

-- Part 1) Inner Join

```
SELECT Patient.firstName AS "Patient First Name", Patient.lastName AS "Patient Last Name", Treatment.name AS "Treatment Received"
FROM TreatmentAdministration
JOIN Patient
ON TreatmentAdministration.patientNo = Patient.patientNo
JOIN Treatment
ON TreatmentAdministration.treatmentNo = Treatment.treatmentNo;

SELECT *
FROM TreatmentAdministration
```

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Results Messages

	Patient First Name	Patient Last Name	Treatment Received
1	James	Donald	Splinting
2	James	Donald	X-ray
3	Jane	Smith	Blood Test
4	Michael	Johnson	IV Fluids
5	Michael	Johnson	Blood Test
6	Emily	Williams	Splinting
7	Emily	Williams	Stitching
8	David	Brown	Stitching
9	David	Brown	X-ray
10	Sarah	Taylor	Nebulization
11	Sarah	Taylor	Dressing Change
12	Daniel	Martinez	Ultrasound
13	Daniel	Martinez	Casting
14	Jessica	Garcia	IV Fluids
15	Jessica	Garcia	Dressing Change
16	Christopher	Lopez	EKG
17	Christopher	Lopez	EKG
18	Amanda	Rodriguez	Nebulization
19	Amanda	Rodriguez	Casting

	patientNo	doctorID	treatmentNo	dateTime	results
1	1	3	5	2024-02-19 08:00:00.000	Stable
2	1	5	1	2024-02-01 08:15:30.000	Normal
3	2	7	2	2024-02-20 10:30:00.000	Unstable
4	3	2	8	2024-02-21 14:45:00.000	Worsening
5	3	8	2	2024-02-03 10:25:45.000	Stable
6	4	3	5	2024-02-04 11:55:10.000	Critical
7	4	5	4	2024-02-22 11:20:00.000	Stable
8	5	1	4	2024-02-05 12:30:55.000	Recovering
9	5	9	1	2024-02-23 09:05:00.000	Unstable
10	6	1	10	2024-02-24 16:00:00.000	Worsening
11	6	7	6	2024-02-06 13:20:40.000	Critical
12	7	4	3	2024-02-25 13:15:00.000	Stable
13	7	10	7	2024-02-07 14:10:25.000	Normal
14	8	3	8	2024-02-08 15:45:15.000	Unchanged
15	8	8	6	2024-02-26 10:45:00.000	Unstable
16	9	6	9	2024-02-09 16:35:30.000	Improving
17	9	6	9	2024-02-27 15:30:00.000	Worsening
18	10	9	10	2024-02-10 17:05:50.000	Stable
19	10	10	7	2024-02-28 12:00:00.000	Stable

```
--1) Left Join
/*Left Join here reveals ALL of the patients (regardless if they have a date of admittance registered)
possible there are some patients who have yet to be admitted (still in waiting room*/
SELECT P.firstName as 'Patient First Name', Ad.admitDate AS 'Date the patient was admitted'
FROM Patient as P
Left Join AdultDischarge as AD
ON P.patientNo= AD.patientNo
```

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Results Messages

	Patient First Name	Date the patient was admitted
1	James	2024-02-01
2	Jane	2024-02-02
3	Michael	2024-02-03
4	Emily	2024-02-04
5	David	2024-02-05
6	Sarah	2024-02-06
7	Daniel	2024-02-07
8	Jessica	2024-02-08
9	Christopher	2024-02-09
10	Amanda	2024-02-10
11	John	NULL
12	Alice	NULL
13	Robert	NULL
14	Samantha	NULL
15	William	NULL

```
--1) Right Join
/*Right Join here reveals ALL of the nurses' names to display whether they had a date listed down in which they visited a patient or not*/
SELECT n.firstName as 'Nurse Name', np.date as 'Date nurse saw a patient'
FROM NursePatient AS np
RIGHT JOIN Nurse AS n
ON np.nurseID= n.nurseID
```

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Results Messages

	Nurse Name	Date nurse saw a patient
1	Emma	2024-02-01
2	Emma	2024-02-06
3	James	2024-02-08
4	Olivia	2024-02-06
5	William	2024-02-03
6	William	2024-02-04
7	William	2024-02-08
8	Ava	2024-02-04
9	Liam	2024-02-01
10	Liam	2024-02-03
11	Liam	2024-02-07
12	Sophia	2024-02-02
13	Sophia	2024-02-09
14	Noah	2024-02-05
15	Noah	2024-02-09
16	Isabella	2024-02-05
17	Isabella	2024-02-07
18	Ethan	2024-02-02
19	Grace	NULL
20	Henry	NULL
21	Sophie	NULL
22	Jack	NULL
23	Oliver	NULL
24	Chloe	NULL
25	Lucas	NULL
26	Lily	NULL
27	Mia	NULL
28	Owen	NULL

```
--1) Full Join
/* Full Join reveals ALL item names & ALL patient first names
to reveal if there are any items that have not been charged to a single patient (not the case)
or if there are any patients that have not been charged a single item (yes, there's 5 of them)*/
SELECT P.firstName AS 'Patient First Name', I.name as 'Items Charged'
FROM ItemCharge AS IC
FULL JOIN PATIENT AS P
ON IC.patientNo=P.patientNo
FULL JOIN ITEM AS I
ON IC.itemNo= I.itemNo
```

