Student Assignment Submission Form

I/we declare that the attached assignment is my/our own work in accordance with

Seneca Academic Policy. No part of this assignment has been copied manually or electronically from any other source (including web sites) **or distributed to other students**.

Name(s) Kevin Dang Signature /”\> Student ID(s) 158506170

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**PLAGIARIASM and CHEATING**

(Refer to School of ICT Academic Honesty Policy)

or visit: <https://ict.senecacollege.ca/?q=students/academic-honesty-policy>

**DBS 201 Group Assignment**

**Collection DB201BG05**

**Normalization**

**GTA Landscaping: User View 1:**

UNF:

Invoice[**InvNum**, InvDate, Team(**EquipID**, EquipDesc(**CustNum**, CustName, CustAdd(**ServiceCode**, Desc, Hourly\_Charge, Duration)))]

1NF:

INVOICE[ **Inv\_Num**, **Service\_Code, Equip\_ID**, **Cust\_Num,** Inv\_Date, Work\_Team, Equip\_Desc, Cust\_Name, Cust\_ Address, Desc, Hourly\_Charge, Work\_Duration]

2NF:

INVOICE\_INDEX[ **Inv\_Num(FK), Service\_Code(FK), Equip\_ID(FK), Cust\_Num(FK)**, Work\_Team]

INVOCIE[**Inv\_Num, ,** Inv\_Date]

SERVICE[**Service\_Code**, Desc, Hourly Charge, Work\_Duration, ]

EQUIPMENT[**Equip\_ID**,Equip\_Desc]

CUSTOMER[**Cust\_Num**, Cust\_Name, Cust\_ Address]

3NF:

INVOICE\_INDEX[ **Inv\_Num(FK), Service\_Code(FK), Equip\_ID(FK), Cust\_Num(FK)**, Work\_Team]

INVOICE[**Inv\_Num, ,** Inv\_Date]

SERVICE[**Service\_Code**, Desc, Hourly Charge, Work\_Duration]

EQUIPMENT[**Equip\_ID**,Equip\_Desc]

CUSTOMER[**Cust\_Num**, Cust\_Name, Cust\_ Address]

**GTA Landscaping: User View 2**

UNF:

TEAMEMP[ **Team\_Num**, Team \_Desc,( Position, **Emp\_ID**, Emp\_Name**,** Home\_P, Start\_Date ,( **Skill\_id**, Skill\_Desc) )]

1NF:

TEAMEMP[ **Team \_Num**, **Emp\_ID**, Emp\_Name**,** **Skills\_id**, Team \_Desc, Position**,**  Home\_P, Start\_Date ,Skill\_Desc )]

2NF:

TEAM[**Team\_Num**, Team\_Desc ]

EMPLOYEE[ **Emp\_id** , Emp\_Name **,** Home\_p , Start\_Date, OHIP]

SKILL[**Skill\_id** ,Skill\_Desc]

EPMPLOYEETEAM[**Team\_Num(fk), Skill\_id(fk)** , **Emp\_id(fk) ,**Position**]**

3NF:

TEAM[**Team\_Num**, Team\_Desc ]

EMPLOYEE[ **Emp\_id** ,Emp\_Name**,** Home\_p , Start\_Date]

SKILL[**Skill\_id** ,Skill\_Desc]

EPMPLOYEETEAM[**Team\_Num(fk), Skill\_id(fk)** , **Emp\_id(fk) ,**Position**]**

**GTA Landscaping: User View 3**

Unf:

Prod[ ProdClass, ProdID, ProdDesc, Charge, QTY (InvoiceID, InvoiceDate (SalesAssID, SalesName, CustNo))]

Prod[ ProdClass, ProdID, ProdDesc, Charge, QTY, InvoiceID, InvoiceDate, SalesAssID, SalesName, CustNo]

Prod[ProdClass, ProdID, ProdDesc, Charge, QTY, InvoiceID, InvoiceDate, SalesAssID, SalesName, CustNo]

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1nf:

Prod[**ProdID, InvoiceID, SalesAssID, CustNo**, ProdClass, ProdDesc, Charge, QTY, InvoiceDate, SalesName]

2nf:

Prod[**ProdID**, ProdDesc, ProdClass, Charge, QTY]

