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Diagram

Description automatically generated with medium confidence

**Title:** Coursework Part 2

**Matriculation Number:** 40512375

**Module Title:** Database Systems

**Module Number:** SET11101

**Name of Module Leader:** Pete Barclay

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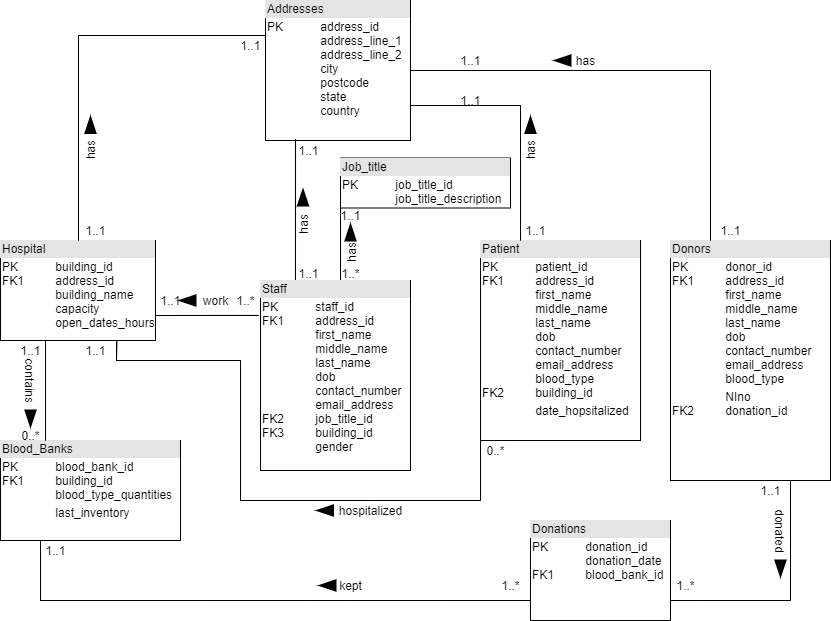
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# Schema from coursework part 1

Diagram, schematic

Description automatically generated

# Modified schema for coursework part 2



The modifications from the 1st schema were made to correct some mistakes made and some no needed entities were removed to make the model smaller. The entities that have been removed are the religion, medications, and medical condition entities that were not necessary for the second part of the coursework and to perform the test planned. Also, the blood type entity transformed into an attribute. The mistakes that have been corrected are the relation between staff and job title became a many to one instead of one to one and the relation of staff with hospitals became many to one instead of many to many.

## UNF

patient\_id, first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, blood\_type, date\_hospitalized, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country, building\_id, building\_name, capacity, open\_dates\_hours, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country,

donor\_id, , first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, blood\_type, Nino, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country, donation\_id, donation\_date, blood\_bank\_id, blood\_type\_quantities, last\_invetory, building\_id, , building\_name, capacity, open\_dates\_hours, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

staff\_id, first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, gender, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country, job\_title\_id, job\_title\_description, building\_id, , building\_name, capacity, open\_dates\_hours, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

building\_id, , building\_name, capacity, open\_dates\_hours, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

blood\_bank\_id, blood\_type\_quantities, last\_invetory, building\_id, , building\_name, capacity, open\_dates\_hours, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

## 1NF

patient\_id, first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, blood\_type, date\_hospitalized, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country, building\_id, building\_name, capacity, open\_dates\_hours, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

donor\_id, , first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, blood\_type, Nino, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country, donation\_id, donation\_date, blood\_bank\_id, blood\_type\_quantities, last\_invetory, building\_id, , building\_name, capacity, open\_dates\_hours, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

staff\_id, first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, gender, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country, job\_title\_id, job\_title\_description, building\_id, , building\_name, capacity, open\_dates\_hours, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

building\_id, , building\_name, capacity, open\_dates\_hours, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

blood\_bank\_id, blood\_type\_quantities, last\_invetory, building\_id, , building\_name, capacity, open\_dates\_hours, address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

