

Happy Supplies Part Warehos

customerName	customerNumber	customerType	date	time	employee	partNumber	name	type	cageCode	quantityOrdered	unitPrice
jeffPeterson	HG54587	consumer	7/1/2024	10:30am	DHarrison	10654	FloatControl	plumbing	G413	4	12
jeffPeterson	HG54587	consumer	7/1/2024	10:30am	DHarrison	10456	Modulator	Electrical	H433	3	7
jeffPeterson	HG54587	consumer	7/1/2024	10:30am	DHarrison	10776	Hose Assembly	Plumbing	G413	9	7
jeffPeterson	HG54587	consumer	7/1/2024	10:30am	DHarrison	10657	Float Assembly	Plumbing	G413	5	10

- a.
Cuter Number is unique
Part number represent the number for a specific type of SKU/part
One employee will serve the whole order and will help one customer at a time (will not be serving both customer same time)
Customer type is bind to customer number
Unit price is only determined by specific part, won't change (no discount for orders)

- b.
attribute: all headers are attribute
Primary key: customer number, part number, date, time
Candidate key: customer number, date, time, part number
Functional dependency:
customer number → customer type, customer name
part number → name, type, cage code, unit price
(customer number, part number, date, time) → quantity ordered
(customer number, date, time) → employee
Transitive dependency:
No
What normal form:
1NF

customerName(PK)	customerNumber	customerType	date(PK)	time(PK)	employee	partNumber	name	type	cageCode	quantityOrdered	unitPrice
jeffPeterson	HG54587	consumer	7/1/2024	10:30am	DHarrison	10654	FloatControl	plumbing	G413	4	12
jeffPeterson	HG54587	consumer	7/1/2024	10:30am	DHarrison	10456	Modulator	Electrical	H433	3	7
jeffPeterson	HG54587	consumer	7/1/2024	10:30am	DHarrison	10776	Hose Assembly	Plumbing	G413	9	7
jeffPeterson	HG54587	consumer	7/1/2024	10:30am	DHarrison	10657	Float Assembly	Plumbing	G413	5	10

transfer to 2NF
because there are
partial dependency

customer

customerName	<u>customerNumber(PK)</u>	customerType
jeffPeterson	HG54587	consumer

