SQL: single table queries II

What ward values are in the table?

patient_no	last_name	first_name	sex	date_of_birth	ward
454	Smith	John	M	14.08.78	6
223	Jones	Peter	M	07.12.85	8
597	Brown	Brenda	F	17.06.61	3
234	Jenkins	Alan	M	29.01.72	7
244	Wells	Chris	M	25.02.95	6

```
sqlite> select distinct ward from patient;
8
7
6
3
```

What is the minimum ward value?

patient_no	last_name	first_name	sex	date_of_birth	ward
454	Smith	John	M	14.08.78	6
223	Jones	Peter	M	07.12.85	8
597	Brown	Brenda	F	17.06.61	3
234	Jenkins	Alan	M	29.01.72	7
244	Wells	Chris	M	25.02.95	6

```
sqlite> select min(ward) from patient;
3
```

How many rows in the table?

patient_no	last_name	first_name	sex	date_of_birth	ward
454	Smith	John	M	14.08.78	6
223	Jones	Peter	M	07.12.85	8
597	Brown	Brenda	F	17.06.61	3
234	Jenkins	Alan	M	29.01.72	7
244	Wells	Chris	M	25.02.95	6

```
sqlite> select count(*) from patient;
5
```

How many female patients?

patient_no	last_name	first_name	sex	date_of_birth	ward
454	Smith	John	M	14.08.78	6
223	Jones	Peter	M	07.12.85	8
597	Brown	Brenda	F	17.06.61	3
234	Jenkins	Alan	M	29.01.72	7
244	Wells	Chris	M	25.02.95	6

Try it yourself...

```
sqlite> select count(*) from patient where sex = "F";
2
```

What last names are in the table?

patient_no	last_name	first_name	sex	date_of_birth	ward
454	Smith	John	M	14.08.78	6
223	Jones	Peter	M	07.12.85	8
597	Brown	Brenda	F	17.06.61	3
234	Jenkins	Alan	M	29.01.72	7
244	Wells	Chris	M	25.02.95	6

```
sqlite> select distinct last_name from patient order by last_name;
Brown
Jenkins
Jones
Smith
Wells
```

Which sex/ward combinations?

patient_no	last_name	first_name	sex	date_of_birth	ward
454	Smith	John	M	14.08.78	6
223	Jones	Peter	M	07.12.85	8
597	Brown	Brenda	F	17.06.61	3
234	Jenkins	Alan	M	29.01.72	7
244	Wells	Chris	F	25.02.95	6

```
sqlite> select distinct sex, ward from patient;
M,8
M,7
F,6
M,6
F,3
sqlite> select ward,sex from patient order by ward, sex;
3,F
6,F
6,M
7,M
8,M
```

What are the patients' birth years?

patient_no	last_name	first_name	sex	date_of_birth	ward
454	Smith	John	M	14.08.78	6
223	Jones	Peter	M	07.12.85	8
597	Brown	Brenda	F	17.06.61	3
234	Jenkins	Alan	M	29.01.72	7
244	Wells	Chris	F	25.02.95	6

```
sqlite> select substr(date_of_birth,7,2) from patient;
85
72
95
78
61
sqlite> select substr(date_of_birth,7,2) as birth_year from patient;
85
72
95
78
61
```

How many wards in the table?

patient_no	last_name	first_name	sex	date_of_birth	ward
454	Smith	John	M	14.08.78	6
223	Jones	Peter	M	07.12.85	8
597	Brown	Brenda	F	17.06.61	3
234	Jenkins	Alan	M	29.01.72	7
244	Wells	Chris	F	25.02.95	6

Try it yourself...

```
sqlite> select count(distinct ward) from patient;
4
```

Which patients' last names start with J?

patient_no	last_name	first_name	sex	date_of_birth	ward
454	Smith	John	M	14.08.78	6
223	Jones	Peter	M	07.12.85	8
597	Brown	Brenda	F	17.06.61	3
234	Jenkins	Alan	M	29.01.72	7
244	Wells	Chris	F	25.02.95	6

```
sqlite> select * from patient where substr(last_name,1,1) = "J";
223,Jones,Peter,M,07.12.85,8
234,Jenkins,Alan,M,29.01.72,7
sqlite>
sqlite> select * from patient where last_name like 'J%';
223,Jones,Peter,M,07.12.85,8
234,Jenkins,Alan,M,29.01.72,7
```

Which patients have ‘n’ in their first name?

patient_no	last_name	first_name	sex	date_of_birth	ward
454	Smith	John	M	14.08.78	6
223	Jones	Peter	M	07.12.85	8
597	Brown	Brenda	F	17.06.61	3
234	Jenkins	Alan	M	29.01.72	7
244	Wells	Chris	F	25.02.95	6

```
sqlite> select first_name,last_name from patient where
         first_name like '%n%' order by first_name;
Alan,Jenkins
Brenda,Brown
John,Smith
```

What are the patients names and ages?

patient_no	last_name	first_name	sex	date_of_birth	ward
454	Smith	John	M	14.08.78	6
223	Jones	Peter	M	07.12.85	8
597	Brown	Brenda	F	17.06.61	3
234	Jenkins	Alan	M	29.01.72	7
244	Wells	Chris	F	25.02.95	6

```
sqlite> select first_name, last_name, 2020 – (1900 +
         cast(substr(date_of_birth,7,2) as integer)) from patient;
Peter,Jones,31
Alan,Jenkins,44
Chris,Wells,21
John,Smith,38
Brenda,Brown,55
```

This also works:

```
sqlite> select first_name, last_name, 120-substr(date_of_birth,7,2)
from patient;
```

What is the average patient age?

patient_no	last_name	first_name	sex	date_of_birth	ward
454	Smith	John	M	14.08.78	6
223	Jones	Peter	M	07.12.85	8
597	Brown	Brenda	F	17.06.61	3
234	Jenkins	Alan	M	29.01.72	7
244	Wells	Chris	F	25.02.95	6

```
sqlite> select avg(120-substr(date_of_birth,7,2)) from patient;
36.8
```