1.

Assumption: We create a record for each partNumber so an order will be separated to multiple records. Employees can assist any and all customers. Thereis no specific relationship between employeesand customers. TheCageCoderefers to thestoragelocation (e.g., shelves or bins). Part Number uniquely identifies a part.TheCustomer Number uniquely identifies a customer.

Original Table:
part
**customerNumber** PK
customerName
customerType
**date** PK
**time** PK
employee
**partNumber** PK
partName
partType
cageCode
quantity
unitPrice

This table is in 1NF because it has composite primary key: customerNumber, date, time, partNumber and no repeating groups.

It's not in 2NF because it has a composite PK and there are attributes dependent upon only part of the PK:

customerName, customerType only depend on CustomerNumber.

partName, partType, unitPrice only depend on partNumber.

Moving these fields out of the table results in the following 2NF version:

part_order
***customerNumber*** PK,FK
**date** PK
**time** PK
employee
***partNumber*** PK,FK
quantity

customer
**customerNumber** PK
customerName

customerType

part_detail
**partNumber** PK
partName
partType
cageCode
unitPrice

There is no transitive dependency in these tables, so there are in 3NF.

2. Assumption: StaffNo and patNo is unique for each staff and patient. A patient is given an appointment at a specific timeand dateat aparticular branch with one therapist.

Original Table:

service
staffNo
therapistName
**patNo** PK
patName
**appDate** PK
**appTime** PK
branchNo

It's already in 1NF since it has PK: staffNo, patNo, appDate, appTime, branchNo and there is no repeating groups.

It's not in 2NF because there are attributes dependent upon only part of the PK:

therapistName only depend on staffNo

patName only depend on patNo

Moving these fields out of the table results in the following 2NF version:

service
*staffNo* FK
***patNo*** PK,FK
**appDate** PK
**appTime** PK
branchNo

staff
**staffNo** PK
therapistName

patient
**patNo** PK
patName

There is no transitive dependency, so it's already in 3NF.

3. Assumption: TheEmployeeNumber (eNo) is uniquefor eachmember of staff.

Each contract only applies to one event.

There may be different contracts for an event.

Original Table:

contract_detail
**eNo** PK
**contractNo** PK
hour
eName
eventNo
eventLoc

It's already in 1NF since it has PK: eNo, cotractNo and there is no repeating groups.

It's not in 2NF because there are attributes dependent upon only part of the PK:

eName only depends on eNo.

eventNo and eventLoc only depend on contractNo

Moving these fields out of the table results in the following 2NF version:

contract_detail
***eNo*** PK,FK
hour
***contractNo*** PK,FK

employee
**eNo** PK
eName

contract
**contractNo** PK
eventNo
eventLoc

It's not in 3NF because there is transitive dependency: eventLoc depend on eventNo, which is not primary key.

Moving this field out results in the following 3NF version:

contract_detail
***eNo*** PK,FK
hour PK
***contractNo*** PK,FK

employee
**eNo** PK
eName

contract
**contractNo** PK
*eventNo* FK

event
**eventNo** PK
eventLoc