DBS 201

Assignment 2

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Part 1. Normalization

USERVIEW 1: SENEMAX COMPUTER ASSOCIATES INVOICE

ATTRIBUTES: Invoice#, ClientName, InvDate, ServOrder#, ServiceCode, ServDesc, ServiceTypeDesc, ServiceCharge, ServiceSubTotal, Product#, ProductName, ProductQty, UnitCost, ProductCharge, ProductSubTotal, HST, PrepEmpID, PrepEmpFName, PrepEmpLName

UNF:

INVOICE(<u>Invoice#</u>, ClientName, InvDate, {ServOrder#, ServiceCode, ServDesc, ServiceTypeDesc, ServiceCharge}, ServiceSubTotal, {Product#, ProductName, ProductQty, UnitCost, ProductCharge}, ProductSubTotal, HST, PrepEmpID, PrepEmpFName, PrepEmpLName)

1NF:

INVOICE(<u>Invoice#</u>, ClientName, InvDate, ServiceSubTotal, ProductSubTotal, HST, PrepEmpID, PrepEmpFName, PrepEmpLName)

INVOICED_SERVICE(<u>Invoice# (FK)</u>, <u>ServOrder# (FK)</u>, ServiceCode, ServDesc, ServiceTypeDesc, ServCharge)

INVOICED_PRODUCT(<u>Invoice# (FK)</u>, <u>Product# (FK)</u>, ProductName, ProductQty, UnitCost, ProductCharge)

2NF:

INVOICE(<u>Invoice#</u>, ClientName, InvDate, ServiceSubTotal, ProductSubTotal, HST, PrepEmpID, PrepEmpFName, PrepEmpLName)

INV_SERVICE(<u>ServOrder#</u>, ServiceCode, ServDesc, ServiceTypeDesc, ServCharge)

INVOICED_SERVICE(<u>Invoice# (FK)</u>, <u>ServOrder# (FK)</u>)

PRODUCT(<u>Product#</u>, ProductName)

INVOICED_PRODUCT(<u>Invoice# (FK)</u>, <u>Product# (FK)</u>, ProductQty, UnitCost, ProductCharge)

3NF:

INVOICE(<u>**Invoice#**</u>, ClientName, InvDate, ServiceSubTotal, ProductSubTotal, HST, PrepEmp#(FK))

EMPLOYEE(<u>**EmpID**</u>, EmpFName, EmpLName)

INV_SERVICE(<u>**ServOrder#**</u>, ServiceCode, ServDesc, ServiceTypeDesc, ServCharge)

INVOICED_SERVICE(<u>**Invoice# (FK)**</u>**,** <u>**ServOrder# (FK)**</u>)

PRODUCT(<u>**Product#**</u>, ProductName)

INVOICED_PRODUCT(<u>**Invoice# (FK)**</u>**,** <u>**Product# (FK)**</u>, ProductQty, UnitCost, ProductCharge)

USERVIEW 2: SENEMAX INVENTORY REPORT

ATTRIBUTES: Rep#, PrepFName, PrepLName, PrepDate, AppFName, AppLName, AppDate, Product#, ProductName, UnitCost, Sup#, SubName, ReorderPoint, ReorderQty, QtyOnHand

UNF:

INVENTORY_REP(<u>**Product#,**</u> {PrepFName, PrepLName, PrepDate}, {AppFName, AppLName, AppDate}, ProductName, UnitCost, Sup#, SubName, ReorderPoint, ReorderQty, QtyOnHand)

1NF:

INVENTORY_REP(<u>**Product#,**</u> PrepDate(FK), AppDate(FK), ProductName, UnitCost, Sup#, SubName, ReorderPoint, ReorderQty, QtyOnHand)

INVENTORY_PREP(<u>**Product# (FK),**</u> <u>**PrepDate (FK),**</u> PrepFName, PrepLName)

INVENTORY_APP(<u>**Product# (FK),**</u> <u>**AppDate (FK)**</u>, AppFName, AppLName)

2NF:

INVENTORY_REP(Product#, ProductName, UnitCost, Sup#, SubName, ReorderPoint, ReorderQty, QtyOnHand)

INVENTORY_PREP(PrepDate (FK), PrepFName, PrepLName)

INVENTORY_APP(AppDate (FK), AppFName, AppLName)

REP_PREP_APP(Product# (FK), PrepDate (FK), AppDate (FK))