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Results Messages

	Patient First Name	Items Charged
1	James	Strong Bandage
2	Jane	Syringe
3	Michael	Antibiotics
4	Emily	Alcohol Swabs
5	David	Sanitizer
6	Sarah	Painkillers
7	Daniel	Ace Bandage
8	Jessica	Gauze
9	Christopher	Thermometer
10	Amanda	Gloves
11	John	NULL
12	Alice	NULL
13	Robert	NULL
14	Samantha	NULL
15	William	NULL

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Hospital Database Join Queries

```
--1) Cross Join
/* Cross Join reveals all possible combinations of nurses being the change nurse for each ward*/
SELECT W.location AS 'Ward Location', N.firstName AS 'Nurses'
FROM Ward AS W
CROSS JOIN Nurse AS N
```

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Results Messages									
Ward Location		First Name of Nurse in Charge							
1	Emergency Department East Wing	Emma	64	Intensive Care Unit East Wing	William	127	Cardiology West Wing	Sophia	190
2	Emergency Department East Wing	James	65	Intensive Care Unit East Wing	Ava	128	Cardiology West Wing	Noah	191
3	Emergency Department East Wing	Olivia	66	Intensive Care Unit East Wing	Liam	129	Cardiology West Wing	Isabella	192
4	Emergency Department East Wing	William	67	Intensive Care Unit East Wing	Sophia	130	Cardiology West Wing	Ethan	193
5	Emergency Department East Wing	Ava	68	Intensive Care Unit East Wing	Noah	131	Cardiology West Wing	Grace	194
6	Emergency Department East Wing	Liam	69	Intensive Care Unit East Wing	Isabella	132	Cardiology West Wing	Henry	195
7	Emergency Department East Wing	Sophia	70	Intensive Care Unit East Wing	Ethan	133	Cardiology West Wing	Sophie	196
8	Emergency Department East Wing	Noah	71	Intensive Care Unit East Wing	Grace	134	Cardiology West Wing	Jack	197
9	Emergency Department East Wing	Isabella	72	Intensive Care Unit East Wing	Henry	135	Cardiology West Wing	Oliver	198
10	Emergency Department East Wing	Ethan	73	Intensive Care Unit East Wing	Sophie	136	Cardiology West Wing	Chloe	199
11	Emergency Department East Wing	Grace	74	Intensive Care Unit East Wing	Jack	137	Cardiology West Wing	Lucas	200
12	Emergency Department East Wing	Henry	75	Intensive Care Unit East Wing	Oliver	138	Cardiology West Wing	Lily	
13	Emergency Department East Wing	Sophie	76	Intensive Care Unit East Wing	Chloe	139	Cardiology West Wing	Mia	
14	Emergency Department East Wing	Jack	77	Intensive Care Unit East Wing	Lucas	140	Cardiology West Wing	Owen	
15	Emergency Department East Wing	Oliver	78	Intensive Care Unit East Wing	Lily	141	Neurology Main Building	Emma	
16	Emergency Department East Wing	Chloe	79	Intensive Care Unit East Wing	Mia	142	Neurology Main Building	James	
17	Emergency Department East Wing	Lucas	80	Intensive Care Unit East Wing	Owen	143	Neurology Main Building	Olivia	
18	Emergency Department East Wing	Lily	81	Maternity North Wing	Emma	144	Neurology Main Building	William	
19	Emergency Department East Wing	Mia	82	Maternity North Wing	James	145	Neurology Main Building	Ava	
20	Emergency Department East Wing	Owen	83	Maternity North Wing	Olivia	146	Neurology Main Building	Liam	
21	Pediatrics West Wing	Emma	84	Maternity North Wing	William	147	Neurology Main Building	Sophia	
22	Pediatrics West Wing	James	85	Maternity North Wing	Ava	148	Neurology Main Building	Noah	
23	Pediatrics West Wing	Olivia	86	Maternity North Wing	Liam	149	Neurology Main Building	Isabella	
24	Pediatrics West Wing	William	87	Maternity North Wing	Sophia	150	Neurology Main Building	Ethan	
25	Pediatrics West Wing	Ava	88	Maternity North Wing	Noah	151	Neurology Main Building	Grace	
26	Pediatrics West Wing	Liam	89	Maternity North Wing	Isabella	152	Neurology Main Building	Henry	