## 2NF

patient\_id, first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, blood\_type, date\_hospitalized

address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

building\_id, building\_name, capacity, open\_dates\_hours

donor\_id, , first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, blood\_type, Nino

address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

donation\_id, donation\_date

blood\_bank\_id, blood\_type\_quantities, last\_invetory

building\_id, , building\_name, capacity, open\_dates\_hours

staff\_id, first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, gender

address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

job\_title\_id, job\_title\_description

building\_id, , building\_name, capacity, open\_dates\_hours

building\_id, , building\_name, capacity, open\_dates\_hours

address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

blood\_bank\_id, blood\_type\_quantities, last\_invetory

building\_id, , building\_name, capacity, open\_dates\_hours

address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

## 3NF

patient\_id, address\_id, building\_id, first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, blood\_type, date\_hospitalized

donor\_id, address\_id, donation\_id, first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, blood\_type, Nino

staff\_id, address\_id, job\_title\_id, building\_id, first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, gender

blood\_bank\_id, building\_id, blood\_type\_quantities, last\_ inventory

building\_id, address\_id, building\_name, capacity, open\_dates\_hours

donation\_id, blood\_bank\_id, donation\_date

job\_title\_id, job\_title\_description

address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country

## Give each resulting entity a name

Patients(patient\_id, address\_id, building\_id, first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, blood\_type, date\_hospitalized)

Donors (donor\_id, address\_id, donation\_id, first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, blood\_type, Nino)

Staff (staff\_id, address\_id, job\_title\_id, building\_id, first\_name, middle\_name, last\_name, dob, contact\_number, email\_address, gender)

Blood\_banks (blood\_bank\_id, building\_id, blood\_type\_quantities, last\_ inventory)

Hospitals(building\_id, address\_id, building\_name, capacity, open\_dates\_hours)

Donations (donation\_id, blood\_bank\_id, donation\_date)

Job\_titles (job\_title\_id, job\_title\_description)

Addresses(address\_id, address\_line\_1, address\_line\_2, city, postcode, state, country)

# DDL & DML

**CREATE** **TABLE** `Addresses` (

`address\_id` **INT**(11) **NOT** **NULL** **AUTO\_INCREMENT**,

`address\_line\_1` **VARCHAR**(50) **NOT** **NULL**,

`address\_line\_2` **VARCHAR**(15) **NULL** **DEFAULT** **NULL**,

`city` **VARCHAR**(15) **NOT** **NULL**,

`postcode` **VARCHAR**(8) **NOT** **NULL**,

`state` **VARCHAR**(15) **NOT** **NULL**,

`country` **VARCHAR**(15) **NOT** **NULL**,

**PRIMARY** **KEY** (`address\_id`),

**UNIQUE** **INDEX** `address\_id` (`address\_id`)

);

