[ProdId, ProdDesc, AisleNum, Supplier]

**1NF:**

INVENTORY[ProdId, ProdDesc, AisleNum, Supplier]

**2NF:**

INVENTORY[ProdId, ProdDesc, AisleNum, Supplier]

**3NF:**

INVENTORY[ProdId, ProdDesc, AisleNum, Supplier]

**Final Entity Set**

TEAM[TeamID, TeamDesc]

SKILLS[SkillID(int), Skill Desc]

EMPLOYEE[EmpID, TeamID(FK), Name, Position, OhipNo, PhoneNo, StartDate]

EMPLOYEE\_SKILL[EmpID(FK), SkillID(FK)]

EQUIPMENT[EquipmentID, EquipmentUsed]

INVOICE[InvNum, InvDate, WorkT(FK), CustID(FK), EmpID(FK)]

CUSTOMER[CustID, CustName, CustPostal, CustCity, CustAddr ]

PRODUCT\_CLASS[ProdClass, ProdClassification, Markup]

PRODUCT[ProdID(PK), ProdClass(FK) ProdDesc, ProdCost, Inventory, Supplier, Aisle]

SERVICE[ServCode, ServDesc, HourlyCharge]

SALES\_PRODUCT[InvNum(FK), ProdId, Qty]

INVOICE\_EQUIPMENT[InvNum(FK), EquipmentID (FK)]

INVOICE\_SERVICE[InvNum(FK), ServCode(FK), WorkDur]

**Insert Statements**

Insert into team values (0, 'Sales')

Insert into team values (1, 'General Contracting);

Insert into team values (2, 'Pruning and Planting');

Insert into team values (3, 'General Maintenance');

Insert into skills values (1, 'Electrical');

Insert into skills values (2, 'Plumbing');

Insert into skills values (3, 'General Contractor');

Insert into skills values (4, 'Irrigation');

Insert into skills values (5, 'Lawn Maintenance');

Insert into skills values (6, 'Pruning');

Insert into skills values (7, 'Fertilizing')

Insert into skills values (8, '{"A"} License);

Insert into skills values (9, 'Sales');

Insert into employee values (120, 1, 'Wendy Ames', 'Supervisor', '219032002', 9053381234, '1998-01-01');

Insert into employee values (122, 1, 'Terry Wilson', 'Lawn Care', '34111991', '9053381234', '1999-06-30');

Insert into employee values (121, 2, 'Mary Wells', 'Lawn Care', '325443001', '4164584562', '1998-06-30');

Insert into employee values (123, 2, 'Peter Wong', 'Supervisor', '54222991', '4169324533', '2000-06-30');

Insert into employee values (124, 3, 'Carrie Fisher', 'Lawn Care', '43524532', '9053455366', '1998-08-23');

Insert into employee values (126, 3, 'Brad Phillips', 'Supervisor', '32543555', '4164356599', '2001-03-03');

Insert into employee values (155, 0, 'Gordan Brown', 'Sales', 0, 0, 0);

Insert into employee values (158, 0, 'Susan Gills', 'Sales', '0', '0, 0);

EMPLOYEE\_SKILL[EmpID(FK), SkillID(FK)]

Insert into Employee\_skill values (120, 1);

Insert into Employee\_skill values (120, 2);

Insert into Employee\_skill values (120, 3);

Insert into Employee\_skill values (122, 4);

Insert into Employee\_skill values (122, 5);

Insert into Employee\_skill values (121, 6);

Insert into Employee\_skill values (121, 4);

Insert into Employee\_skill values (121, 7);

Insert into Employee\_skill values (122, 8);

Insert into Employee\_skill values (122, 1);

Insert into Employee\_skill values (122, 3);

Insert into Employee\_skill values (124, 6);

Insert into Employee\_skill values (124, 5);

Insert into Employee\_skill values (126, 4);

Insert into Employee\_skill values (126, 2);

Insert into Employee\_skill values (126, 1);

Insert into Employee\_skill values (155, 9);

Insert into Employee\_skill values (158, 9);

Insert into CUSTOMER values (56, 'John Adams', M2S4S3, 'Oakville', '234 King St.');

Insert into CUSTOMER values (34, 'Ashley Riley', M4T4R7,'Oakville','156 Avindale Cresc'

