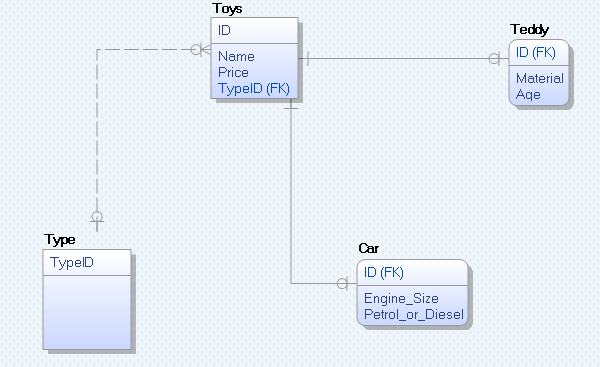
**Q1**



I’ve used table per concrete class as my design. There is non-identifying relationship between TOYS and TYPE table so each toy has Type Id. By this we can determine which attributes the toy will have. We will have to use joints to get attributes.

**Q2**

**E1**

I’ve use identifying one to many relationship as there always has to be one value in table E\_1 for many values in table E\_2

CREATE TABLE E\_1

(

K1 CHAR(18) NOT NULL

);

ALTER TABLE E\_1

ADD CONSTRAINT XPKE\_1 PRIMARY KEY (K1);

CREATE TABLE E\_2

(

K2 CHAR(18) NOT NULL ,

K1 CHAR(18) NOT NULL

);

ALTER TABLE E\_2

ADD CONSTRAINT XPKE\_2 PRIMARY KEY (K2,K1);

**E2**

I’ve used non identifying one or zero to zero or many relationship as we don’t have to have a value in table E\_3 and we can still have values in table E\_4

CREATE TABLE E\_3

(

K1 CHAR(18) NOT NULL

);

ALTER TABLE E\_3

ADD CONSTRAINT XPKE\_3 PRIMARY KEY (K1);

CREATE TABLE E\_4

(

K2 CHAR(18) NOT NULL ,

K1 CHAR(18) NULL

);

ALTER TABLE E\_4

ADD CONSTRAINT XPKE\_4 PRIMARY KEY (K2);

**E4**

I’ve used identifying one to zero or one relationship as there has to be at least one value in table E\_5 and there can be but doesn’t have to be a corresponding value in table E\_6

CREATE TABLE E\_5

(

K1 CHAR(18) NOT NULL

);

ALTER TABLE E\_5

ADD CONSTRAINT XPKE\_5 PRIMARY KEY (K1);

CREATE TABLE E\_6

(

K2 CHAR(18) NOT NULL ,

K1 CHAR(18) NOT NULL

);

ALTER TABLE E\_6

ADD CONSTRAINT XPKE\_6 PRIMARY KEY (K2,K1);

ALTER TABLE E\_2

ADD (CONSTRAINT R\_2 FOREIGN KEY (K1) REFERENCES E\_1 (K1));

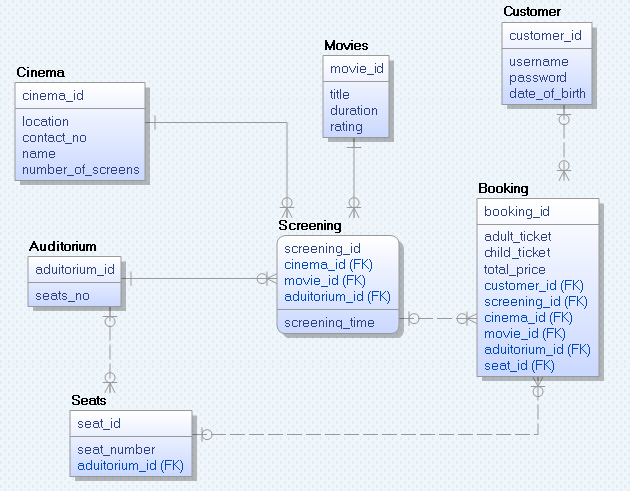
ALTER TABLE E\_4

ADD (CONSTRAINT R\_3 FOREIGN KEY (K1) REFERENCES E\_3 (K1) ON DELETE SET NULL);

ALTER TABLE E\_6

ADD (CONSTRAINT R\_13 FOREIGN KEY (K1) REFERENCES E\_5 (K1));

**Q3**



Booking table contain unique booking id, amount of adult tickets and child tickets, total price, customer id so we know who made the booking, screening id so we can find out when the movie will be played by joining the booking table with screening table, we also have the movie id, auditorium id and cinema id so we know in which cinema at which screen and which movie is played.