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 15 Salamander Street', ' Edinburgh', ' EH6 7HL', ' Midlothian', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 4 Huntingdon Place', ' Edinburgh', ' EH7 4AT', ' Midlothian', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 143 Argyle St', ' Glasgow', ' G2 8BX', ' Glasgow', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 197 Victoria Rd', ' Glasgow', ' G42 7AD', ' Glasgow ', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 248 Hawthron St ', ' Glasgow', ' G22 6RY ', ' Glasgow ', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 20 Ashfield St ', ' Glasgow', ' G22 5HE ', ' Glasgow ', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 46 Glover St ', ' Perth', ' PH2 0JR ', ' Perth', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 37 Feus Rd ', ' Perth', ' PH1 2AS ', ' Perth', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 8 Murray Pl ', ' Perth ', ' PH1 1BL ', ' Perth ', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 15 Ratcliffe Terrace ', ' Edinburgh', ' EH9 1SX ', ' Midlothian', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 140 Causewayside ', ' Edinburgh', ' EH9 1PR', ' Midlothian', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 41 Castle St ', ' Inverness ', ' EH6 7HL', ' Inverness ', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 44 Skinner Ct ', ' Inverness ', ' IV3 8HG ', ' Inverness ', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 30 Southside Rd ', ' Inverness ', ' IV2 4XA ', ' Inverness ', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 505 E Dock St ', ' Dundee ', ' DD1 3JX ', ' Dundee ', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 119 Clepington Rd ', ' Dundee ', ' DD3 7NU ', ' Dundee ', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 101 Strathmartine Rd ', ' Dundee ', ' DD3 7SG ', ' Dundee ', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 21 Abercromby Pl ', ' Stirling ', ' FK8 2QP ', ' Stirling ', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 10 Kent Rd ', ' Stirling ', ' FK7 7QN ', ' Stirling ', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 28 Allan Park ', ' Stirling ', ' FK8 2LT', ' Stirling ', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 39 Westfield Rd ', ' Edinburgh', ' EH11 2QW ', ' Midlothian', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 111 Viewforth ', ' Edinburgh', ' EH11 1JL ', ' Midlothian', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 5 Saxe Coburg St ', ' Edinburgh', ' EH3 5BN ', ' Midlothian', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 33 Fettes Row ', ' Edinburgh', ' EH3 4JL ', ' Midlothian', ' UK');

**INSERT** **INTO** `Addresses` (`address\_line\_1`, `city`, `postcode`, `state`, `country`) **VALUES** (' 7 Broughton Rd ', ' Edinburgh', ' EH7 4EW ', ' Midlothian', ' UK');

**CREATE** **TABLE** `Hospitals` (

`building\_id` **INT**(11) **NOT** **NULL** **AUTO\_INCREMENT**,

`address\_id` **INT**(11) **NOT** **NULL**,

`building\_name` **VARCHAR**(50) **NOT** **NULL**,

`capacity` **INT**(11) **NOT** **NULL**,

`open\_dates\_hours` **VARCHAR**(50) **NOT** **NULL**,

**PRIMARY** **KEY** (`building\_id`),

**UNIQUE** **INDEX** `building\_id` (`building\_id`),

**INDEX** `FK\_Hospitals\_Addresses` (`address\_id`),

**CONSTRAINT** `FK\_Hospitals\_Addresses` **FOREIGN** **KEY** (`address\_id`) **REFERENCES** `Addresses` (`address\_id`)

);

**INSERT** **INTO** `Hospitals` (`address\_id`, `building\_name`, `capacity`, `open\_dates\_hours`) **VALUES** ('7', ' Royal Infirmary of Edinburgh', ' 800', ' Mon-Tue 08:00am to 23:59pm');

**INSERT** **INTO** `Hospitals` (`address\_id`, `building\_name`, `capacity`, `open\_dates\_hours`) **VALUES** ('10', ' Western General Hospital', '458', ' Tue-Fri 00:00am to 09:00pm');

**INSERT** **INTO** `Hospitals` (`address\_id`, `building\_name`, `capacity`, `open\_dates\_hours`) **VALUES** ('15', ' Chalmers Hospital', '956', ' Mon-Wed 06:00 am to 10:00pm');

**INSERT** **INTO** `Hospitals` (`address\_id`, `building\_name`, `capacity`, `open\_dates\_hours`) **VALUES** ('19', ' Royal Edinburgh Building', '689', ' Wed-Sun 10:00pm to 05:00pm');

**INSERT** **INTO** `Hospitals` (`address\_id`, `building\_name`, `capacity`, `open\_dates\_hours`) **VALUES** ('4', ' Gosport hospital', '246', ' Mon-Thu 07:00am to 00:00am');

