For homework 4 solution, query code given below.

a) Parents are not younger than their offspring's,

Here I create trigger for Specimen table and compared birthday between parent and child from current date. If parent age is younger than child it raises error.

Query code-

```
create or replace function parent_age()
returns trigger
as $body$
declare
species_bday DATE;
begin

SELECT birthdate INTO species_bday FROM Specimen;

IF ( NOW()::DATE - NEW.birthdate  > NOW()::DATE - species_bday  ) THEN
      RAISE EXCEPTION '% parent age must be older than child age', NEW.birthdate;
   END IF;

return NEW;
end;
$body$ language plpgsql;



create trigger parent_age
before insert
on Specimen
for each row
execute procedure parent_age();
```

Query Editor Query History

```
1  create or replace function parent_age()
2  returns trigger
3  as $body$
4
5  declare
6
7  total int;
8  begin
9
10 IF ( NEW.birthdate  < OLD.birthdate ) THEN
11         RAISE EXCEPTION '% parent age must be older than child age', NEW.birthdate;
12     END IF;
13
14 return NEW;
15
16 end;
17
18 $body$ language plpgsql;
19
20
21 create trigger parent_age
```

Data Output Explain Messages Notifications

```
CREATE TRIGGER

Query returned successfully in 43 msec.
```

Query Editor Query History

```
1  INSERT INTO Specimen VALUES(1042, 1, 101, 'Young one', '01/18/1999', 'F', 30.0, 100.0);
```

Data Output Explain Messages Notifications

```
ERROR:  1999-01-18 parent age must be older than child age
CONTEXT:  PL/pgSQL function parent_age() line 9 at RAISE
SQL state: P0001
```

Query Editor Query History

```
1  INSERT INTO Specimen VALUES(1042, 1, 101, 'Young one', '01/18/2018', 'F', 30.0, 100.0);
```

Data Output Explain Messages Notifications

```
INSERT 0 1

Query returned successfully in 54 msec.
```

b) AnimalSpecies Habitat information must coincide with the Habitat table. Temperature should not differ more than 5 degrees of what the species needs.

Here I create trigger for Habitat table and compared temperature from AnimalSpecies table. If temperature is differ more than +5 or -5 it raises error.

```
create or replace function tem()
returns trigger
as $body$
DECLARE
     species_temp float;

BEGIN
   SELECT temperature INTO species_temp FROM AnimalSpecies;


IF ( NEW.temperature < species_temp-5 or NEW.temperature > species_temp+5  ) THEN
      RAISE EXCEPTION '% habitate temp is not ok with species', NEW.temperature;
   END IF;

return NEW;
end;
$body$ language plpgsql;

create trigger tem
before insert
on Habitat
for each row
execute procedure tem();
```

Query Editor | Query History

```
1  INSERT INTO Habitat VALUES(106, 'Woods', 'For tigers', 70.0, 20.5);
```

Data Output | Explain | Messages | Notifications

```
ERROR:  20.5 habitate temp is not ok with species
CONTEXT:  PL/pgSQL function tem() line 9 at RAISE
SQL state: P0001
```

Query Editor | Query History

```
1  INSERT INTO Habitat VALUES(108, 'Woods', 'For tigers', 70.0, 30.5);
```

Data Output | Explain | Messages | Notifications

```
INSERT 0 1

Query returned successfully in 59 msec.
```