transfer directly to 3NF
because there are no
transitive dependency

part

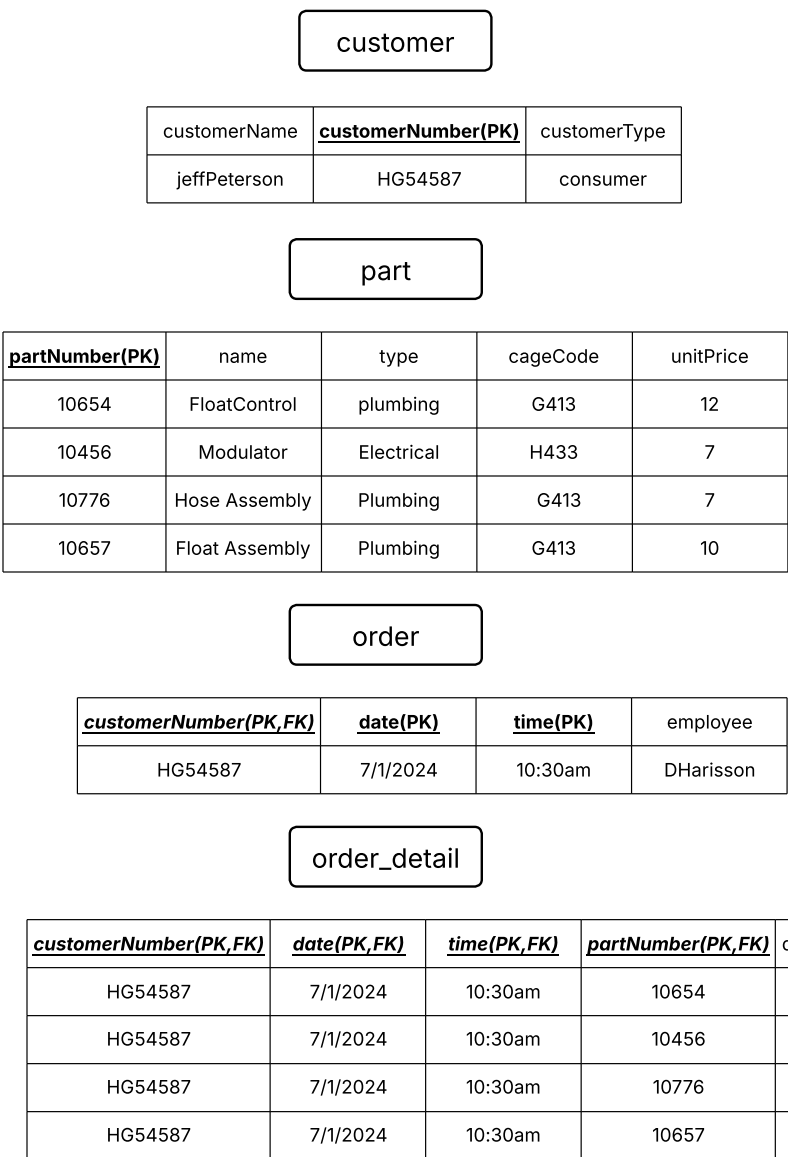
partNumber(PK)	name	type	cageCode	unitPrice
10654	FloatControl	plumbing	G413	12
10456	Modulator	Electrical	H433	7
10776	Hose Assembly	Plumbing	G413	7
10657	Float Assembly	Plumbing	G413	10

order

<u>customerNumber(PK,FK)</u>	<u>date(PK)</u>	<u>time(PK)</u>	employee
HG54587	7/1/2024	10:30am	DHarrison

order_detail

customerNumber(PK,FK)	date(PK,FK)	time(PK,FK)	partNumber(PK,FK)	quantityOrdered
HG54587	7/1/2024	10:30am	10654	4
HG54587	7/1/2024	10:30am	10456	3
HG54587	7/1/2024	10:30am	10776	9
HG54587	7/1/2024	10:30am	10657	5



