**DES715 ASSIGNMENT 2**

**Group No:**

**Team Members:**

|  |  |  |
| --- | --- | --- |
| Sr.No. | Name | Enrollment No. |
| 1. |  |  |
| 2. |  |  |
| 3. |  |  |

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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|  |  |  |  |
| --- | --- | --- | --- |
| **Sr.No.** | **Name** | **Enrollment No.** | **Signature** |
| **1.** |  |  |  |
| **2.** |  |  |  |
| **3.** |  |  |  |

3NF SOLUTION : User View 1

Using Main Form/Sub Form Method

**UNF:**

REPORT[ InvoiceNo (PK), InvoiceDate, WorkTeamId, Customer, CustomerAddress, ( EquipmentId, EquipmentDesc), ( ServiceCode, ServiceDesc, HourlyCharge, Duration ) ]

**1NF:**

INVOICE[ InvoiceNo (PK), InvoiceDate, TeamId, CustomerId, CustomerAddress]

EQUIPMENT[ InvoiceNo (PK), EquipmentId (PK), EquipmentDescription ]

SERVICE[ InvoiceNo (PK), ServiceCode (PK), ServiceDesc, HourlyCharge, Duration]

**2NF:**

INVOICE[ InvoiceNo (PK), InvoiceDate, TeamId (FK) , CustomerId, CustomerAddress]

EQUIPMENT[ EquipmentId (PK), EquipmentDescription ]

SERVICE[ ServiceCode (PK), ServiceDescription, HourlyCharge ]

INVOICE\_EQUIPMENT[ InvoiceNo (Pk), EquipmentId (PK,FK2)]

INVOICE\_SERVICE[ InvoiceNo (PK), ServiceCode (PK), WorkDuration]

**3NF:**

INVOICE[ InvoiceNo (PK), InvoiceDate, TeamId, CustomerId (FK2)]

EQUIPMENT[ EquipmentId (PK), EquipmentDescription ]

SERVICE[ ServiceCode (PK), ServiceDescription, HourlyCharge ]

INVOICE\_EQUIPMENT[ InvoiceNo (PK,FK1), EquipmentId (PK,FK2)]

INVOICE\_SERVICE[ InvoiceNo (PK,FK1), ServiceCode (PK,FK2), WorkDuration]

CUSTOMER[ CustomerId (PK), CustomerLname, CustomerFname, CustomerAddress]

3NF SOLUTION : User View 2

Using Main Form/Sub Form Method

**NOTE : Keeping Team Separate before and merging in the end**

**UNF:**

TEAM\_REPORT[ EmployeeId (PK), EmpName, EmpPosition, Start\_date, OHIP, EmpPhone, ( SkillCode, SkillDescription) ]

**1NF:**

EMPLOYEE[ EmployeeId (PK), EmpFname, EmpLname EmpPosition, Start\_date, OHIP, EmpPhone ]

EMPLOYEE\_SKILL[ EmployeeId (PK), SkillCode (PK) SkillDescription ]

**2NF:**

EMPLOYEE[ EmployeeId (PK), EmpFname, EmpLname EmpPosition, Start\_date, OHIP, EmpPhone ]

EMPLOYEE\_SKILL[ EmployeeId (PK), SkillCode(PK)]

SKILL [ SkillCode (PK), SkillDescription]

**3NF:**

TEAM[ TeamId (PK), TeamDescription]

EMPLOYEE[ EmployeeId (PK), EmpFname, EmpLname EmpPosition, Start\_date, OHIP, EmpPhone, TeamId(FK) ]

EMPLOYEE\_SKILL[ EmployeeId (PK,FK1), SkillCode(PK,FK2)]

SKILL [ SkillCode (PK), SkillDescription]

3NF SOLUTION : User View 3

Using Dependency Diagram Method

**UNF:**

SALES[ InvoiceId (PK), ProductId (PK), ProdClass, ProdDescription, Charge, Qty, InvoiceDate, SalesAssistantId, SalesPersonName, CustNo ]

**Dependency Diagram**

1NF 2NF 3NF

InvoiceId

ProductId

ProductClass

ProductDesc

Qty

InvoiceDate

SalesAssistantId

SalesFname

SalesLname

CustNo

**1NF:**

SALES[ InvoiceNo (PK), ProductId (PK), ProductClass, ProductDescription, InvoiceDate, SalesAssistantId, SalesFname, SalesLname, CustomerId ]