3NF:

PRODUCT(Product#, ProductName)

INVENTORY_PREP(PrepDate (FK), PrepID (FK))

INVENTORY_APP(AppDate (FK), **AppID (FK))**

EMPLOYEE(EmpID, EmpFName, EmpLName)

SUPPLIER(Sup#, SubName)

REP_PREP_APP(Product# (FK), PrepDate (FK), AppDate (FK), UnitCost, Sup#(FK), ReorderPoint, ReorderQty, QtyOnHand)

USERVIEW 3: SENEMAX SERVICE CHARGES

ATTRIBUTES: ServCode, ServDesc, ServeType, Charge, Duration

UNF, 1NF, 2NF, 3NF:

SERVICE_CHARGE_LIST(ServCode, ServDesc, ServeType, Charge, Duration)

USERVIEW 4: SENEMAX EMPLOYEE LIST

ATTRIBUTES: EmpID, EmpFName, EmpLName, HPhone, Cphone, SIN#, Day, Payrate

UNF, 1NF, 2NF:

EMPLOYEE_REP(EmpID, EmpFName, EmpLName, HPhone, Cphone, SIN#, Day, Payrate)

3NF:

EMPLOYEE_REP(EmpID, HPhone, Cphone, SIN#, Day, Payrate)

EMPLOYEE(EmpID, EmpFName, EmpLName)

USERVIEW 5: SENEMAX TIME RECORDS

ATTRIBUTES: RecordDate, SVSession, SV#, SVFName, SVLName, ExtNo, SVDuration, CDJrFName, CDJrLName, CDJr#, CDJrDuration, HDJrFName, HDJrLName, HDJr#, HDJrDuration, SDJrFName, SDJrLName, SDJr#, SDJrDuration, HDSnFName, HDSnLName, HDSn#, HDSnDuration, SDSnFName, SDSnLName, SDSn#, SDSnDuration, App#, AppFName, AppLName

UNF:

RECORDS(RecordDate, {SVSession, SV#, SVFName, SVLName, ExtNo, SVDuration}, {CDJrFName, CDJrLName, CDJr#, CDJrDuration}, {HDJrFName, HDJrLName, HDJr#, HDJrDuration}, {SDJrFName, SDJrLName, SDJr#, SDJrDuration}, {HDSnFName, HDSnLName, HDSn#, HDSnDuration}, {SDSnFName, SDSnLName, SDSn#, SDSnDuration}, App#, AppFName, AppLName)

1NF:

RECORDS(<u>RecordDate,</u> SV# (FK), CDJr# (FK), HDJr# (FK), SDJr# (FK), HDSn# (FK), SDSn# (FK), App#, AppFName, AppLName)

REC_SV(<u>**RecordDate (FK), SV# (FK)**</u>, SVSession, SVFName, SVLName, ExtNo,SVDuration)

REC_CDJR(<u>**RecordDate (FK), CDJr# (FK)**</u>, CDJrFName, CDJrLName, CDJrDuration)

REC_HDJR(<u>**RecordDate (FK), HDJr# (FK)**</u>, HDJrFName, HDJrLName, HDJrDuration)

REC_SDJR(<u>**RecordDate (FK), SDJr# (FK)**</u>, SDJrFName, SDJrLName, SDJrDuration)

REC_HDSN(<u>**RecordDate (FK), HDSn# (FK)**</u>, HDSnFName, HDSnLName, HDSnDuration)

REC_SDSN(<u>**RecordDate (FK), SDSn# (FK)**</u>, SDSnFName, SDSnLName, SDSnDuration)

2NF:

RECORDS(<u>RecordDate,</u> SV# (FK), CDJr# (FK), HDJr# (FK), SDJr# (FK), HDSn# (FK), SDSn# (FK), App#, AppFName, AppLName)

SUPERVISOR(<u>**SV#,**</u> SVSession, SVFName, SVLName, ExtNo, SVDuration)

CASHDESKJR(<u>**CDJr#,**</u> CDJrFName, CDJrLName, CDJrDuration)

HARDDESKJR(<u>**HDJr#**</u>, HDJrFName, HDJrLName, HDJrDuration)

SOFTDESKJR(<u>**SDJr#,**</u> SDJrFName, SDJrLName, SDJrDuration)

HARDDESKSN(<u>**HDSn#,**</u> HDSnFName, HDSnLName, HDSnDuration)