**CREATE** **TABLE** `Blood\_Banks` (

`blood\_bank\_id` **INT**(11) **NOT** **NULL** **AUTO\_INCREMENT**,

`building\_id` **INT**(11) **NOT** **NULL**,

`blood\_type\_quantities` **TEXT** **NULL** **DEFAULT** **NULL**,

`last\_ inventory` **DATE** **NULL** **DEFAULT** **NULL**,

**PRIMARY** **KEY** (`blood\_bank\_id`),

**UNIQUE** **INDEX** `blood\_bank\_id` (`blood\_bank\_id`),

**INDEX** `FK\_Blood Banks\_Hospitals` (`building\_id`),

**CONSTRAINT** `FK\_Blood Banks\_Hospitals` **FOREIGN** **KEY** (`building\_id`) **REFERENCES** `Hospitals` (`building\_id`)

);

**INSERT** **INTO** `Blood\_Banks` (`building\_id`, `blood\_type\_quantities`, `last\_ inventory`) **VALUES** ('5', ' 0+ : 65L, 0- : 5L, A+ : 40L, A- : 45L ,B+ : 37L,B- : 30L, AB+ : 15L, AB- :0L ', ' 2020-12-05');

**INSERT** **INTO** `Blood\_Banks` (`building\_id`, `blood\_type\_quantities`, `last\_ inventory`) **VALUES** ('5', ' 0+ : 43L, 0- : 0L, A+ : 15L, A- : 25L ,B+ : 69L,B- : 32L, AB+ : 10L, AB- :3L ', ' 2021-12-02');

**INSERT** **INTO** `Blood\_Banks` (`building\_id`, `blood\_type\_quantities`, `last\_ inventory`) **VALUES** ('5', ' 0+ : 3L, 0- : 25L, A+ : 66L, A- : 48L ,B+ : 2L,B- : 33L, AB+ : 15L, AB- :20L ', ' 2021-12-02');

**CREATE** **TABLE** `Job title` (

`job\_title\_id` **INT**(11) **NOT** **NULL** **AUTO\_INCREMENT**,

`job\_title\_description` **VARCHAR**(50) **NOT** **NULL**,

**PRIMARY** **KEY** (`job\_title\_id`),

**UNIQUE** **INDEX** `job\_title\_id` (`job\_title\_id`)

);

**INSERT** **INTO** `Job title` (`job\_title\_description`) **VALUES** (' Nurse');

**INSERT** **INTO** `Job title` (`job\_title\_description`) **VALUES** (' Surgeon');

**INSERT** **INTO** `Job title` (`job\_title\_description`) **VALUES** (' Optician');

**INSERT** **INTO** `Job title` (`job\_title\_description`) **VALUES** (' Cardiologist');

**INSERT** **INTO** `Job title` (`job\_title\_description`) **VALUES** (' Gynecoligist');

**CREATE** **TABLE** `Staff` (

`staff\_id` **INT**(11) **NOT** **NULL** **AUTO\_INCREMENT**,

`address\_id` **INT**(11) **NOT** **NULL**,

`job\_title\_id` **INT**(11) **NOT** **NULL**,

`building\_id` **INT**(11) **NOT** **NULL**,

`first\_name` **VARCHAR**(50) **NOT** **NULL**,

`middle\_name` **VARCHAR**(50) **NULL** **DEFAULT** **NULL**,

`last\_name` **VARCHAR**(50) **NOT** **NULL**,

`dob` **DATE** **NOT** **NULL**,

`contact\_number` **VARCHAR**(50) **NOT** **NULL**,

`email\_address` **VARCHAR**(50) **NOT** **NULL**,

`gender` **CHAR**(50) **NULL** **DEFAULT** **NULL**,

**PRIMARY** **KEY** (`staff\_id`),

**UNIQUE** **INDEX** `staff\_id` (`staff\_id`),

**INDEX** `FK\_Staff\_Addresses` (`address\_id`),

**INDEX** `FK\_Staff\_Job title` (`job\_title\_id`),

**INDEX** `FK\_Staff\_Hospitals` (`building\_id`),

**CONSTRAINT** `FK\_Staff\_Addresses` **FOREIGN** **KEY** (`address\_id`) **REFERENCES** `Addresses` (`address\_id`),

**CONSTRAINT** `FK\_Staff\_Hospitals` **FOREIGN** **KEY** (`building\_id`) **REFERENCES** `Hospitals` (`building\_id`),

**CONSTRAINT** `FK\_Staff\_Job title` **FOREIGN** **KEY** (`job\_title\_id`) **REFERENCES** `Job title` (`job\_title\_id`)

