Happy Supplies Parts Warehouse

order_form

customerName	customerNo	customerType	date	time	employee	partNo	name	type	cageCode	quantityOrdered	unitPrice
Jeff Peterson	HG54587	Consumer	7/1/2024	10:30 am	D. Harrison	10654	Float Control	Plumbing	G413	4	12
Jeff Peterson	HG54587	Consumer	7/1/2024	10:30 am	D. Harrison	10456	Modulator	Electrical	H433	3	7
Jeff Peterson	HG54587	Consumer	7/1/2024	10:30 am	D. Harrison	10776	Hose Assembly	Plumbing	G413	7	9
Jeff Peterson	HG54587	Consumer	7/1/2024	10:30 am	D. Harrison	10657	Float Assembly	Plumbing	G413	5	10

Initial Table

order_form

customerName	**customerNo**	customerType	**date**	**time**	employee	**partNo**	name	type	cageCode	quantityOrdered	unitPrice
Jeff Peterson	HG54587	Consumer	7/1/2024	10:30 am	D. Harrison	10654	Float Control	Plumbing	G413	4	12
Jeff Peterson	HG54587	Consumer	7/1/2024	10:30 am	D. Harrison	10456	Modulator	Electrical	H433	3	7
Jeff Peterson	HG54587	Consumer	7/1/2024	10:30 am	D. Harrison	10776	Hose Assembly	Plumbing	G413	7	9
Jeff Peterson	HG54587	Consumer	7/1/2024	10:30 am	D. Harrison	10657	Float Assembly	Plumbing	G413	5	10

1NF
- No changes were were done as the table was already in 1NF; each column is unique, each column has 1 value
- Primary Keys were identfied: customer No, date, time, partNo

Assumptions
- A customer can purchase a certain part multiple times
- A customer can re-purchase a certain part within the same day of initial purchase

customer

customerNo	customerName	customerType
HG54587	Jeff Peterson	Consumer

order

customerNo	**partNo**	**date**	**time**	employee	quantityOrdered
HG54587	10654	7/1/2024	10:30 am	D. Harrison	4
HG54587	10456	7/1/2024	10:30 am	D. Harrison	3
HG54587	10776	7/1/2024	10:30 am	D. Harrison	7
HG54587	10657	7/1/2024	10:30 am	D. Harrison	5

part

partNo	name	type	unitPrice
10654	Float Control	Plumbing	12
10456	Modulator	Electrical	7
10776	Hose Assembly	Plumbing	9
10657	Float Assembly	Plumbing	10

2NF
- created a table for customer, with customerNo (PK), customerName and customerType. customerName and customerType are only dependent on customerNo
- created a table for order with customerno, partNo, date, and time as the PKs. employee and quantityOrdered are dependent on the unique situation in which the 4 PKs all work together to achieve
- created a table for part with partNo, name, type, cageCode, employee. partNo is the table's PK and name, type, cageCode, and unitPrice are only dependent on partNo

shelf

cageCode	partNo
G413	10654
H433	10456
G413	10776
G413	10657

customer

customerNo	customerName	customerType
HG54587	Jeff Peterson	Consumer

order

customerNo	**partNo**	**date**	**time**	employee	quantityOrdered
HG54587	10654	7/1/2024	10:30 am	D. Harrison	4
HG54587	10456	7/1/2024	10:30 am	D. Harrison	3
HG54587	10776	7/1/2024	10:30 am	D. Harrison	7
HG54587	10657	7/1/2024	10:30 am	D. Harrison	5

part

partNo	name	type	unitPrice
10654	Float Control	Plumbing	12
10456	Modulator	Electrical	7
10776	Hose Assembly	Plumbing	9
10657	Float Assembly	Plumbing	10

3NF
- no transitive dependencies were identified thus, it is already in 3NF
- Foreign keys are marked

shelf

cageCode	partNo
G413	10654
H433	10456
G413	10776
G413	10657

Panacea Mental Health Corporation

patient_tracker

staffNo	therapistName	patNo	patName	appointment date	time	branchNo
S1011	Fred Smith	P100	Lily White	9/12/2022	10:00	M15
S1011	Fred Smith	P105	Jill Baker	9/12/2022	12:00	M15
S1024	Heidi Pierce	P108	Andy McKee	9/12/2022	10:00	Q10
S1024	Heidi Pierce	P108	Andy McKee	9/14/2022	14:00	Q10
S1032	Richard Levin	P105	Jill Baker	9/14/2022	16:30	M15
S1032	Richard Levin	P110	Jimmy Winter	9/15/2022	18:00	B13