27	Pediatrics West Wing	Sophia	90	Maternity North Wing	Ethan	153	Neurology Main Building	Sophie	
28	Pediatrics West Wing	Noah	91	Maternity North Wing	Grace	154	Neurology Main Building	Jack	
29	Pediatrics West Wing	Isabella	92	Maternity North Wing	Henry	155	Neurology Main Building	Oliver	
30	Pediatrics West Wing	Ethan	93	Maternity North Wing	Sophie	156	Neurology Main Building	Chloe	
31	Pediatrics West Wing	Grace	94	Maternity North Wing	Jack	157	Neurology Main Building	Lucas	
32	Pediatrics West Wing	Henry	95	Maternity North Wing	Oliver	158	Neurology Main Building	Lily	
33	Pediatrics West Wing	Sophie	96	Maternity North Wing	Chloe	159	Neurology Main Building	Mia	
34	Pediatrics West Wing	Jack	97	Maternity North Wing	Lucas	160	Neurology Main Building	Owen	
35	Pediatrics West Wing	Oliver	98	Maternity North Wing	Lily	161	Psychiatric East Wing	Emma	
36	Pediatrics West Wing	Chloe	99	Maternity North Wing	Mia	162	Psychiatric East Wing	James	
37	Pediatrics West Wing	Lucas	100	Maternity North Wing	Owen	163	Psychiatric East Wing	Olivia	
38	Pediatrics West Wing	Lily	101	Orthopedic South Wing	Emma	164	Psychiatric East Wing	William	
39	Pediatrics West Wing	Mia	102	Orthopedic South Wing	James	165	Psychiatric East Wing	Ava	
40	Pediatrics West Wing	Owen	103	Orthopedic South Wing	Olivia	166	Psychiatric East Wing	Liam	
41	Surgical Main Building	Emma	104	Orthopedic South Wing	William	167	Psychiatric East Wing	Sophia	
42	Surgical Main Building	James	105	Orthopedic South Wing	Ava	168	Psychiatric East Wing	Noah	
43	Surgical Main Building	Olivia	106	Orthopedic South Wing	Liam	169	Psychiatric East Wing	Isabella	
44	Surgical Main Building	William	107	Orthopedic South Wing	Sophia	170	Psychiatric East Wing	Ethan	
45	Surgical Main Building	Ava	108	Orthopedic South Wing	Noah	171	Psychiatric East Wing	Grace	
46	Surgical Main Building	Liam	109	Orthopedic South Wing	Isabella	172	Psychiatric East Wing	Henry	
47	Surgical Main Building	Sophia	110	Orthopedic South Wing	Ethan	173	Psychiatric East Wing	Sophie	
48	Surgical Main Building	Noah	111	Orthopedic South Wing	Grace	174	Psychiatric East Wing	Jack	
49	Surgical Main Building	Isabella	112	Orthopedic South Wing	Henry	175	Psychiatric East Wing	Oliver	
50	Surgical Main Building	Ethan	113	Orthopedic South Wing	Sophie	176	Psychiatric East Wing	Chloe	
51	Surgical Main Building	Grace	114	Orthopedic South Wing	Jack	177	Psychiatric East Wing	Lucas	
52	Surgical Main Building	Henry	115	Orthopedic South Wing	Oliver	178	Psychiatric East Wing	Lily	
53	Surgical Main Building	Sophie	116	Orthopedic South Wing	Chloe	179	Psychiatric East Wing	Mia	
54	Surgical Main Building	Jack	117	Orthopedic South Wing	Lucas	180	Psychiatric East Wing	Owen	
55	Surgical Main Building	Oliver	118	Orthopedic South Wing	Lily	181	Oncology Main Building	Emma	
56	Surgical Main Building	Chloe	119	Orthopedic South Wing	Mia	182	Oncology Main Building	James	
57	Surgical Main Building	Lucas	120	Orthopedic South Wing	Owen	183	Oncology Main Building	Olivia	
58	Surgical Main Building	Lily	121	Cardiology West Wing	Emma	184	Oncology Main Building	William	
59	Surgical Main Building	Mia	122	Cardiology West Wing	James	185	Oncology Main Building	Ava	
60	Surgical Main Building	Owen	123	Cardiology West Wing	Olivia	186	Oncology Main Building	Liam	
61	Intensive Care Unit East Wing	Emma	124	Cardiology West Wing	William	187	Oncology Main Building	Sophia	
62	Intensive Care Unit East Wing	James	125	Cardiology West Wing	Ava	188	Oncology Main Building	Noah	
63	Intensive Care Unit East Wing	Olivia	126	Cardiology West Wing	Liam	189	Oncology Main Building	Isabella	