SOFTDESKSN(<u>**SDSn#,**</u> SDSnFName, SDSnLName, SDSnDuration)

3NF:

EMPLOYEE(<u>**EmpID**</u>, EmpFName, EmpLName)

SUPERVISOR(<u>**SV#,**</u> SVSession, ExtNo)

POSITION(<u>**Pos#**</u>, EmpID, PosDuration)

RECORDS(<u>**RecordDate (FK)**</u>, SV# (FK), CDJr# (FK), HDJr# (FK), SDJr# (FK), HDSn# (FK), SDSn# (FK), App# (FK))

USERVIEW 6: SENEMAX COMPUTER ASSOCIATES WORK ORDERS

ATTRIBUTES: PrepFName, PrepLName, OrderDate, Order#, CustFName, CustLName, Cust#, Inv#, Address, Email, HPhone, CPhone, EQMaker, EQModel, EQSerial#, ServDetail, ServDate, ServStat, EstCompDate, InspectDate, PickNoticeDate, InspectFName, InspectLName

UNF:

ORDERS(<u>Order#</u>, PrepFName, PrepLName, OrderDate, Inv#, {CustFName, CustLName, Cust#, Address, Email, HPhone, CPhone}, {EQMaker, EQModel, EQSerial#}, {ServDetail, ServDate, ServStat}, EstCompDate, InspectDate, PickNoticeDate, InspectFName, InspectLName)

1NF:

ORDERS(<u>Order#</u>, Cust#, PrepFName, PrepLName, OrderDate, Inv#, EstCompDate, InspectDate, PickNoticeDate, InspectFName, InspectLName)

CUSTOMER(<u>Cust# (FK)</u>, CustFName, CustLName, Address, Email, HPhone, CPhone)

ORDER_EQUIPMENT(<u>Order# (FK)</u>, <u>EQSerial# (FK)</u>, EQMaker, EQModel,)

ORDER_SERVICE(<u>Order# (FK)</u>, <u>ServDate (FK)</u>, ServDetail, ServStat)

2NF:

ORDERS(<u>Order#</u>, Cust#, PrepFName, PrepLName, OrderDate, Inv#, EstCompDate, InspectDate, PickNoticeDate, InspectFName, InspectLName)

CUSTOMER(<u>Cust# (FK)</u>, CustFName, CustLName, Address, Email, HPhone, CPhone)

EQUIPMENT(<u>EQSerial# (FK)</u>, EQMaker, EQModel,)

SERVICE(<u>ServDate (FK)</u>, ServDetail, ServStat)

ORDER_EQUIPMENT_SERVICE(<u>Order# (FK)</u>, <u>EQSerial# (FK)</u>, <u>ServDate (FK)</u>)

3NF:

ORDERS(<u>**Order#**</u>, Cust#, PrepID (FK), OrderDate, Inv# (FK))

ORD_INVOICE(<u>**Inv# (FK)**</u>, EstCompDate, InspectDate, PickNoticeDate, InspectID (FK))

EMPLOYEE(<u>**EmpID (FK)**</u>, EmpFName, EmpLName)

CUSTOMER(<u>**Cust# (FK)**</u>, CustFName, CustLName, Address, Email, HPhone, CPhone)

EQUIPMENT(<u>**EQSerial# (FK)**</u>, EQMaker, EQModel,)

SERVICE(<u>**ServDate (FK)**</u>, ServDetail, ServStat)

ORDER_EQUIPMENT_SERVICE(<u>**Order# (FK)**</u>, <u>**EQSerial# (FK)**</u>, <u>**ServDate (FK)**</u>)

USERVIEW 7: SENEMAX COMPUTER ASSOCIATES RECEIPT

ATTRIBUTES: ReceiptDate, Inv#, Receipt#, CustFName, CustLName, Cust#, Address, Email, HPhone, CPhone, PayAmount, PayMethod, Acc#, ExpDate, ReceiveFName, ReceiveLName, ReceiveID

UNF:
RECEIPT(<u>**Receipt#**</u>, ReceiptDate, Inv#, {Cust#, CustFName, CustLName, Address, Email, HPhone, CPhone}, PayAmount, PayMethod, Acc#, AccExpDate, ReceiveFName, ReceiveLName, ReceiveID)

1NF:
RECEIPT(<u>**Receipt#**</u>, ReceiptDate, Cust#, Inv#, ReceiveFName, ReceiveLName, ReceiveID)