**2NF:**

SALES[ InvoiceNo (PK), InvoiceDate, SalesAssistantId, SalesFname, SalesLname, CustomerId ]

PRODUCT[ ProductId (PK), ProductClass, ProductDescription]

INVOICE\_PRODUCT[ InvoiceNo (PK), ProductID (PK) , Qty ]

**3NF:**

SALES\_ASSISTANT[ SalesAssistantId (PK), SalesLname, SalesFname ]

INVOICE[ InvoiceNo (PK), SalesAssistantId (FK1), InvoiceDate, CustomerId ]

PRODUCT[ ProductId (PK), ProductClass, ProductDescription]

INVOICE\_PRODUCT[ InvoiceNo (PK,FK1), ProductID (PK,FK2) , Qty ]

3NF SOLUTION : User View 4

Using Dependency Diagram Method

**UNF:**

PRODUCT\_DETAILS[ ProductId (PK), ProdDescription, ProdCost, ProdMarkup, ProductClass, ProdClassification]

**Dependency Diagram**

1NF 2NF 3NF

ProductId

ProductDesc

ProductCost

ProductMarkup

ProductClass

ProdClassification

**1NF:**

PRODUCT[ ProductId (PK), ProdDescription, ProdCost, ProdMarkup, ProductClass, ProdClassification]

**2NF:**

PRODUCT[ ProductId (PK), ProdDescription, ProdCost, ProdMarkup, ProductClass, ProdClassification]

**3NF:**

PRODUCT\_CLASS[ ProductClass (PK), ProdClassification, ProdMarkup]

PRODUCT[ ProductId (PK), ProdDescription, ProdCost, ProductClass (FK1)]

3NF SOLUTION : User View 5

Using Dependency Diagram Method

**UNF:**

PRODUCT\_SUPPLIER[ ProductId (PK), ProductDescription,

Inventory, AisleNo, Supplier ]

**Dependency Diagram**

1NF 2NF 3NF

ProductId

ProductDescription

Inventory

AisleNo

SupplierId

SupplierName

**1NF:**

PRODUCT\_SUPPLIER[ ProductId (PK), ProductDescription,

Inventory, AisleNo, SupplierId , SupplierName ]

**2NF:**

PRODUCT\_SUPPLIER[ ProductId (PK), ProductDescription,

Inventory, AisleNo, SupplierId , SupplierName ]

**3NF:**

SUPPLIER[ SupplierId (PK), SupplierName ]

PRODUCT[ ProductId (PK), ProductDescription,Inventory, AisleNo, SupplierId (FK1)]

FINAL ENTITY SET

INVOICE[ InvoiceNo (PK), InvoiceDate, TeamId (FK1), CustomerId (FK2), InvoiceDate, SalesAssistantId (PK)]

CUSTOMER[ CustomerId (PK), CustomerLname, CustomerFname, CustomerAddress, TeamID(FK1)]

EQUIPMENT[ EquipmentId (PK), EquipmentDescription ]

SERVICE[ ServiceCode (PK), ServiceDescription, HourlyCharge ]

INVOICE\_EQUIPMENT[ InvoiceNo (PK,FK1), EquipmentId (PK,FK2)]

INVOICE\_SERVICE[ InvoiceNo (PK,FK1), ServiceCode (PK,FK2), WorkDuration]

TEAM[ TeamId (PK), TeamDescription]

EMPLOYEE[ EmployeeId (PK), EmpFname, EmpLname EmpPosition, Start\_date, OHIP, EmpPhone ]

EMPLOYEE\_SKILL[ EmployeeId (PK,FK1), SkillCode(PK,FK2)]

SKILL [ SkillCode (PK), SkillDescription]

SALES\_ASSISTANT[ SalesAssistantId (FK), SalesLname, SalesFname ]

INVOICE\_PRODUCT[ InvoiceNo (PK,FK1), ProductID (PK,FK2) , Qty ]

PRODUCT\_CLASS[ProductClass(PK),ProdClassification, ProductMarkup]

PRODUCT[ ProductId (PK), ProductClass (FK1), ProductDescription, ProductCostPrice, Inventory, AisleNo, SupplierId(FK)]

SUPPLIER[ SupplierId (PK), SupplierName ]

FINAL ERD