Query executed successfully. CHRISTIAN\SQLEXPRESS

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--Part 2. Question 1)
/*Patients admitted to hospital in a certain month, their admitting physician,
bed assigned and ward, sorted by most recent date*/
SELECT P.lastName AS 'Patient Last Name', B.type AS 'Bed_Type', B.size AS 'Bed_Size',
W.location AS 'Ward_Name', PH.lastName AS 'Admitting_Doc', Month(AD.admitDate) AS 'Month_Admitted', AD.admitDate AS 'Date_Admitted'
FROM AdultDischarge AS AD
JOIN Physician AS PH
ON AD.admitDoc=PH.doctorID
JOIN Patient AS P
ON AD.patientNo=P.patientNo
JOIN Bed as B
ON P.bedNo=B.bedNo
JOIN WARD as W
ON B.wardID=W.wardID
WHERE MONTH(AD.admitDate)=2
ORDER BY AD.admitDate
```

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Results Messages

	Patient Last Name	Bed_Type	Bed_Size	Ward_Name	Admitting_Doc	Month_Admitted	Date_Admitted
1	Donald	manual	L	Emergency Department East Wing	Lancaster	2	2024-02-01
2	Smith	manual	L	Pediatrics West Wing	Delgado	2	2024-02-02
3	Johnson	manual	S	Surgical Main Building	Hawthorne	2	2024-02-03
4	Williams	electric	L	Intensive Care Unit East Wing	Whitaker	2	2024-02-04
5	Brown	manual	XL	Maternity North Wing	McKinney	2	2024-02-05
6	Taylor	manual	L	Orthopedic South Wing	Chambers	2	2024-02-06
7	Martinez	manual	L	Cardiology West Wing	Hendricks	2	2024-02-07
8	Garcia	electric	XL	Neurology Main Building	Henson	2	2024-02-08
9	Lopez	manual	L	Psychiatric East Wing	Harrington	2	2024-02-09
10	Rodriguez	manual	XL	Oncology Main Building	Montgomery	2	2024-02-10

```
--Part 2. Question 2)
/*Physician total admits for the past year, sorted by date*/
SELECT P.lastName AS 'Doctor Last Name', AD.admitDate AS 'Date Doctor Admitted a Patient'
FROM AdultDischarge AS AD
JOIN Physician AS P
ON AD.admitDoc=P.doctorID
JOIN Patient AS PA
ON AD.patientNo=pa.patientNo
WHERE AD.admitDate >= DATEADD(year, -1, GETDATE()) -- may also do: Year(AD.admitDate)=2024
ORDER BY AD.admitDate
```

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Results Messages

	Doctor Last Name	Date Doctor Admitted a Patient
1	Lancaster	2024-02-01
2	Delgado	2024-02-02
3	Hawthorne	2024-02-03
4	Whitaker	2024-02-04
5	McKinney	2024-02-05
6	Chambers	2024-02-06
7	Hendricks	2024-02-07
8	Henson	2024-02-08
9	Harrington	2024-02-09
10	Montgomery	2024-02-10

```
--Part 2. Question 3)
/*Total list of treatments administered to a patient by physician for each
treatment, sorted by date of treatment, listing last name of patient and of physician.*/
SELECT P.lastName AS 'Patient_Last_Name', T.name as 'Treatment_Name',
PH.lastName AS 'Physician_Last_Name', CAST(TA.dateTime AS DATE) AS 'Treatment_Date'
FROM TreatmentAdministration AS TA
JOIN Patient AS P
ON TA.patientNo=P.patientNo
JOIN Physician AS PH
ON TA.doctorID=PH.doctorID
JOIN Treatment AS T
ON TA.treatmentNo=T.treatmentNo
ORDER BY ta.dateTime
```

100 %

Results Messages

	Patient_Last_Name	Treatment_Name	Physician_Last_Name	Treatment_Date
1	Donald	X-ray	Hawthorne	2024-02-01
2	Johnson	Blood Test	Chambers	2024-02-03
3	Williams	Splinting	Lancaster	2024-02-04
4	Brown	Stitching	Harrington	2024-02-05
5	Taylor	Dressing Change	McKinney	2024-02-06
6	Martinez	Casting	Henson	2024-02-07
7	Garcia	IV Fluids	Lancaster	2024-02-08
8	Lopez	EKG	Whitaker	2024-02-09
9	Rodriguez	Nebulization	Hendricks	2024-02-10
10	Donald	Splinting	Lancaster	2024-02-19
11	Smith	Blood Test	McKinney	2024-02-20
12	Johnson	IV Fluids	Montgomery	2024-02-21
13	Williams	Stitching	Hawthorne	2024-02-22
14	Brown	X-ray	Hendricks	2024-02-23
15	Taylor	Nebulization	Harrington	2024-02-24
16	Martinez	Ultrasound	Delgado	2024-02-25
17	Garcia	Dressing Change	Chambers	2024-02-26
18	Lopez	EKG	Whitaker	2024-02-27
19	Rodriguez	Casting	Henson	2024-02-28

SQLQuery28.sql - C:\RISTIAN\chris (57))*

SQLQuery27.sql - C:\RISTIAN\chris (75))*

```

--Part 2. Question 4)
/*Patient itemized bill: List of treatments and items, by charge and sorted by date.*/
SELECT
    'Treatment' AS 'Type',
    T.name AS 'Name',
    T.charge AS 'Charge',
    CAST(TA.dateTime AS DATE) AS 'Date', --casts the date from dateTime column
    P.lastName AS 'Patient Last Name'
FROM
    TreatmentAdministration AS TA
JOIN
    Treatment AS T ON TA.treatmentNo = T.treatmentNO
LEFT JOIN
    Patient AS P ON TA.patientNo=P.patientNo
WHERE
    TA.patientNo = 6