RECEIPT_CUSTOMER(<u>**Receipt# (FK)**</u>, <u>**Cust# (FK)**</u>, CustFName, CustLName, Address, Email, HPhone, CPhone)

RECEIPT_INVOICE(<u>**Receipt# (FK)**</u>, <u>**Inv# (FK)**</u>, PayAmount, PayMethod, Acc#, AccExpDate)

2NF:

RECEIPT(**Receipt#**, ReceiptDate, ReceiveFName, ReceiveLName, ReceiveID)

CUSTOMER(**Cust# (FK)**, CustFName, CustLName, Address, Email, HPhone, CPhone)

RECEIPT_CUSTOMER_INVOICE(**Receipt# (FK)**, **Cust# (FK)**, **Inv# (FK)**, PayAmount, PayMethod, Acc#, AccExpDate)

3NF:

RECEIPT(**Receipt#**, ReceiptDate)

EMPLOYEE(**EmpID (FK)**, EmpFName, EmpLName)

CUSTOMER(**Cust# (FK)**, CustFName, CustLName, Address, Email, HPhone, CPhone)

RECEIPT_CUSTOMER_INVOICE(**Receipt# (FK)**, **Cust# (FK)**, **Inv# (FK)**, PayAmount, PayMethod, Acc#, AccExpDate, ReceiveID (FK))

Part 2. Merge

CUSTOMER(**Cust# (FK)**, CustFName, CustLName, Address, Email, HPhone, CPhone)

EMPLOYEE(**EmpID**, EmpFName, EmpLName)

EMPLOYEE_REP(**EmpID**, HPhone, Cphone, SIN#, Day, Payrate)

EQUIPMENT(**EQSerial# (FK)**, EQMaker, EQModel,)

INVENTORY_PREP(**PrepDate (FK), PrepID (FK)**)

INVENTORY_APP(**AppDate (FK)**, **AppID (FK)**)

INVOICE(**Invoice#**, ClientName, InvDate, ServiceSubTotal, ProductSubTotal, HST, PrepEmp#(FK))

INVOICED_PRODUCT(**Invoice# (FK), Product# (FK)**, ProductQty, UnitCost, ProductCharge)

INVOICED_SERVICE(**Invoice# (FK), ServOrder# (FK)**)

INV_SERVICE(**ServOrder#**, ServiceCode, ServDesc, ServiceTypeDesc, ServCharge)

ORDERS(**Order#**, Cust#, PrepID(FK), OrderDate, Inv# (FK))

ORDER_EQUIPMENT_SERVICE(**Order# (FK)**, **EQSerial# (FK)**, **ServDate (FK)**)

ORD_INVOICE(**Inv# (FK)**, EstCompDate, InspectDate, PickNoticeDate, InspectID (FK))

POSITION(**Pos#**, EmpID, PosDuration)

PRODUCT(**Product#**, ProductName)

RECEIPT(**Receipt#**, ReceiptDate)

RECEIPT_CUSTOMER_INVOICE(**Receipt# (FK)**, **Cust# (FK)**, **Inv# (FK)**, PayAmount, PayMethod, Acc#, AccExpDate, ReceiveID (FK))

RECORDS(**RecordDate (FK)**, SV# (FK), CDJr# (FK), HDJr# (FK), SDJr# (FK), HDSn# (FK), SDSn# (FK), App# (FK))

REP_PREP_APP(**Product# (FK), PrepDate (FK), AppDate (FK),** UnitCost, Sup#(FK), ReorderPoint, ReorderQty, QtyOnHand)

SERVICE(**ServDate (FK)**, ServDetail, ServStat)

SERVICE_CHARGE_LIST(**ServCode**, ServDesc, ServeType, Charge, Duration)

SUPERVISOR(**SV#,** SVSession, ExtNo)

SUPPLIER(**Sup#**, SubName)

Student Assignment Submission Form

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

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1)   Name:        Insu Yun              Student ID:017747148
     -------------------------------------------------------------------
     Work Done: Normalization, Merging
     -------------------------------------------------------------------

2)   Name:        Andrew Solesa         Student ID:041921149
     -------------------------------------------------------------------
     Work Done: Normalization
     -------------------------------------------------------------------

3)   Name:        Yiwei Yang            Student ID:046348140
     -------------------------------------------------------------------
     Work Done: Normalization
     -------------------------------------------------------------------
```