**Exercise 1**

**UNF**

Pet\_Id

Pet\_name

Pet\_type

Pet\_age

Owner

Visitdate

Procedure\_number

Procedure\_description

**1NF**

Pet

Pet\_id (pk)

Pet\_name

Pet\_type

Pet\_age

Owner

VisitDetails

Pet\_id (fk)

Procedure\_number (fk)

Procedure\_name

Visitdate

**2NF**

Pet

Pet\_id (pk)

Pet\_name

Pet\_type

Pet\_age

Owner

VisitDetails

Pet\_id (fk)

Procedure\_number (fk)

Visitdate

Procedure

Procedure\_number (pk)

Procedure\_name

**3NF**

Pet

Pet\_id (pk)

Pet\_name

Pet\_type

Pet\_age

Owner\_Number(fk)

VisitDetails

Pet\_id (fk)

Procedure\_number (fk)

Visitdate

Procedure

Procedure\_number (pk)

Procedure\_name

Owner

Owner\_Number(pk)

Owner\_Name

**Exercise 2**

**UNF**

InvoiceNumber

InvoiceDate

CustName

CustAddr

AmountOwing

PetName

Procedure

Amount

**1NF**

Invoice

InvoiceNumber(pk)

InvoiceDate

CustName

CustAddr

AmountOwing

InvoicePet \*

InvoiceNumber(fk)

PetId(fk)

PetName

Procedure

Amount

\*Need another key in this table for unique(ness) therefore added PetId

**2NF**

Invoice

InvoiceNumber(pk)

InvoiceDate

CustName

CustAddr

AmountOwing

InvoicePet

InvoiceNumber(fk)

PetId(fk)

Procedure

Amount

Pet

PetId(pk)

PetName

**3NF**

Invoice

InvoiceNumber(pk)

CustomerId(fk)

InvoiceDate

AmountOwing

InvoicePet

InvoiceNumber(fk)

PetId(fk)

ProcedureNumber(fk)

Pet

PetId(pk)

PetName

Customer

CustomerId(pk)

CustName

CustAddr

Procedure

ProcedureNumber(pk)

ProcedureName

Amount

**Exercise 3 – Order Form**

**UNF**

OrderNumber

OrderDate

CustName

CustAddr

ShipAddr

PhoneOne

PhoneTwo

CustDiscount

ProductCode

ProductDescription

Quantity

Price

Total

**1NF**

Order

OrderNumber(pk)

OrderDate

CustName

CustAddr

ShipAddr

PhoneOne

PhoneTwo

CustDiscount

Total

OrderItem

OrderNumber(fk)

ProductCode(fk)

ProductDescription

Quantity

Price

**2NF**

Order

OrderNumber(pk)

OrderDate

CustName

CustAddr

ShipAddr

PhoneOne

PhoneTwo

CustDiscount

Total

OrderItem

OrderNumber(fk)

ProductCode(fk)

Quantity

Product

ProductCode(pk)

ProductDescription

Price

**3NF**

Order

OrderNumber(pk)

CustNumber(fk)

OrderDate

Total

OrderItem

OrderNumber(fk)

ProductCode(fk)

Quantity

Product

ProductCode(pk)

ProductDescription

Price

Customer

CustomerNumber(pk)

CustomerName

CustomerAddr

ShipAddr

PhoneOne

PhoneTwo

CustDiscount

**Exercise 3 – Product Inventory**

**UNF**

ProductCode

ProductDescription

QOH (Quantity on Hand)

BO (Back Order)

Price

**1NF**

Product

ProductCode(pk)

ProductDescription

QOH

BO

Price

**2NF**

Product

ProductCode(pk)

ProductDescription

QOH

BO

Price

**3NF**

Product

ProductCode(pk)

ProductDescription

QOH

BO

Price

**Exercise 3 – Product Explosion Report**

**UNF**

ProductCode

Description

PartNumber

PartDescription

QuantityRequired

**1NF**

Product

ProductCode(pk)

Description

ProductPart

ProductCode(fk)

PartNumber(fk)

PartDescription

QuantityRequired

**2NF**

Product

ProductCode(pk)

Description

ProductPart

ProductCode(fk)

PartNumber(fk)

QuantityRequired

Part

PartNumber(pk)

PartDescription

**3NF**

Product

ProductCode(pk)

Description

ProductPart

ProductCode(fk)

PartNumber(fk)

QuantityRequired

Part

PartNumber(pk)

PartDescription