UNION --Combines the results of both SELECT statements

SELECT
    'Item' AS 'Type',
    I.name AS 'Name',
    I.charge AS 'Charge',
    IC.date,
    P.lastName
FROM
    ItemCharge AS IC
JOIN
    Item AS I ON IC.itemNo = I.itemNo
LEFT JOIN
    Patient AS P ON IC.patientNo=P.patientNo
WHERE
    IC.patientNo = 6
ORDER BY DATE

```

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Results Messages

	Type	Name	Charge	Date	Patient Last Name
1	Item	Painkillers	10.99	2024-02-06	Taylor
2	Treatment	Dressing Change	100.00	2024-02-06	Taylor
3	Treatment	Nebulization	200.00	2024-02-24	Taylor

```
--Part 2) Question 5
/*List all nurse-patient events with nurse name and patient name.*/
SELECT
    P.firstName AS 'Patient First Name',
    N.firstName AS 'Nurse First Name',
    NP.event AS 'Event'
FROM
    NursePatient AS NP
JOIN
    Nurse AS N ON NP.nurseID=N.nurseID
JOIN
    Patient AS P ON NP.patientNo=P.patientNo
```

100 %

Results Messages

	Patient First Name	Nurse First Name	Event
1	James	Emma	wellness check
2	James	Liam	medication
3	Jane	Sophia	wellness check
4	Jane	Ethan	medication
5	Michael	William	wellness check
6	Michael	Liam	medication
7	Emily	William	wellness check
8	Emily	Ava	medication
9	David	Noah	wellness check
10	David	Isabella	medication
11	Sarah	Emma	wellness check
12	Sarah	Olivia	medication
13	Daniel	Liam	wellness check
14	Daniel	Isabella	medication
15	Jessica	James	wellness check
16	Jessica	William	medication
17	Christopher	Sophia	wellness check
18	Christopher	Noah	medication


```
--Part 2) Question 6
/*Find missing values for beds with and without patients, and for patients with and
without beds.*/
SELECT
    P.firstName AS 'patient_name',
    B.bedNo AS 'bed_number',
    B.type AS 'bed_type'
FROM
    Patient AS P
FULL JOIN
    Bed AS B ON P.bedNo=B.bedNo
--ALL beds are taken, but there's 5 patients that have not been assigned a bed
```

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Results Messages

	patient_name	bed_number	bed_type
1	James	1	manual
2	Jane	2	manual
3	Michael	3	manual
4	Emily	4	electric
5	David	5	manual
6	Sarah	6	manual
7	Daniel	7	manual
8	Jessica	8	electric
9	Christopher	9	manual
10	Amanda	10	manual
11	John	NULL	NULL
12	Alice	NULL	NULL
13	Robert	NULL	NULL
14	Samantha	NULL	NULL
15	William	NULL	NULL

```
--Part 2) Question 7
/*Find missing values of nurses who have not seen a patient and all patients that
have not seen a nurse.*/
SELECT
    CONCAT(P.firstName, ' ', P.lastName) AS 'patient_full_name', --Concatenate first and last names (with a space in between)
    CONCAT(N.firstName, ' ', N.lastName) AS 'nurse_full_name'
FROM
    NursePatient AS NP
FULL JOIN
    Nurse AS N ON NP.nurseID = N.nurseID
FULL JOIN
    Patient AS P ON NP.patientNo = P.patientNo;
--There's 10 nurses who have not seen a patient and there's 6 patients who have not seen a nurse
```

100 %

Results Messages

	patient_full_name	nurse_full_name
1	James Donald	Emma Smith
2	James Donald	Liam Davis
3	Jane Smith	Sophia Miller
4	Jane Smith	Ethan Anderson
5	Michael Johnson	William Brown
6	Michael Johnson	Liam Davis
7	Emily Williams	William Brown
8	Emily Williams	Ava Jones
9	David Brown	Noah Wilson
10	David Brown	Isabella Taylor
11	Sarah Taylor	Emma Smith
12	Sarah Taylor	Olivia Williams
13	Daniel Martinez	Liam Davis
14	Daniel Martinez	Isabella Taylor
15	Jessica Garcia	James Johnson
16	Jessica Garcia	William Brown
17	Christopher Lopez	Sophia Miller
18	Christopher Lopez	Noah Wilson
19		Grace Clark
20		Henry Adams
21		Sophie Baker
22		Jack Campbell
23		Oliver Clarkson
24		Chloe Cooper
25		Lucas Evans
26		Lily Fisher
27		Mia Gray
28		Owen Harris
29	William Taylor	
30	Alice Johnson	
31	Amanda Rodriguez	
32	Robert Brown	
33	John Doe	
34	Samantha Smith	

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Hospital Database Join Queries