Inv[**InvoiceID**, InvoiceDate]

Sales[**SalesAssID**, SalesName]

ProdInvSales[ProdID, InvoiceID, SalesAssID, CustNo]

3nf:

Cust[**CustNo**]

Prod[**ProdID**, ProdDesc, ProdClass, Charge, QTY]

Inv[**InvoiceID**, InvoiceDate]

Sales[**SalesAssID**, SalesName]

ProdInvSales[**ProdID(FK), InvoiceID(FK), SalesAssID(FK), CustNO(FK**)]

**GTA Landscaping: User View 4**

UNF :

Product\_Report[**Product\_id**, markup , prod\_des, cost (prod\_class, classification)]

1NF:

Product\_Report[**Product\_id**, **prod\_class**, markup , prod\_des, cost ,classification]

2NF:

Product\_Report[**Product\_id**, **prod\_class(FK)**]

Product\_Class[**prod\_class** ,classification, markup ]

Product[**Product\_id**, , prod\_des, cost]

3NF:

Product\_Report[**Product\_id**, **prod\_class(FK)**]

Product\_Class[**prod\_class** ,classification, markup ]

Product[**Product\_id**, , prod\_des, cost]

**GTA Landscaping: User View 5**

UNF:

InventoryReport [**Prod\_Num,**Description, (supplier\_id , Supplier\_Name), InventoryAvailable, Aisle\_No]

1NF:

InventoryReport [**Prod\_Num**, **supplier\_id**, Aisle\_No, Description, InventoryAvailable, Supplier\_Name ]

2NF:

Product [ **Prod\_Num**, Description,InventoryAvailable]

Supplier [ **supplier\_id** , Supplier\_Name]

Productinventory [**Prod\_Num(FK), supplier\_id(FK)**, Aisle\_No]

3NF:

Productinventory [**Prod\_Num(Fk), supplier\_id(FK)**, Aisle\_No]

Supplier [ **supplier\_id** , Supplier\_Name]

Productinventory [**Prod\_Num(Fk), supplier\_id(FK)**, Aisle\_No]

**Merge Operation**

**UV1.** **3NF:**

INVOICE\_INDEX[ **Inv\_Num(FK), Service\_Code(FK), Equip\_ID(FK), Cust\_Num(FK)**, Work\_Team]

INVOICE[**Inv\_Num, ,** Inv\_Date]

SERVICE[**Service\_Code**, Desc, Hourly Charge, Work\_Duration]

EQUIPMENT[**Equip\_ID**,Equip\_Desc]

CUSTOMER[**Cust\_Num**, Cust\_Name, Cust\_ Address]

**UV2.3NF:**

TEAM[**Team\_Num**, Team\_Desc ]

EMPLOYEE[ **Emp\_id** ,Emp\_Name**,** Home\_p , Start\_Date, OHIP ]

SKILL[**Skill\_id** ,Skill\_Desc]

EMPLOYEETEAM[**Team\_Num(FK), Skill\_id(fk)** , **Emp\_id(FK) ,**Position**]**

**UV3.3NF:**

INVOICE\_INDEX[ **Inv\_Num(FK), Service\_Code(FK), Equip\_ID(FK), Cust\_Num(FK)**, Work\_Team]

INVOICE[**Inv\_Num, ,** Inv\_Date]

SERVICE[**Service\_Code**, Desc, Hourly Charge, Work\_Duration]

EQUIPMENT[**Equip\_ID**,Equip\_Desc]

CUSTOMER[**Cust\_Num**, Cust\_Name, Cust\_ Address]

**UV4.3NF:**

Product\_classification[P**roduct\_Class**, classification]

product[**Product\_ID** , description , cost]

product\_Report[P**roduct\_ID(FK)** , P**roduct\_Class(FK)** , markup]

**UV5. 3NF:**

Productinventory [**Prod\_Num(FK)**, **Supplier\_RegNo(FK),** Aisle\_No]

Product [ **Prod\_Num**, Description,InventoryAvailable]

Supplier [ **Supplier\_RegNo,** Supplier\_Name]

**Combining relations:**

**Composite relations**

INVOICE\_INDEX[ **Inv\_Num(FK), Service\_Code(FK), Equip\_ Num (FK), Cust\_Num(FK)**, Team\_Num] **//Team\_Num as FJ=K? //Cut\_Num redundant?**

