

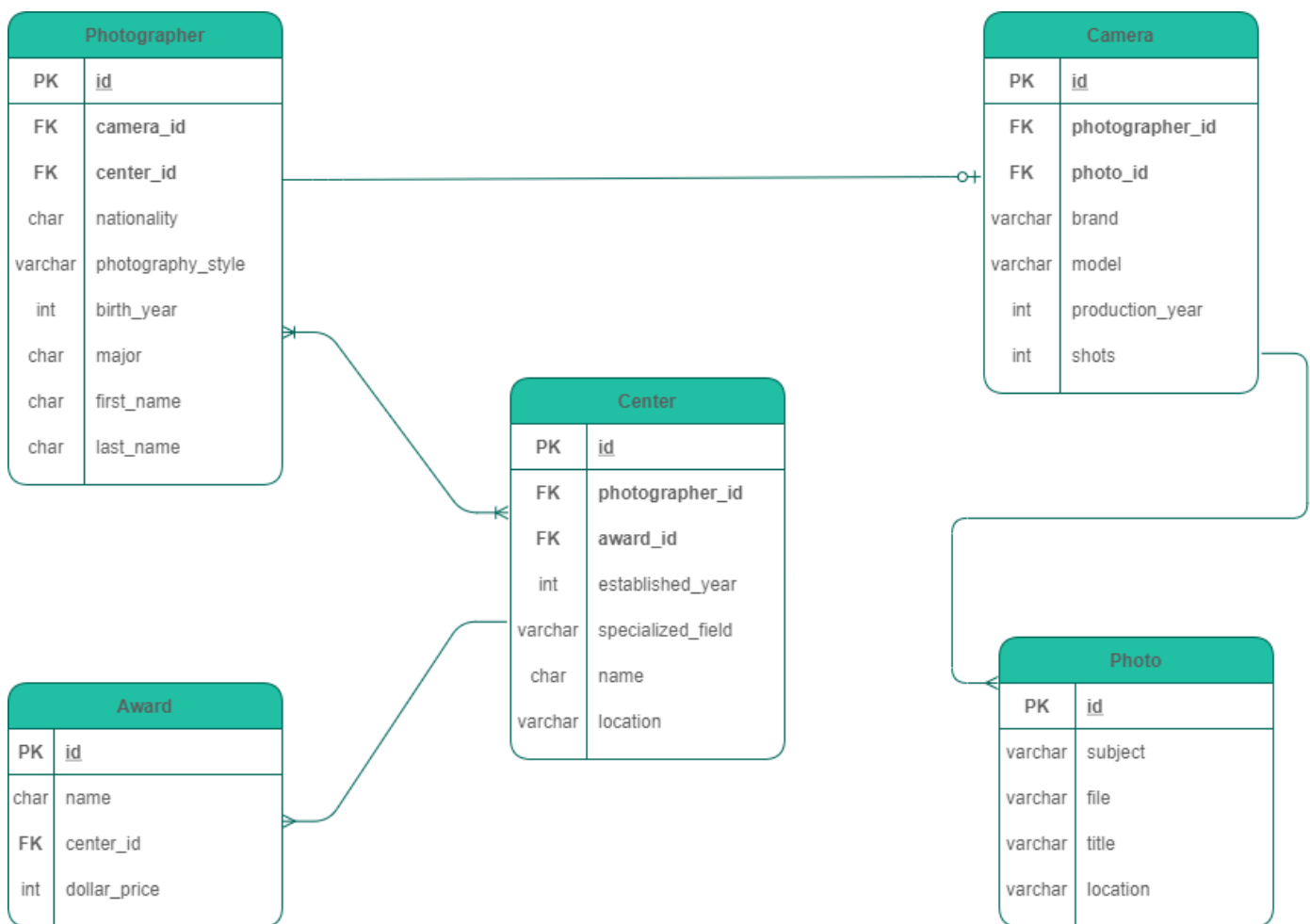
1-1

```
postgres=# CREATE DATABASE PHOTOGRAPHY;
CREATE DATABASE
postgres=# \l
```