```
NurseWardCrossJoin...ISTIAN\chris (55))
--Part 2) Question 8
/*Create a distribution of nurses across all wards, and a distribution of all wards
across nurses.*/
SELECT
    CONCAT(N.firstName, ' ', N.lastName) AS 'nurse_full_name',
    W.location AS 'ward_name'
FROM
    Nurse AS N
CROSS JOIN
    Ward AS W
```

100 %

Results Messages

nurse_full_name	ward_name										
1	Emma Smith	Emergency Department East Wing	59	Mia Gray	Surgical Main Building	117	Lucas Evans	Orthopedic South Wing	175	Oliver Clarkson	Psychiatric East Wing
2	James Johnson	Emergency Department East Wing	60	Owen Harris	Surgical Main Building	118	Lily Fisher	Orthopedic South Wing	176	Chloe Cooper	Psychiatric East Wing
3	Olivia Williams	Emergency Department East Wing	61	Emma Smith	Intensive Care Unit East Wing	119	Mia Gray	Orthopedic South Wing	177	Lucas Evans	Psychiatric East Wing
4	William Brown	Emergency Department East Wing	62	James Johnson	Intensive Care Unit East Wing	120	Owen Harris	Orthopedic South Wing	178	Lily Fisher	Psychiatric East Wing
5	Ava Jones	Emergency Department East Wing	63	Olivia Williams	Intensive Care Unit East Wing	121	Emma Smith	Cardiology West Wing	179	Mia Gray	Psychiatric East Wing
6	Liam Davis	Emergency Department East Wing	64	William Brown	Intensive Care Unit East Wing	122	James Johnson	Cardiology West Wing	180	Owen Harris	Psychiatric East Wing
7	Sophia Miller	Emergency Department East Wing	65	Ava Jones	Intensive Care Unit East Wing	123	Olivia Williams	Cardiology West Wing	181	Emma Smith	Oncology Main Building
8	Noah Wilson	Emergency Department East Wing	66	Liam Davis	Intensive Care Unit East Wing	124	William Brown	Cardiology West Wing	182	James Johnson	Oncology Main Building
9	Isabella Taylor	Emergency Department East Wing	67	Sophia Miller	Intensive Care Unit East Wing	125	Ava Jones	Cardiology West Wing	183	Olivia Williams	Oncology Main Building
10	Ethan Anderson	Emergency Department East Wing	68	Noah Wilson	Intensive Care Unit East Wing	126	Liam Davis	Cardiology West Wing	184	William Brown	Oncology Main Building
11	Grace Clark	Emergency Department East Wing	69	Isabella Taylor	Intensive Care Unit East Wing	127	Sophia Miller	Cardiology West Wing	185	Ava Jones	Oncology Main Building
12	Henry Adams	Emergency Department East Wing	70	Ethan Anderson	Intensive Care Unit East Wing	128	Noah Wilson	Cardiology West Wing	186	Liam Davis	Oncology Main Building
13	Sophie Baker	Emergency Department East Wing	71	Grace Clark	Intensive Care Unit East Wing	129	Isabella Taylor	Cardiology West Wing	187	Sophia Miller	Oncology Main Building
14	Jack Campbell	Emergency Department East Wing	72	Henry Adams	Intensive Care Unit East Wing	130	Ethan Anderson	Cardiology West Wing	188	Noah Wilson	Oncology Main Building
15	Oliver Clarkson	Emergency Department East Wing	73	Sophie Baker	Intensive Care Unit East Wing	131	Grace Clark	Cardiology West Wing	189	Isabella Taylor	Oncology Main Building
16	Chloe Cooper	Emergency Department East Wing	74	Jack Campbell	Intensive Care Unit East Wing	132	Henry Adams	Cardiology West Wing	190	Ethan Anderson	Oncology Main Building
17	Lucas Evans	Emergency Department East Wing	75	Oliver Clarkson	Intensive Care Unit East Wing	133	Sophie Baker	Cardiology West Wing	191	Grace Clark	Oncology Main Building
18	Lily Fisher	Emergency Department East Wing	76	Chloe Cooper	Intensive Care Unit East Wing	134	Jack Campbell	Cardiology West Wing	192	Henry Adams	Oncology Main Building
19	Mia Gray	Emergency Department East Wing	77	Lucas Evans	Intensive Care Unit East Wing	135	Oliver Clarkson	Cardiology West Wing	193	Sophie Baker	Oncology Main Building
20	Owen Harris	Emergency Department East Wing	78	Lily Fisher	Intensive Care Unit East Wing	136	Chloe Cooper	Cardiology West Wing	194	Jack Campbell	Oncology Main Building
21	Emma Smith	Pediatrics West Wing	79	Mia Gray	Intensive Care Unit East Wing	137	Lucas Evans	Cardiology West Wing	195	Oliver Clarkson	Oncology Main Building
22	James Johnson	Pediatrics West Wing	80	Owen Harris	Intensive Care Unit East Wing	138	Lily Fisher	Cardiology West Wing	196	Chloe Cooper	Oncology Main Building
23	Olivia Williams	Pediatrics West Wing	81	Emma Smith	Maternity North Wing	139	Mia Gray	Cardiology West Wing	197	Lucas Evans	Oncology Main Building
24	William Brown	Pediatrics West Wing	82	James Johnson	Maternity North Wing	140	Owen Harris	Cardiology West Wing	198	Lily Fisher	Oncology Main Building