EMPLOYEETEAM[**Team\_Num(FK), Skill\_Num(FK)** , **Emp\_ Num (FK) ,**Position**]**

ProdInvSalesCust[P**rodID(FK), InvoiceID(FK), SalesAssID(FK), Cust\_Num(FK)]**

**//Cut\_Num redundant?**

**Single PK relations (10) & some composite relations**

Prod[**ProdID**, Prod\_Desc, Prod\_Class, Charge, QTY]

product[**Product\_ID** , Prod\_Desc, cost]

Product [ **Prod\_Num**, Prod\_Desc, Inventory\_Avaliable]

= Product [ **Prod\_Num**, Prod\_Desc, Inventory\_Avaliable, Cost, Prod\_Class, Charge, QTY ]

**\*Merging Product with composite relations that have Prod\_Num as PK or part of one**

product\_Report[**Prod\_Num(FK)** , P**roduct\_Class(FK)** , markup]

= Product [ **Prod\_Num**, **Prod\_Class(FK)**, Prod\_Desc, Inventory\_Avaliable, Cost, Charge, QTY, markup ]

Productinventory [**Prod\_Num(FK)**, **Supplier\_RegNum (FK),** Aisle\_No]

= Product [ **Prod\_Num**, **Prod\_Class(FK)**, **Supplier\_RegNum (FK)** Prod\_Desc, Inventory\_Avaliable, Cost, Charge, QTY, Markup**,** Aisle\_No ]

Product\_Class[**Product\_Class**, Classification]

Supplier [ **Supplier\_Reg Num,** Supplier\_Name]

Sales[**SalesAssID**, Sales\_Name]

INVOICE[**Inv\_Num, ,** Inv\_Date]

Inv[I**nv\_Num**, InvoiceDate]

**=** INVOICE[**Inv\_Num, ,** Inv\_Date]

SERVICE[**Service\_Code**, Service\_Desc, Hourly\_Charge, Work\_Duration]

EQUIPMENT[**Equip\_ID**,Equip\_Desc]

CUSTOMER[**Cust\_Num**, Cust\_Name, Cust\_ Address]

Cust[**Cust\_Num**, Cust\_Name, Cust\_Address]

**=** CUSTOMER[**Cust\_Num**, Cust\_Name, Cust\_ Address]

TEAM[**Team\_Num**, Team\_Desc ]

EMPLOYEE[ **Emp\_ Num** **,** Emp\_Name**,** Home\_p , Start\_Date, OHIP ]

SKILL[**Skill\_ Num** ,Skill\_Desc]

**FINAL ENTITY SET: 14 tables, 13 FKs**

INVOICE\_INDEX[ **Inv\_Num(FK), Service\_Code(FK), Equip\_ Num (FK), Cust\_Num(FK)**, **Team\_Num(FK)**]

EMPLOYEETEAM[**Team\_Num(FK), Skill\_Num(FK)** , **Emp\_ Num (FK) ,**Position**]**

ProdInvSales[**Prod\_Num(FK), Inv\_Num(FK), SalesAssID(FK), Cust\_Num]**

Product [ **Prod\_Num**, **Prod\_Class(FK)**, **Supplier\_RegNum (FK)** Prod\_Desc, Inventory\_Avaliable, Cost, Charge, QTY, Markup**,** Aisle\_No ]

Product\_Class[**Prod\_Class**, Classification]

Supplier [ **Supplier\_RegNum,** Supplier\_Name]

Sales[**SalesAssID**, Sales\_Name]

INVOICE[**Inv\_Num, ,** Inv\_Date]

SERVICE[**Service\_Code**, Service\_Desc, Hourly\_Charge, Work\_Duration]

EQUIPMENT[**Equip\_Num**,Equip\_Desc]

CUSTOMER[**Cust\_Num**, Cust\_Name, Cust\_ Address]

TEAM[**Team\_Num**, Team\_Desc ]

EMPLOYEE[ **Emp\_ Num** **,** Emp\_Name**,** Home\_p , Start\_Date, OHIP ]

SKILL[**Skill\_ Num** ,Skill\_Desc]