Initial Table

patient_tracker

staffNo	therapistName	**patNo**	patName	**date**	time	branchNo
S1011	Fred Smith	P100	Lily White	9/12/2022	10:00	M15
S1011	Fred Smith	P105	Jill Baker	9/12/2022	12:00	M15
S1024	Heidi Pierce	P108	Andy McKee	9/12/2022	10:00	Q10
S1024	Heidi Pierce	P108	Andy McKee	9/14/2022	14:00	Q10
S1032	Richard Levin	P105	Jill Baker	9/14/2022	16:30	M15
S1032	Richard Levin	P110	Jimmy Winter	9/15/2022	18:00	B13

1NF
- table was initially not in 1NF as there was a column holding 2 values
- created separate columns for appointment date and appointment time
- Identified the primary keys: staffNo, patNo, date

Assumptions
- a patient can visit a therapist multiple times, but may not visit a certain therapist multiple times in one day

patient

patNo	patName
P100	Lily White
P105	Jill Baker
P108	Andy McKee
P110	Jimmy Winter

staff

staffNo	therapistName
S1011	Fred Smith
S1024	Heidi Pierce
S1032	Richard Levin

appointment

staffNo	**patNo**	**date**	time	branchNo
S1011	Fred Smith	9/12/2022	10:00	M15
S1011	Fred Smith	9/12/2022	12:00	M15
S1024	Heidi Pierce	9/12/2022	10:00	Q10
S1024	Heidi Pierce	9/14/2022	14:00	Q10
S1032	Richard Levin	9/14/2022	16:30	M15
S1032	Richard Levin	9/15/2022	18:00	B13

2NF
- created multiple tables to ensure that all attributes are fully dependent on a table's PK
- created a table for patient as patName is only dependent on patNo
- created a table for staff as therapistName is only dependent on staffNo
- created a table for appointment with staffNo, patNo, and date. time and branchNo are dependent on the unique situation that the 3 PKs create

patient

patNo	patName
P100	Lily White
P105	Jill Baker
P108	Andy McKee
P110	Jimmy Winter

staff

staffNo	therapistName
S1011	Fred Smith
S1024	Heidi Pierce
S1032	Richard Levin

appointment

staffNo	**patNo**	**date**	time	branchNo
S1011	Fred Smith	9/12/2022	10:00	M15
S1011	Fred Smith	9/12/2022	12:00	M15
S1024	Heidi Pierce	9/12/2022	10:00	Q10
S1024	Heidi Pierce	9/14/2022	14:00	Q10
S1032	Richard Levin	9/14/2022	16:30	M15
S1032	Richard Levin	9/15/2022	18:00	B13

3NF
- no changes were made as the tables were already in 3NF; no transitive dependencies occurred.
- foreign keys are marked

Maid Better

employee_tracker

eNo	contractNo	hours	eName	eventNo	eventLoc
1135	C1024	16	Smith J	H25	Queens
1057	C1024	24	Hocine D	H25	Queens
1068	C1025	28	White T	H4	Yonkers
1135	C1025	15	Smith J	H4	Yonkers
1135	C1026	10	Smith J	H25	Queens

Initial Table

employee_tracker

eNo	contractNo	hours	eName	eventNo	eventLoc
1135	C1024	16	Smith J	H25	Queens
1057	C1024	24	Hocine D	H25	Queens
1068	C1025	28	White T	H4	Yonkers
1135	C1025	15	Smith J	H4	Yonkers
1135	C1026	10	Smith J	H25	Queens

1NF:
- table was already in 1NF: all columns were unique, each column held only 1 value
- identified Primary Keys: eNo and contractNo

employee

eNo	eName
1135	Smith J
1057	Hocine D
1068	White T

event

eventNo	eventLoc
H25	Queens
H4	Yonkers

assignment

contractNo	eNo	hours	eventNo
C1024	1135	16	H25
C1024	1057	24	H25
C1025	1068	28	H4
C1025	1135	15	H4
C1026	1135	10	H25

2NF:
- ensured non-primary keys are reliant on primary keys
- created a table for employee because eName is only dependent on eNo
- created a table for event because eventLoc is only reliant on eventNo
- created a table for assignment with contractNo and eNo as the PKs. hours is reliant on these two factors
- created a table for assignment with contract

employee

eNo	eName
1135	Smith J
1057	Hocine D
1068	White T

event

eventNo	eventLoc
H25	Queens
H4	Yonkers

assignment

contractNo	eNo	hours	eventNo
C1024	1135	16	H25
C1024	1057	24	H25
C1025	1068	28	H4
C1025	1135	15	H4
C1026	1135	10	H25

hours_worked

eNo	hours
1135	41
1057	24
1068	28

3NF:
- created a separate table with with employee number and hours. this removes hours' transitive dependency on contract assignment, and allows for a collection of total hours worked within a certain period.

Assumption:
- temp workers may be hired multiple times and work for multiple events
- rates may be constant throughout different events