25	Ava Jones	Pediatrics West Wing	83	Olivia Williams	Maternity North Wing	141	Emma Smith	Neurology Main Building	199	Mia Gray	Oncology Main Building
26	Liam Davis	Pediatrics West Wing	84	William Brown	Maternity North Wing	142	James Johnson	Neurology Main Building	200	Owen Harris	Oncology Main Building
27	Sophia Miller	Pediatrics West Wing	85	Ava Jones	Maternity North Wing	143	Olivia Williams	Neurology Main Building			
28	Noah Wilson	Pediatrics West Wing	86	Liam Davis	Maternity North Wing	144	William Brown	Neurology Main Building			
29	Isabella Taylor	Pediatrics West Wing	87	Sophia Miller	Maternity North Wing	145	Ava Jones	Neurology Main Building			
30	Ethan Anderson	Pediatrics West Wing	88	Noah Wilson	Maternity North Wing	146	Liam Davis	Neurology Main Building			
31	Grace Clark	Pediatrics West Wing	89	Isabella Taylor	Maternity North Wing	147	Sophia Miller	Neurology Main Building			
32	Henry Adams	Pediatrics West Wing	90	Ethan Anderson	Maternity North Wing	148	Noah Wilson	Neurology Main Building			
33	Sophie Baker	Pediatrics West Wing	91	Grace Clark	Maternity North Wing	149	Isabella Taylor	Neurology Main Building			
34	Jack Campbell	Pediatrics West Wing	92	Henry Adams	Maternity North Wing	150	Ethan Anderson	Neurology Main Building			
35	Oliver Clarkson	Pediatrics West Wing	93	Sophie Baker	Maternity North Wing	151	Grace Clark	Neurology Main Building			
36	Chloe Cooper	Pediatrics West Wing	94	Jack Campbell	Maternity North Wing	152	Henry Adams	Neurology Main Building			
37	Lucas Evans	Pediatrics West Wing	95	Oliver Clarkson	Maternity North Wing	153	Sophie Baker	Neurology Main Building			
38	Lily Fisher	Pediatrics West Wing	96	Chloe Cooper	Maternity North Wing	154	Jack Campbell	Neurology Main Building			
39	Mia Gray	Pediatrics West Wing	97	Lucas Evans	Maternity North Wing	155	Oliver Clarkson	Neurology Main Building			
40	Owen Harris	Pediatrics West Wing	98	Lily Fisher	Maternity North Wing	156	Chloe Cooper	Neurology Main Building			
41	Emma Smith	Surgical Main Building	99	Mia Gray	Maternity North Wing	157	Lucas Evans	Neurology Main Building			
42	James Johnson	Surgical Main Building	100	Owen Harris	Maternity North Wing	158	Lily Fisher	Neurology Main Building			
43	Olivia Williams	Surgical Main Building	101	Emma Smith	Orthopedic South Wing	159	Mia Gray	Neurology Main Building			
44	William Brown	Surgical Main Building	102	James Johnson	Orthopedic South Wing	160	Owen Harris	Neurology Main Building			
45	Ava Jones	Surgical Main Building	103	Olivia Williams	Orthopedic South Wing	161	Emma Smith	Psychiatric East Wing			
46	Liam Davis	Surgical Main Building	104	William Brown	Orthopedic South Wing	162	James Johnson	Psychiatric East Wing			
47	Sophia Miller	Surgical Main Building	105	Ava Jones	Orthopedic South Wing	163	Olivia Williams	Psychiatric East Wing			
48	Noah Wilson	Surgical Main Building	106	Liam Davis	Orthopedic South Wing	164	William Brown	Psychiatric East Wing			
49	Isabella Taylor	Surgical Main Building	107	Sophia Miller	Orthopedic South Wing	165	Ava Jones	Psychiatric East Wing			
50	Ethan Anderson	Surgical Main Building	108	Noah Wilson	Orthopedic South Wing	166	Liam Davis	Psychiatric East Wing			
51	Grace Clark	Surgical Main Building	109	Isabella Taylor	Orthopedic South Wing	167	Sophia Miller	Psychiatric East Wing			
52	Henry Adams	Surgical Main Building	110	Ethan Anderson	Orthopedic South Wing	168	Noah Wilson	Psychiatric East Wing			
53	Sophie Baker	Surgical Main Building	111	Grace Clark	Orthopedic South Wing	169	Isabella Taylor	Psychiatric East Wing			
54	Jack Campbell	Surgical Main Building	112	Henry Adams	Orthopedic South Wing	170	Ethan Anderson	Psychiatric East Wing			
55	Oliver Clarkson	Surgical Main Building	113	Sophie Baker	Orthopedic South Wing	171	Grace Clark	Psychiatric East Wing			
56	Chloe Cooper	Surgical Main Building	114	Jack Campbell	Orthopedic South Wing	172	Henry Adams	Psychiatric East Wing			
57	Lucas Evans	Surgical Main Building	115	Oliver Clarkson	Orthopedic South Wing	173	Sophie Baker	Psychiatric East Wing			
58	Lily Fisher	Surgical Main Building	116	Chloe Cooper	Orthopedic South Wing	174	Jack Campbell	Psychiatric East Wing			

--Part 2) Question 9
/*Create a distribution of beds across all wards, and a distribution of all wards across beds*/