);

**INSERT** **INTO** `Staff` (`address\_id`, `job\_title\_id`, `building\_id`, `first\_name`,`last\_name`, `dob`, `contact\_number`, `email\_address`, `gender`) **VALUES** ('11', '2', '3', ' John', ' Clark', ' 1982-12-13', ' 0123456789', ' Johnclark@gmail.com', ' Man');

**INSERT** **INTO** `Staff` (`address\_id`, `job\_title\_id`, `building\_id`, `first\_name`,`last\_name`, `dob`, `contact\_number`, `email\_address`, `gender`) **VALUES** ('16', '1', '4', ' Maria', ' Newton', ' 1989-11-19', ' 0234567891', ' mar.new@gmail.com', ' woman');

**INSERT** **INTO** `Staff` (`address\_id`, `job\_title\_id`, `building\_id`, `first\_name`, `middle\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `gender`) **VALUES** ('18', '5', '4', ' Nick', ' Lweis', ' Dekker', ' 1979-06-25', ' 0345678912', ' nick@gmail.com', ' man');

**INSERT** **INTO** `Staff` (`address\_id`, `job\_title\_id`, `building\_id`, `first\_name`, `middle\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `gender`) **VALUES** ('20', '3', '5', ' Anna', ' Nicol', ' Paulova', ' 1986-02-05', ' 0456789123', ' Anna@gmail.com', ' woman');

**INSERT** **INTO** `Staff` (`address\_id`, `job\_title\_id`, `building\_id`, `first\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `gender`) **VALUES** ('1', '5', '2', ' Liam',' Nison', ' 1975-09-30', ' 0567891234', ' liam@gmail.com', ' man');

**CREATE** **TABLE** `Patients` (

`patient\_id` **INT**(11) **NOT** **NULL** **AUTO\_INCREMENT**,

`address\_id` **INT**(11) **NOT** **NULL**,

`building\_id` **INT**(11) **NOT** **NULL**,

`first\_name` **VARCHAR**(50) **NOT** **NULL**,

`middle\_name` **VARCHAR**(50) **NULL** **DEFAULT** **NULL**,

`last\_name` **VARCHAR**(50) **NOT** **NULL**,

`dob` **DATE** **NOT** **NULL**,

`contact\_number` **VARCHAR**(50) **NOT** **NULL**,

`email\_address` **VARCHAR**(50) **NOT** **NULL**,

`blood\_type` **VARCHAR**(10) **NOT** **NULL**,

`date\_hospitalized` **DATE** **NOT** **NULL**,

**PRIMARY** **KEY** (`patient\_id`),

**UNIQUE** **INDEX** `patient\_id` (`patient\_id`),

**INDEX** `FK\_Patients\_Addresses` (`address\_id`),

**INDEX** `FK\_Patients\_Hospitals` (`building\_id`),

**CONSTRAINT** `FK\_Patients\_Addresses` **FOREIGN** **KEY** (`address\_id`) **REFERENCES** `Addresses` (`address\_id`),

**CONSTRAINT** `FK\_Patients\_Hospitals` **FOREIGN** **KEY** (`building\_id`) **REFERENCES** `Hospitals` (`building\_id`)

);

**INSERT** **INTO** `Patients` (`address\_id`, `building\_id`, `first\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `date\_hospitalized`) **VALUES** ('3', '3', ' Brad', ' Pitt', ' 1950-05-31', ' 0987456321', ' brad@gmail.com', '0-', '2021-07-17');

**INSERT** **INTO** `Patients` (`address\_id`, `building\_id`, `first\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `date\_hospitalized`) **VALUES** ('6', '1', ' Jennifer', ' Aniston', ' 1966-05-25', ' 0546987231', ' jen@gmail.com', 'A+', '2021-11-26');