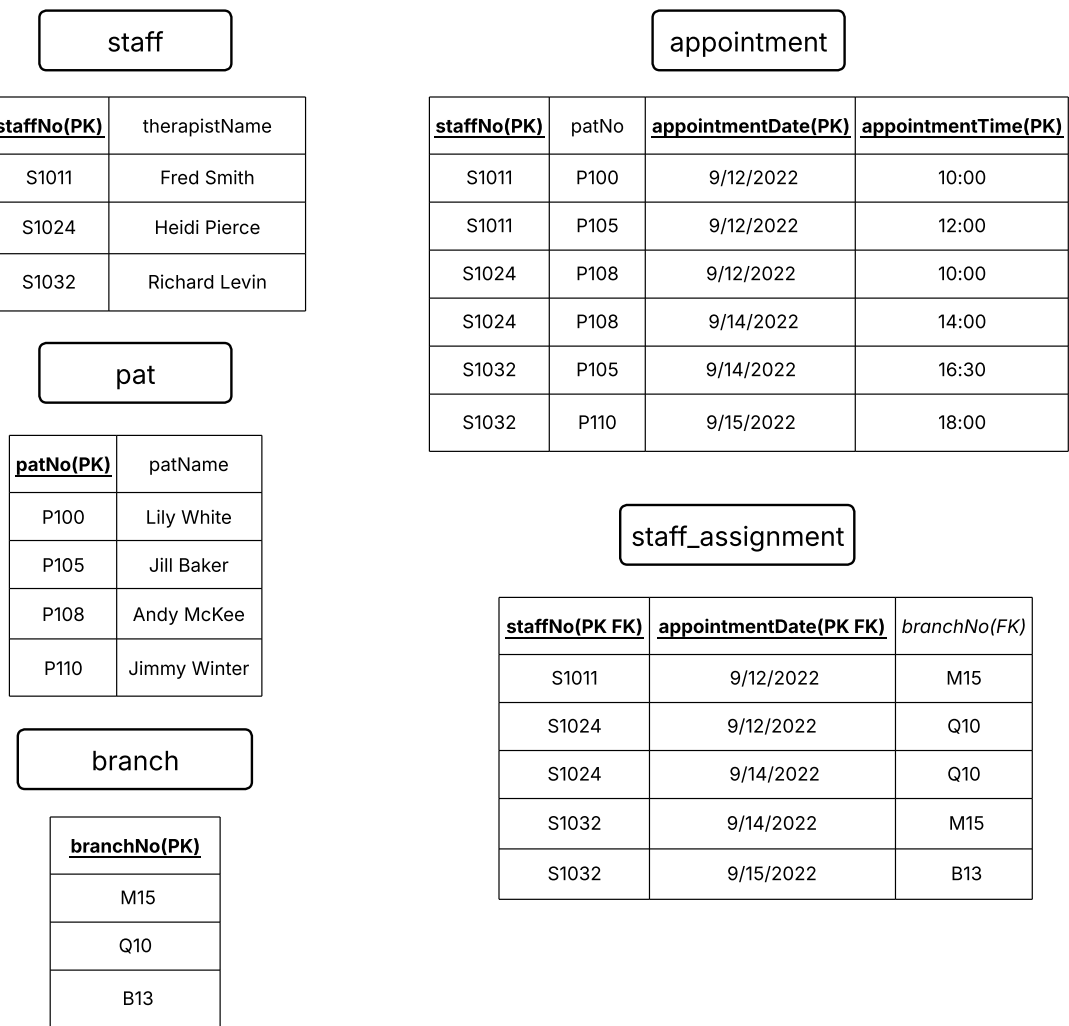
Panacea Mental Health Corporation

staffNo	therapistName	patNo	patName	appointmentDate/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

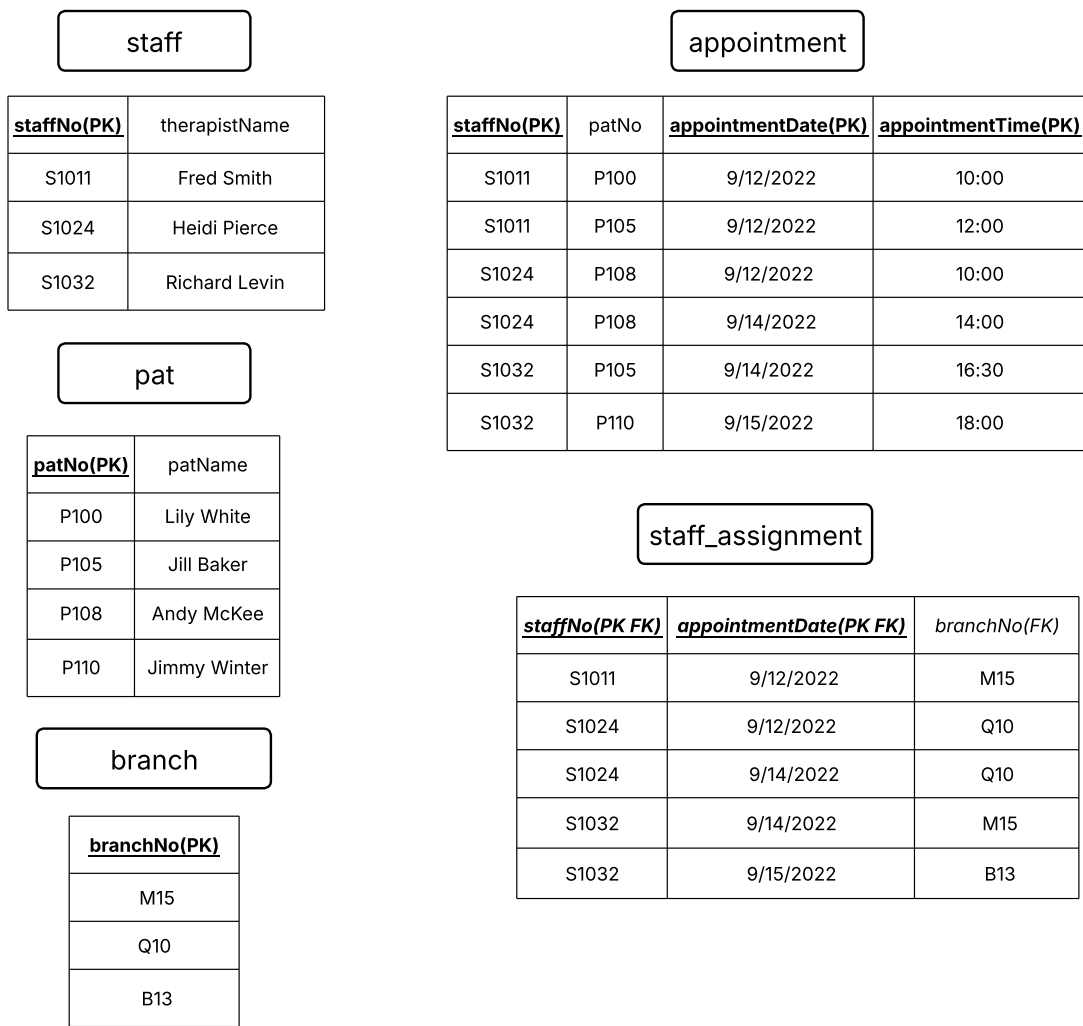
transfer to 1NF
because the data
value now are not
atomic