```
SELECT
    CONCAT (B.bedNo, ' ', B.type, ' ', B.size) AS 'bed_number_type_size', W.location AS 'ward_name'
FROM
    Bed as B
CROSS JOIN
    Ward AS W
```

100 %

Results Messages

	bed_number_type_size	ward_name
1	1 manual L	Emergency Department East Wing
2	1 manual L	Pediatrics West Wing
3	1 manual L	Surgical Main Building
4	1 manual L	Intensive Care Unit East Wing
5	1 manual L	Maternity North Wing
6	1 manual L	Orthopedic South Wing
7	1 manual L	Cardiology West Wing
8	1 manual L	Neurology Main Building
9	1 manual L	Psychiatric East Wing
10	1 manual L	Oncology Main Building
11	2 manual L	Emergency Department East Wing
12	2 manual L	Pediatrics West Wing
13	2 manual L	Surgical Main Building
14	2 manual L	Intensive Care Unit East Wing
15	2 manual L	Maternity North Wing
16	2 manual L	Orthopedic South Wing
17	2 manual L	Cardiology West Wing
18	2 manual L	Neurology Main Building
19	2 manual L	Psychiatric East Wing
20	2 manual L	Oncology Main Building
21	3 manual S	Emergency Department East Wing
22	3 manual S	Pediatrics West Wing
23	3 manual S	Surgical Main Building
24	3 manual S	Intensive Care Unit East Wing
25	3 manual S	Maternity North Wing
26	3 manual S	Orthopedic South Wing
27	3 manual S	Cardiology West Wing
28	3 manual S	Neurology Main Building
29	3 manual S	Psychiatric East Wing
30	3 manual S	Oncology Main Building
31	4 electric L	Emergency Department East Wing
32	4 electric L	Pediatrics West Wing
33	4 electric L	Surgical Main Building
34	4 electric L	Intensive Care Unit East Wing
35	4 electric L	Maternity North Wing
36	4 electric L	Orthopedic South Wing
37	4 electric L	Cardiology West Wing
38	4 electric L	Neurology Main Building
39	4 electric L	Psychiatric East Wing
40	4 electric L	Oncology Main Building
41	5 manual XL	Emergency Department East Wing
42	5 manual XL	Pediatrics West Wing
43	5 manual XL	Surgical Main Building
44	5 manual XL	Intensive Care Unit East Wing
45	5 manual XL	Maternity North Wing
46	5 manual XL	Orthopedic South Wing
47	5 manual XL	Cardiology West Wing
48	5 manual XL	Neurology Main Building
49	5 manual XL	Psychiatric East Wing
50	5 manual XL	Oncology Main Building
51	6 manual L	Emergency Department East Wing
52	6 manual L	Pediatrics West Wing
53	6 manual L	Surgical Main Building
54	6 manual L	Intensive Care Unit East Wing
55	6 manual L	Maternity North Wing
56	6 manual L	Orthopedic South Wing
57	6 manual L	Cardiology West Wing
58	6 manual L	Neurology Main Building
59	6 manual L	Psychiatric East Wing
60	6 manual L	Oncology Main Building
61	7 manual L	Emergency Department East Wing
62	7 manual L	Pediatrics West Wing
63	7 manual L	Surgical Main Building
64	7 manual L	Intensive Care Unit East Wing
65	7 manual L	Maternity North Wing
66	7 manual L	Orthopedic South Wing
67	7 manual L	Cardiology West Wing
68	7 manual L	Neurology Main Building
69	7 manual L	Psychiatric East Wing
70	7 manual L	Oncology Main Building
71	8 electric XL	Emergency Department East Wing
72	8 electric XL	Pediatrics West Wing
73	8 electric XL	Surgical Main Building
74	8 electric XL	Intensive Care Unit East Wing
75	8 electric XL	Maternity North Wing
76	8 electric XL	Orthopedic South Wing
77	8 electric XL	Cardiology West Wing
78	8 electric XL	Neurology Main Building
79	8 electric XL	Psychiatric East Wing
80	8 electric XL	Oncology Main Building
81	9 manual L	Emergency Department East Wing
82	9 manual L	Pediatrics West Wing
83	9 manual L	Surgical Main Building
84	9 manual L	Intensive Care Unit East Wing
85	9 manual L	Maternity North Wing
86	9 manual L	Orthopedic South Wing
87	9 manual L	Cardiology West Wing
88	9 manual L	Neurology Main Building
89	9 manual L	Psychiatric East Wing
90	9 manual L	Oncology Main Building
91	10 manual XL	Emergency Department East Wing
92	10 manual XL	Pediatrics West Wing
93	10 manual XL	Surgical Main Building
94	10 manual XL	Intensive Care Unit East Wing
95	10 manual XL	Maternity North Wing
96	10 manual XL	Orthopedic South Wing
97	10 manual XL	Cardiology West Wing
98	10 manual XL	Neurology Main Building
99	10 manual XL	Psychiatric East Wing
100	10 manual XL	Oncology Main Building