**INSERT** **INTO** `Patients` (`address\_id`, `building\_id`, `first\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `date\_hospitalized`) **VALUES** ('2', '3', ' Nansy', ' Paras', ' 1994-05-31', ' 0852741963', ' nansy@gmail.com', '0-', '2021-04-08');

**INSERT** **INTO** `Patients` (`address\_id`, `building\_id`, `first\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `date\_hospitalized`) **VALUES** ('14', '3', ' Jain', ' Chen', ' 1953-05-20', ' 03571594682', ' jian@gmail.com', '0-', '2020-12-13');

**INSERT** **INTO** `Patients` (`address\_id`, `building\_id`, `first\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `date\_hospitalized`) **VALUES** ('13', '1', ' Mathew', ' Perry', ' 1937-02-17', ' 03698745621', ' perry@gmail.com', 'AB+', '2021-05-23');

**INSERT** **INTO** `Patients` (`address\_id`, `building\_id`, `first\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `date\_hospitalized`) **VALUES** ('21', '4', ' Matt', ' LeBlanc', ' 1992-12-10', ' 6324568755', ' Matt@gmail.com', '0-', '2003-12-13');

**INSERT** **INTO** `Patients` (`address\_id`, `building\_id`, `first\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `date\_hospitalized`) **VALUES** ('22', '4', ' Jason', ' Statham', ' 1972-12-13', ' 53564986', ' Ja@gmail.com', '0-', '2017-12-13');

**INSERT** **INTO** `Patients` (`address\_id`, `building\_id`, `first\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `date\_hospitalized`) **VALUES** ('23', '4', ' Cameron', ' Patton', ' 1972-12-13', ' 6543215246', ' camm@gmail.com', '0-', '2019-12-12');

**INSERT** **INTO** `Patients` (`address\_id`, `building\_id`, `first\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `date\_hospitalized`) **VALUES** ('24', '1', ' Caitlyn', ' Kinnaird', ' 1996-06-09', ' 54315496874', ' cait@gmail.com', '0-', '2021-12-02');

**INSERT** **INTO** `Patients` (`address\_id`, `building\_id`, `first\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `date\_hospitalized`) **VALUES** ('25', '3', ' Chen', ' Mao', ' 2007-12-13', ' 578732154', ' chen@gmail.com', 'as', '2021-10-17');

**CREATE** **TABLE** `Donations` (

`donation\_id` **INT**(11) **NOT** **NULL** **AUTO\_INCREMENT**,

`blood\_bank\_id` **INT**(11) **NOT** **NULL**,

`donation\_date` **DATE** **NOT** **NULL**,

**PRIMARY** **KEY** (`donation\_id`),

**UNIQUE** **INDEX** `donation\_id` (`donation\_id`),

**INDEX** `FK\_Donations\_Blood Banks` (`blood\_bank\_id`),

**CONSTRAINT** `FK\_Donations\_Blood Banks` **FOREIGN** **KEY** (`blood\_bank\_id`) **REFERENCES** `Blood\_Banks` (`blood\_bank\_id`)

);

