

Question 1

Happy Supplies Parts Warehouse					
Customer Name: Jeff Peterson		Date: 7/1/2024			
Customer Number: H G54587		Time: 10:30am			
Customer Type: Consumer		Employee: D. Harrison			
Part Number	Name	Type	Cage Code	Quantity Ordered	Unit Price
10654	Float Control	Plumbing	G413	4	12
10456	Modulator	Electrical	H 433	3	7
10776	Hose A ssembly	Plumbing	G413	7	9
10657	Float A ssembly	Plumbing	G413	5	10

Assume that each order can only order one type of part in the warehouse.

1 NF

partNumber(PK)	name	type	cageCode	quantityOrdered	unitPrice	customerName	customerNumber(PK)	customerType	date(PK)	time(PK)	employee
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	Jeff Peterson	HG54587	Consumer	7/1/2024	10:30 am	D.Harrison
customer name, customer type depends on customer number											

name, cage code, unit price depends on part number

customer name, customer type depends on customer number.

employee depends on part number, customer number, date and time

2 NF

order				
partNumber	customerNumber	date	time	quantityOrdered
10654	HG54587	7/1/2024	10:30 am	4
10456	HG54587	7/1/2024	10:30 am	3
10776	HG54587	7/1/2024	10:30 am	7
10657	HG54587	7/1/2024	10:30 am	5

part				
partNumber(PK)	name	type	cageCode	unitPrice
10654	Float Control	Plumbing	G413	12
10456	Modulator	Electrical	H433	7
10776	Hose Assembly	Plumbing	G413	9
10657	Float Assembly	Plumbing	G413	10

type depends on cage code (Assume that each cage stores one type of part.)

order_information			
customerNumber	date	time	employee
HG5487	7/1/2024	10:30am	D.Harrison

customer		
customerNumber(PK)	customerName	customerType
HG54587	Jeff Peterson	Consumer

3 NF

order				
partNumber	customerNumber	date	time	quantityOrdered
10654	HG54587	7/1/2024	10:30 am	4
10456	HG54587	7/1/2024	10:30 am	3
10776	HG54587	7/1/2024	10:30 am	7
10657	HG54587	7/1/2024	10:30 am	5

part			
partNumber	name	unitPrice	cageCode
10654	Float Control	12	G413
10456	Modulator	7	H433
10776	Hose Assembly	9	G413
10657	Float Assembly	10	G413

cage_category	
cageCode	partType
G413	Plumbing
H433	Electrical

order_information			
customerNumber	date	time	employee
HG5487	7/1/2024	10:30am	D.Harrison

customer		
customerNumber	customerName	customerTypeid
HG54587	Jeff Peterson	1

customer_type	
customerTypeid	customerType
1	Consumer

Question 2

1 NF

appointment						
staffNo	therapistName	patNo(PK)	patName	appointmentDate(PK)	appointmentTime(PK)	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 MacKee	9/12/2022	10:00	Q10
S1024	Heidi Pierce	P108	Richard Levin	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

The original form are naturally in 1NF.
therapistName depends on staffNo, patName depends on patNo.

Assume that one pat can be treated by one therapist in one branch at a single time

2 NF

appointment					
patNo(PK)	appointmentDate(PK)	appointTime(PK)	staffNo	branchNo	therapistName
P100	9/12/2022	10:00	S1011	M15	Fred Smith
P105	9/12/2022	12:00	S1011	M15	Fred Smith
P108	9/12/2022	10:00	S1024	Q10	Heidi Pierce
P108	9/14/2022	14:00	S1024	Q10	Heidi Pierce
P105	9/14/2022	16:30	S1032	M15	Richard Levin
P110	9/15/2022	18:00	S1032	B13	Richard Levin

Assume that one therapist can only be in one branch at a single day

branchNo depends on staffNo (which depends on the three primary keys) and appointmentDate

therapistName depends on staffNo

pat	
patNo(PK)	patName
P100	Lily White
P105	Jill Baker
P108	Andy MacKee
P110	Jimmy Winter

3 NF

appointment			
patNo(PK)	appointmentDate(PK)	appointTime(PK)	staffNo
P100	9/12/2022	10:00	S1011
P105	9/12/2022	12:00	S1011
P108	9/12/2022	10:00	S1024
P108	9/14/2022	14:00	S1024
P105	9/14/2022	16:30	S1032
P110	9/15/2022	18:00	S1032

pat	
patNo(PK)	patName
P100	Lily White
P105	Jill Baker
P108	Andy MacKee
P110	Jimmy Winter

therapist	
staffNo(PK)	therapistName
S1011	Fred Smith
S1032	Richard Levin
S1024	Heidi Pierce

therapist_branch_schedule		
staffNo(PK)	appointmentDate(PK)	branchNo
S1011	9/12/2022	M15
S1032	9/14/2022	M15
S1032	9/15/2022	B13
S1024	9/12/2022	Q10
S1024	9/14/2022	Q10

Question 3

1 NF

event_management					
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

Assume one contract can only assign one employee to one event, one event can only have one location.

eName depends on eNo

eventLoc depends on eventNo

eventNo and eventLoc depends on contract No

2 NF

event_management		
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	eventLoc
C1024	H25	Queens
C1025	H4	Yonkers
C1026	H25	Queens

eventLoc depends on eventNo

3 NF

event_management		
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

event_location	
eventNo	eventLoc
H25	Queens
H4	Yonkers

contract	
contractNo	eventNo
C1024	H25
C1025	H4
C1026	H25