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

transfer to 2NF
because there are
partial dependency



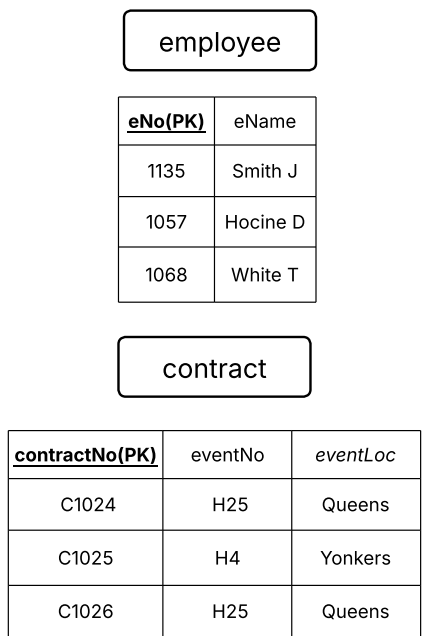
- a.
Assumption: staff number is unique for every staff, branch number is also unique, pat number is also unique, A therapist may work at many branches across days, but on any given day a therapist works at exactly one branch
- b.
attribute: all headers are attribute
Primary key: (staffNo, appointmentDate/Time)
Candidate key: (staffNo, appointmentDate/Time)
Functional dependency:
staffNo → therapistName
patNo → patName
(staffNo, appointmentDate/Time) → branchNo, patNo
Transitive dependency:
No
What normal form:
raw table not belong to any normal form



Maid Better temp agency

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

transfer to 2NF
because there are
partial dependency



- a.
Assumption: eNo uniquely identifies each employee, contractNo is also unique pointing to one event, an employee can work on many contracts; a contract can have many employees
- b.
attribute: all headers are attribute
Primary key: (eNo, contractNo)
Candidate key: (eNo, contractNo)
Functional dependency:
eNo → eName
contractNo → eventNo
eventNo → eventLoc
(contractNo, eNo) → hours
Transitive dependency:
Yes
contractNo → eventNo
eventNo → eventLoc
contractNo → eventNo → eventLoc
What normal form:
1NF

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