Insert into CUSTOMER values (7,'John Doe', NULL,NULL,NULL);

Insert into Equipment values (1, '20 hp John Deer tractor/mower);

Insert into equipment values(2, '2hp Johnson grass trimmer');

Insert into equipment values(3, '10 tree pruning shears');

Insert into equipment values(4, 'Haggmann garden-tiller');

INVOICE\_EQUIPMENT[InvNum(FK), EquipmentID (FK)]

INSERT INTO INVOICE\_EQUIPMENT VALUES (1355,1);

INSERT INTO INVOICE\_EQUIPMENT VALUES (1355,3);

INSERT INTO INVOICE\_EQUIPMENT VALUES (1355,2);

INSERT INTO INVOICE\_EQUIPMENT VALUES (1412, 1);

INSERT INTO INVOICE\_EQUIPMENT VALUES(1412, 2);

INSERT INTO INVOICE\_EQUIPMENT VALUES (1412, 4);

Insert into invoice VALUES (1355, '2017-06-05', 2, 56, NULL);

Insert into invoice VALUES (1412, '2017-06-19', 3, 34, NULL);

Insert into invoice VALUES (1356, '2002-07-05', 0, 56, 155);

Insert into invoice VALUES (1367, '2002-07-06', 0, 7, 158);

Insert into invoice VALUES (1401, '2002-07-06', 0, 34, 155);

Insert into invoice VALUES(1405, '2002-07-07', 0, 56, 158);

INSERT INTO SERVICE VALUES ('LC','Lawn Cutting',25.00);

INSERT INTO SERVICE VALUES ('GW','Garden Weeding', 25.00);

INSERT INTO SERVICE VALUES ('GP','Garden Planting',30.00);

INSERT INTO SERVICE VALUES ('GF','Garden Fertilizing', 10.00);

INSERT INTO SERVICE VALUES ('LW', 'Lawn Weeding', 35.00);

INSERT INTO SERVICE VALUES ('LF', 'Lawn Fertilizing', 15.00);

INSERT INTO SERVICE VALUES ('TG', 'Tree Pruning', 45.00);

INVOICE\_SERVICE[InvNum(FK), ServCode(FK), WorkDur]

INSERT INTO INVOICE\_SERVICE VALUES (1355,'LC', 0.75);

INSERT INTO INVOICE\_SERVICE VALUES (1355,'LW', 1.15);

INSERT INTO INVOICE\_SERVICE VALUES (1355,'LF', 0.25);

INSERT INTO INVOICE\_SERVICE VALUES (1355,'TG', 0.50);

INSERT INTO INVOICE\_SERVICE VALUES (1412,'LC', 0.75);

INSERT INTO INVOICE\_SERVICE VALUES (1412,'GW', 1.15);

INSERT INTO INVOICE\_SERVICE VALUES (1412,'GP', 0.25);

INSERT INTO INVOICE\_SERVICE VALUES (1412,'GF', 0.50);

ProductClass

INSERT INTO PRODUCTCLASS values ('GT','Garden Tools', 30);

INSERT INTO PRODUCTCLASS values ('SB','Shrubs', 50);

INSERT INTO PRODUCTCLASS values ('FT','Fertilizers', 25);

INSERT INTO PRODUCTCLASS values ('SP','Sprinklers', 40);

PRODUCT

INSERT INTO PRODUCT VALUES (10, 'GT', '6 foot garden rake', 9.23,5 , 'Sheffield-Gander inc', 1);

INSERT INTO PRODUCT VALUES (20, 'GT', '7 foot leaf rake', 7.69 ,5 , 'Sheffield-Gander inc', 1);

INSERT INTO PRODUCT VALUES (30, 'GT', 'Round Mouth Shovel', 7.96,4, 'Husky Inc', 1);

INSERT INTO PRODUCT VALUES (40, 'GT', 'Flat-nosed Shovel', 6.15, 2 ,'Husky Inc', 1);

INSERT INTO PRODUCT VALUES (50, 'GT', 'Garden pitch-fork', 5.38, 6 ,'Husky Inc', 1);

INSERT INTO PRODUCT VALUES (60, 'GT', '8 inch hand shears', 11.54, 9 ,'Sheffield-Gander inc', 2);