List of databases					
Name	Owner	Encoding	Collate	Ctype	Access privileges
library	postgres	UTF8	Persian_Iran.1252	Persian_Iran.1252	
photography	postgres	UTF8	Persian_Iran.1252	Persian_Iran.1252	
postgres	postgres	UTF8	Persian_Iran.1252	Persian_Iran.1252	
template0	postgres	UTF8	Persian_Iran.1252	Persian_Iran.1252	=c/postgres + postgres=CTc/postgres
template1	postgres	UTF8	Persian_Iran.1252	Persian_Iran.1252	=c/postgres + postgres=CTc/postgres
test	postgres	UTF8	Persian_Iran.1252	Persian_Iran.1252	

(6 rows)

1-2



A. Connecting to the database

```
postgres=# \c photography
You are now connected to database "photography" as user "postgres".
```

B. Creating tables

```
photography=# CREATE TABLE PHOTO (ID INT PRIMARY KEY NOT NULL, SUBJECT VARCHAR(30) NOT NULL, FILE VARCHAR(30) NOT NULL, TITLE VARCHAR(30) NOT NULL, LOCATION VARCHAR(30) NOT NULL);
CREATE TABLE
```

```
photography=# CREATE TABLE CAMERA (ID INT PRIMARY KEY NOT NULL, BRAND VARCHAR(20) NOT NULL, MODEL VARCHAR(20) NOT NULL, PRODUCTION_YEAR INT NOT NULL, SHOTS INT NOT NULL);
CREATE TABLE
```

```
photography=# CREATE TABLE PHOTOGRAPHER (ID INT PRIMARY KEY NOT NULL, NATIONALITY CHAR(20) NOT NULL, PHOTOGRAPHY_STYLE VARCHAR(20) NOT NULL, BIRTH_YEAR INT NOT NULL, MAJOR CHAR(20) NOT NULL, FIRST_NAME CHAR(20) NOT NULL, LAST_NAME CHAR(20) NOT NULL);
CREATE TABLE
```

```
photography=# CREATE TABLE CENTER (ID INT PRIMARY KEY NOT NULL, NAME CHAR(20) NOT NULL, LOCATION VARCHAR(30) NOT NULL, ESTABLISHED_YEAR INT NOT NULL, SPECIALIZED_FIELD VARCHAR(30) NOT NULL);
CREATE TABLE
```

```
photography=# CREATE TABLE AWARD (ID INT PRIMARY KEY NOT NULL, NAME CHAR(20) NOT NULL, DOLLAR_PRICE INT NOT NULL);
CREATE TABLE
```

C. Adding the foreign keys to the tables

```
photography=# ALTER TABLE CAMERA ADD COLUMN PHOTOGRAPHER_ID INT NOT NULL REFERENCES PHOTOGRAPHER(ID);
ALTER TABLE
photography=# ALTER TABLE CAMERA ADD COLUMN PHOTO_ID INT NOT NULL REFERENCES PHOTO(ID);
ALTER TABLE
```

```
photography=# ALTER TABLE CENTER ADD COLUMN PHOTOGRAPHER_ID INT NOT NULL REFERENCES PHOTOGRAPHER(ID);
ALTER TABLE
photography=# ALTER TABLE CENTER ADD COLUMN AWARD_ID INT NOT NULL REFERENCES AWARD(ID);
ALTER TABLE
```

```
photography=# ALTER TABLE PHOTOGRAPHER ADD COLUMN CAMERA_ID INT NOT NULL REFERENCES CAMERA(ID);
ALTER TABLE
photography=# ALTER TABLE PHOTOGRAPHER ADD COLUMN CENTER_ID INT NOT NULL REFERENCES CENTER(ID);
ALTER TABLE
```

```
photography=# ALTER TABLE AWARD ADD COLUMN CENTER_ID INT NOT NULL REFERENCES CENTER(ID);
ALTER TABLE
```

D. Watching details of the tables

```
photography=# \d photo
      Table "public.photo"
  Column |          Type          | Collation | Nullable | Default
-----|-----|-----|-----|-----
 id      | integer                |           | not null |
 subject | character varying(30)  |           | not null |
 file    | character varying(30)  |           | not null |
 title   | character varying(30)  |           | not null |
 location| character varying(30)  |           | not null |
Indexes:
    "photo_pkey" PRIMARY KEY, btree (id)
Referenced by:
    TABLE "camera" CONSTRAINT "camera_photo_id_fkey" FOREIGN KEY (photo_id) REFERENCES photo(id)
```

