

Supply company

Assumptions

- A customer may place many orders.
- An order may contain many parts.
 - There is no order number.
- Parts are stored in cages identified by cage codes.
- An employee can assist multiple customers; there's no fixed employee-customer relationship.

UNF, raw data

customerName	customerNo	customerType	date	time	employee	partNo	name	type	cageCode	quantityOrdered	unitPrice
Jeff Peterson	HG54587	consumer	7/1/2024	10:30AM	D. Harrison	10654	float control	plumbing	G413	4	12
Jeff Peterson	HG54587	consumer	7/1/2024	10:30AM	D. Harrison	10456	modulator	electrical	H433	3	7
Jeff Peterson	HG54587	consumer	7/1/2024	10:30AM	D. Harrison	10776	hose assembly	plumbing	G413	7	9
Jeff Peterson	HG54587	consumer	7/1/2024	10:30AM	D. Harrison	10657	float assembly	plumbing	G413	5	10

has duplicates

1NF, atomic values

customerNo	employee	date	time	partNo	customerName	customerType	name	type	cageCode	quantityOrdered	unitPrice
HG54587	D. harrison	7/1/2024	10:30	10654	Jeff Peterson	consumer	float control	plumbing	G413	4	12
HG54587	D. harrison	7/1/2024	10:30	10456	Jeff Peterson	consumer	modulator	electrical	H433	3	7
HG54587	D. harrison	7/1/2024	10:30	10776	Jeff Peterson	consumer	hose assembly	plumbing	G413	7	9
HG54587	D. harrison	7/1/2024	10:30	10657	Jeff Peterson	consumer	float assembly	plumbing	G413	5	10

has partial dependencies

2NF, no partial dependencies

customerNo → customerName, customerType
partNo → partName, partType, cageCode

orderDetail

customerNo	date	time	partNo	quantityOrdered	unitPrice	employee
HG54587	7/1/2024	10:30am	10654	4	12	D. Harrison
-	-	-	10456	3	7	-
-	-	-	10776	7	9	-
-	-	-	10657	5	10	-

part

partNo	name	type	cageCode
10654	float control	plumbing	G413
10456	modulator	electrical	H433
10776	hose assembly	plumbing	G413
10657	float assembly	plumbing	H433

customer

customerNo	customerName	customerType
HG54587	Jeff Peterson	consumer

no transitive dependencies

3NF, no transitive dependencies

orderDetail

customerNo	date	time	partNo	quantityOrdered	unitPrice	employee
HG54587	7/1/2024	10:30am	10654	4	12	D. Harrison
-	-	-	10456	3	7	-
-	-	-	10776	7	9	-
-	-	-	10657	5	10	-

part

partNo	name	type	cageCode
10654	float control	plumbing	G413
10456	modulator	electrical	H433
10776	hose assembly	plumbing	G413
10657	float assembly	plumbing	H433

customer

customerNo	customerName	customerType
HG54587	Jeff Peterson	consumer

Therapist

Assumptions

- Each therapist is identified by a unique staffNo.
 - A patient is identified by patNo.
- An appointment is uniquely defined by patNo + staffNo + date + time.
 - On a given date, a therapist works at only one branch.

1NF atomic values

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

2NF, no partial dependencies

staffNo → therapistName
patNo → patName

appointment

staffNo	patNo	date	time	branchNo
S1011	P100	9/12/2022	10:00	M15
S1011	P105	9/12/2022	12:00	M15
S1024	P108	9/12/2022	10:00	Q10
S1024	P108	9/14/2022	14:00	Q10
S1032	P105	9/14/2022	16:30	M15
S1032	P110	9/15/2022	18:00	B13

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

no transitive dependencies

3NF, no transitive dependencies

appointment

staffNo	patNo	date	time	branchNo
S1011	P100	9/12/2022	10:00	M15
S1011	P105	9/12/2022	12:00	M15
S1024	P108	9/12/2022	10:00	Q10
S1024	P108	9/14/2022	14:00	Q10
S1032	P105	9/14/2022	16:30	M15
S1032	P110	9/15/2022	18:00	B13

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

Event management company

Assumptions

- Each employee has a unique eNo; eName depends on eNo.
 - Each contract has a unique contractNo.
- A contract applies to exactly one event (contractNo → eventNo).
- Each event has a unique eventNo; eventLoc depends on eventNo.
 - An event may have multiple contracts.
- Work hours are tracked by employee per contract; (eNo, contractNo) → hours.

1NF atomic values

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

eNo → eName
contract → eventNo

2NF no partial dependencies

work_hours

eNo	contractNo	hours	eventLoc
1135	C1024	16	Queens
1057	C1024	24	Queens
1068	C1025	28	Yonkers
1135	C1025	15	Yonkers
1135	C1026	10	Queens

employee

eNo	eName
1135	Smith J
1057	Hocine D
1068	White T

contract

contractNo	eventNo
C1024	H25
C1025	H4
C1026	H25

transitive dependency:
eventNo → eventLoc

3NF no transitive dependencies

work_hours

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

employee

eNo	eName
1135	Smith J
1057	Hocine D
1068	White T

contract

contractNo	eventNo
C1024	H25
C1025	H4
C1026	H25

event

eventNo	eventLoc
H25	Queens
H4	Yonkers