INSERT INTO PRODUCT VALUES (70, 'GT', '12 inch trimming shears',14.62, 10 ,'Sheffield;-Gander inc', 2);

INSERT INTO PRODUCT VALUES (80, 'GT', '10 inch tamper', 10.77, 3,'Husky inc', 2);

INSERT INTO PRODUCT VALUES (90, 'SB', 'Cedar Sapling ', 20.00, 34 ,'Northwoord Farms inc', 5);

INSERT INTO PRODUCT VALUES (100, 'SB', 'Golden Cedar Sapling', 23.33, 23 ,'Northwoord Farms inc', 5);

INSERT INTO PRODUCT VALUES (110, 'SB', 'Mulberry sapling', 10.00, 12,'Sherwood Nursers', 4);

INSERT INTO PRODUCT VALUES (120, 'SB', 'Juniper sapling', 16.67, 15 ,'Northwoord Farms inc', 4);

INSERT INTO PRODUCT VALUES (130, 'FT', 'Premium lawn fertilizer', 12.00, 4 ,'Sherwood Nursers', 6);

INSERT INTO PRODUCT VALUES (140, 'FT', 'General grade lawn fertilizer', 8.00, 12 ,'Sherwood Nursers', 6);

INSERT INTO PRODUCT VALUES (150, 'FT', 'Premium garden fertilizer', 14.40, 14 ,'Sherwood Nursers', 6);

INSERT INTO PRODUCT VALUES (160, 'FT', 'General grade garden fertilizer', 9.60, 12 ,'Sherwood Nursers', 6);

INSERT INTO PRODUCT VALUES (170, 'SP', '120 foot watering hose', 17.86, 9 ,'Diemar Garden Center', 3);

INSERT INTO PRODUCT VALUES (180, 'SP', '12 inch aluminum sprinkler', 10.71,5 ,'Diemar Garden Center', 3);

INSERT INTO PRODUCT VALUES (190, 'SP', 'rotating sprinkler jet', 13.57, 4 ,'Diemar Garden Center', 3);

SALES\_PRODUCT[InvNum(FK), ProdId, Qty]

INSERT INTO SALES\_PRODUCT values (1356,10,1);

INSERT INTO SALES\_PRODUCT values (1356,40,1);

INSERT INTO SALES\_PRODUCT values (1356,140,3);

INSERT INTO SALES\_PRODUCT values (1367,100,5);

INSERT INTO SALES\_PRODUCT values (1367,110,2);

INSERT INTO SALES\_PRODUCT values (1367,50,1);

INSERT INTO SALES\_PRODUCT values (1367,140,2);

INSERT INTO SALES\_PRODUCT values (1401,170,3);

INSERT INTO SALES\_PRODUCT values (1401,190,3);

INSERT INTO SALES\_PRODUCT values (1401,50,1);

**TO FIX**

SERVICE , DECIMAL NOT INTEGER

**USRVIEW1**

select i.invnum, i.invdate, t.teamID, e.equipmentused, c.custid || '-' || c.custname as Customer, rtrim (c.custaddr ) || ' ' || rtrim (c.custcity) || ' ' ||rtrim (c.custpostal) as ADDRESS, s.servCode, s.servdesc, s.hourlycharge, invser.workdur, invser.workdur \* s.hourlycharge as Charge

from invoice i, team t, equipment e, customer c, service s, invoice\_service invser, invoice\_equipment ie

where i.invnum = invser.invnum and invser.servcode = s.servcode and i.invnum = ie.invnum and ie.equipmentid = e.equipmentid and i.workt = t.teamid and i.custid = c.custid;

**USERVIEW 3**

set schema dr201ag15;

create view prodsalesrepo as

select p.prodclass as PRODCLASS, sp.prodid, sp.invnum, p.proddesc,

round(p.prodcost \*(pc.markup+100)/100, 2) as Charge ,

sp.quantity as QTY,

i.invdate as Invoice\_Date, e.empid || ' - ' || e.name as Sales\_Assistant, i.custid as CustNo

from sales\_product sp, product p, productclass pc, invoice i, employee e

where sp.prodid = p.prodid and pc.prodclass = p.prodclass and i.invnum =sp.invnum and e.empid = i.empid;

Dr201a19 // XKFGZN