→ Foreign keys

```
photography=# \d camera
      Table "public.camera"
  Column |          Type          | Collation | Nullable | Default
-----|-----|-----|-----|-----
 id      | integer                |           | not null |
 brand   | character varying(20)  |           | not null |
 model   | character varying(20)  |           | not null |
 production_year | integer          |           | not null |
 shots   | integer                |           | not null |
 photographer_id | integer          |           | not null |
 photo_id | integer                |           | not null |
Indexes:
    "camera_pkey" PRIMARY KEY, btree (id)
Foreign-key constraints:
    "camera_photo_id_fkey" FOREIGN KEY (photo_id) REFERENCES photo(id)
    "camera_photographer_id_fkey" FOREIGN KEY (photographer_id) REFERENCES photographer(id)
Referenced by:
    TABLE "photographer" CONSTRAINT "photographer_camera_id_fkey" FOREIGN KEY (camera_id) REFERENCES camera(id)
```

→ Foreign keys

```
photography=# \d photographer
      Table "public.photographer"
  Column |          Type          | Collation | Nullable | Default
-----|-----|-----|-----|-----
 id      | integer                |           | not null |
 nationality | character(20)         |           | not null |
 photography_style | character varying(20) |           | not null |
 birth_year | integer                |           | not null |
 major     | character(20)          |           | not null |
 first_name | character(20)          |           | not null |
 last_name  | character(20)          |           | not null |
 camera_id  | integer                |           | not null |
 center_id  | integer                |           | not null |
Indexes:
    "photographer_pkey" PRIMARY KEY, btree (id)
Foreign-key constraints:
    "photographer_camera_id_fkey" FOREIGN KEY (camera_id) REFERENCES camera(id)
    "photographer_center_id_fkey" FOREIGN KEY (center_id) REFERENCES center(id)
Referenced by:
    TABLE "camera" CONSTRAINT "camera_photographer_id_fkey" FOREIGN KEY (photographer_id) REFERENCES photographer(id)
    TABLE "center" CONSTRAINT "center_photographer_id_fkey" FOREIGN KEY (photographer_id) REFERENCES photographer(id)
```

→ Foreign keys

```
photography=# \d center
      Table "public.center"
  Column |          Type          | Collation | Nullable | Default
-----|-----|-----|-----|-----
 id      | integer                |           | not null |
 name    | character(20)          |           | not null |
 location | character varying(30)  |           | not null |
 established_year | integer          |           | not null |
 specialized_field | character varying(30) |           | not null |
 photographer_id | integer          |           | not null |
 award_id | integer                |           | not null |
Indexes:
    "center_pkey" PRIMARY KEY, btree (id)
Foreign-key constraints:
    "center_award_id_fkey" FOREIGN KEY (award_id) REFERENCES award(id)
    "center_photographer_id_fkey" FOREIGN KEY (photographer_id) REFERENCES photographer(id)
Referenced by:
    TABLE "award" CONSTRAINT "award_center_id_fkey" FOREIGN KEY (center_id) REFERENCES center(id)
    TABLE "photographer" CONSTRAINT "photographer_center_id_fkey" FOREIGN KEY (center_id) REFERENCES center(id)
```

→ Foreign keys

```
photography=# \d award
      Table "public.award"
  Column |          Type          | Collation | Nullable | Default
-----|-----|-----|-----|-----
 id      | integer                |           | not null |
 name    | character(20)          |           | not null |
 dollar_price | integer                |           | not null |
 center_id | integer                |           | not null |
Indexes:
    "award_pkey" PRIMARY KEY, btree (id)
Foreign-key constraints:
    "award_center_id_fkey" FOREIGN KEY (center_id) REFERENCES center(id)
Referenced by:
    TABLE "center" CONSTRAINT "center_award_id_fkey" FOREIGN KEY (award_id) REFERENCES award(id)
```

→ Foreign keys