**INSERT** **INTO** `Donations` (`blood\_bank\_id`, `donation\_date`) **VALUES** ('3', ' 2021-07-08');

**INSERT** **INTO** `Donations` (`blood\_bank\_id`, `donation\_date`) **VALUES** ('3', ' 2021-11-17');

**INSERT** **INTO** `Donations` (`blood\_bank\_id`, `donation\_date`) **VALUES** ('2', ' 2021-12-01');

**INSERT** **INTO** `Donations` (`blood\_bank\_id`, `donation\_date`) **VALUES** ('1', ' 2021-11-08');

**INSERT** **INTO** `Donations` (`blood\_bank\_id`, `donation\_date`) **VALUES** ('1', ' 2021-04-11');

**CREATE** **TABLE** `Donors` (

`donor\_id` **INT**(11) **NOT** **NULL** **AUTO\_INCREMENT**,

`address\_id` **INT**(11) **NOT** **NULL**,

`donation\_id` **INT**(11) **NOT** **NULL**,

`first\_name` **VARCHAR**(50) **NOT** **NULL**,

`middle\_name` **VARCHAR**(50) **NULL** **DEFAULT** **NULL**,

`last\_name` **VARCHAR**(50) **NOT** **NULL**,

`dob` **DATE** **NOT** **NULL**,

`contact\_number` **VARCHAR**(50) **NOT** **NULL**,

`email\_address` **VARCHAR**(50) **NOT** **NULL**,

`blood\_type` **VARCHAR**(10) **NOT** **NULL**,

`Nino` **VARCHAR**(20) **NOT** **NULL**,

**PRIMARY** **KEY** (`donor\_id`),

**UNIQUE** **INDEX** `donor\_id` (`donor\_id`),

**INDEX** `FK\_Donors\_Addresses` (`address\_id`),

**INDEX** `FK\_Donors\_Donations` (`donation\_id`),

**CONSTRAINT** `FK\_Donors\_Addresses` **FOREIGN** **KEY** (`address\_id`) **REFERENCES** `Addresses` (`address\_id`),

**CONSTRAINT** `FK\_Donors\_Donations` **FOREIGN** **KEY** (`donation\_id`) **REFERENCES** `Donations` (`donation\_id`)

);

**INSERT** **INTO** `Donors` (`address\_id`, `donation\_id`, `first\_name`, `middle\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `Nino`) **VALUES** ('5', '5', ' Clara', ' Ennei', ' Solbowa', ' 2003-01-09', ' 1535789541', ' clar@gmail.com', 'A+', ' AS1214ASD8');

**INSERT** **INTO** `Donors` (`address\_id`, `donation\_id`, `first\_name`, `middle\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `Nino`) **VALUES** ('8', '3', 'Tolis', 'Marios', 'Suvle', '1994-03-11', '63824957551', 'tolis@gmail.com', '0+', 'ASDASD5123548SD');

**INSERT** **INTO** `Donors` (`address\_id`, `donation\_id`, `first\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `Nino`) **VALUES** ('17', '2', 'Aris', 'Nikoy', '1994-06-19', '4358745871', 'aris@gmail.com', 'AB-', 'G2V54F2V');

**INSERT** **INTO** `Donors` (`address\_id`, `donation\_id`, `first\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `Nino`) **VALUES** ('9', '4', 'Lia', 'Mattheson', '1993-08-09', '4358162846', 'lia@gmail.com', 'A-', 'SD52VCDT5JH12');

**INSERT** **INTO** `Donors` (`address\_id`, `donation\_id`, `first\_name`, `last\_name`, `dob`, `contact\_number`, `email\_address`, `blood\_type`, `Nino`) **VALUES** ('12', '1', 'Mia', 'McPherson', '1981-01-12', '5556987456', 'mia@gmail.com', '0-', 'ASDASD5555ASDAS6');

# Report query proposed in stage 1

Show how many patients in each hospital, that has a blood bank, have blood type 0- and group them by most to least.

## Code

**SELECT** Blood\_Banks.building\_id **AS** 'Building ID', Hospitals.building\_name **AS** 'Hospital name', **COUNT**(Patients.blood\_type) **AS** 'Amount of patients with blood type 0-'

**FROM** Patients

**INNER** **JOIN** Blood\_Banks **ON** Patients.building\_id = Blood\_Banks.building\_id

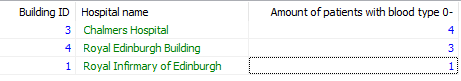
**INNER** **JOIN** Hospitals **ON** Hospitals.building\_id = Blood\_Banks.building\_id

**WHERE** blood\_type = '0-'

**GROUP** **BY** building\_name

This query is expected to return the number of patients in each hospital, that has a blood bank, that have blood type 0-.

## Results of the report query

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The results are those that were expected from the report query when we run the above code.