|  |  |  |
| --- | --- | --- |
| Aufgabe | Geschätzter Zeitlicher Aufwand (min) | Tatsächlicher Zeitlicher Aufwand (min) |
| 1 | 45 | 60 |
| 2 | 90 | 100 |
| 3 | - | - |
| 4 | 120 | 150 |
| 5 | 100 | 120 |
| 6 | 60 | 300 |
| 7 | 120 | 180 |
| 8 | 180 | 120 |
| 9 | 30 | 30 |

Aufgabe 4

USE emensawerbeseite;

CREATE TABLE gericht (

id BIGINT PRIMARY KEY,

name VARCHAR(80) NOT NULL UNIQUE,

beschreibung VARCHAR(800) NOT NULL,

erfasst\_am DATE NOT NULL,

vegetarisch BOOLEAN DEFAULT false NOT NULL,

vegan BOOLEAN DEFAULT false NOT NULL,

preis\_intern DOUBLE NOT NULL,

preis\_extern DOUBLE NOT NULL

);

ALTER TABLE

gericht

ADD CONSTRAINT nebenbedingung CHECK (preis\_intern <= preis\_extern);

ALTER TABLE

gericht

ADD CONSTRAINT preis\_intern\_mehrAls0 CHECK (preis\_intern > 0);

CREATE TABLE allergen (

code CHAR(4) PRIMARY KEY,

name VARCHAR(300) NOT NULL,

typ VARCHAR(20) NOT NULL DEFAULT 'Allergen'

);

CREATE TABLE kategorie (

id BIGINT PRIMARY KEY,

name VARCHAR(80) NOT NULL,

eltern\_id BIGINT,

bildname VARCHAR(200)

);

ALTER TABLE kategorie

ADD FOREIGN KEY (eltern\_id) REFERENCES kategorie(id);

CREATE TABLE gericht\_hat\_allergen (

code CHAR(4),

gericht\_id BIGINT NOT NULL

);

ALTER TABLE gericht\_hat\_allergen

ADD FOREIGN KEY (code) REFERENCES allergen(CODE);

ALTER TABLE gericht\_hat\_allergen

ADD FOREIGN KEY (gericht\_id) REFERENCES gericht(id);

CREATE TABLE gericht\_hat\_kategorie (

gericht\_id BIGINT NOT NULL,

kategorie\_id BIGINT NOT NULL

);

ALTER TABLE gericht\_hat\_kategorie

ADD FOREIGN KEY (gericht\_id) REFERENCES gericht(id);

ALTER TABLE gericht\_hat\_kategorie

ADD FOREIGN KEY (kategorie\_id) REFERENCES kategorie(id);

Abfragen

1. SELECT \* FROM gericht;
2. SELECT \* FROM allergen;
3. SELECT \* FROM kategorie;
4. SELECT \* FROM gericht\_hat\_allergen;

SELECT \* FROM gericht\_hat\_kategorie;

Aufgabe 5

5.1

select \* from gericht;

A screen shot of a computer

Description automatically generated

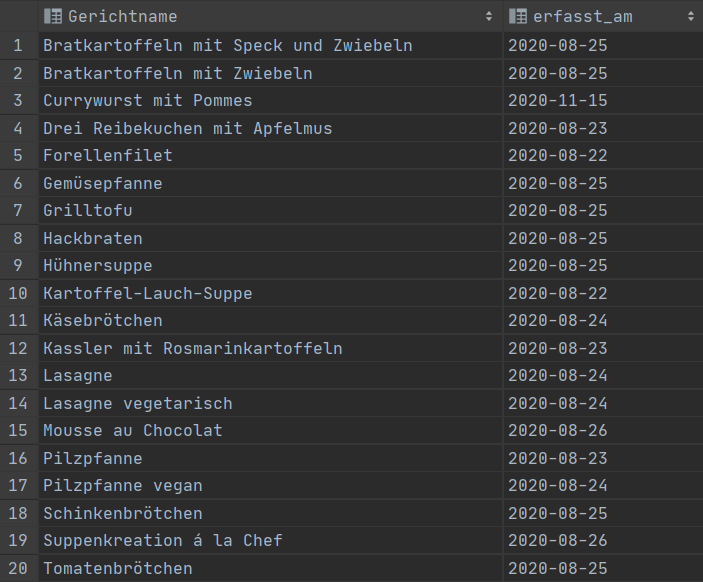
5.2

select erfasst\_am from gericht;

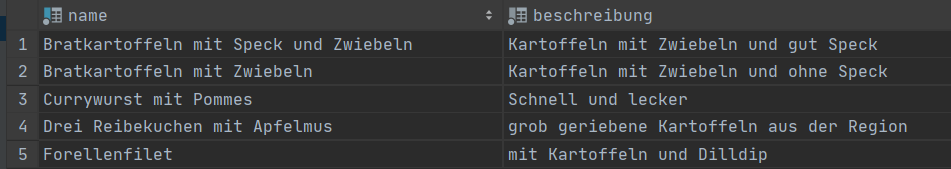
A picture containing graphical user interface

Description automatically generated

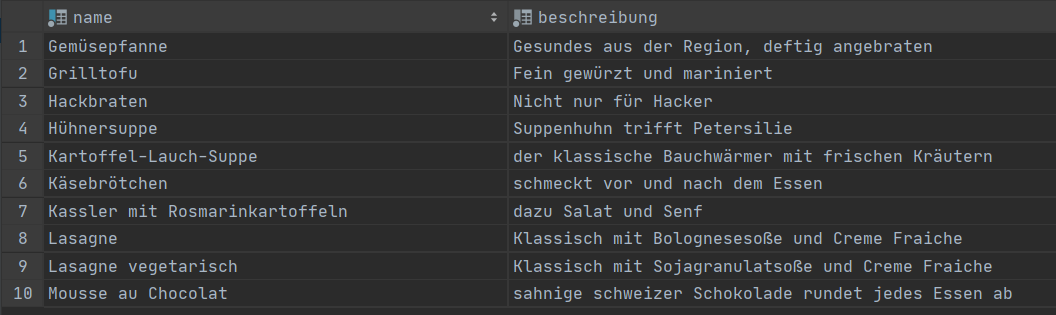
5.3

select name as Gerichtname , erfasst\_am from gericht order by name ASC; 

5.4

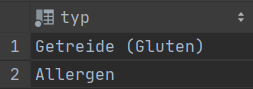
select name, beschreibung from gericht order by name ASC limit 5;

5.5

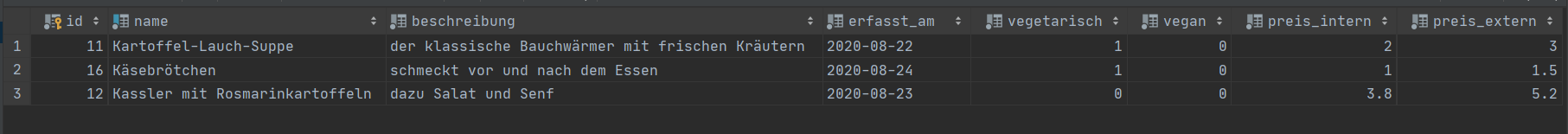
select name, beschreibung from gericht order by name ASC limit 10 offset 5;

5.6

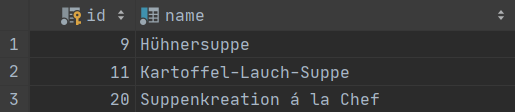
select distinct typ from allergen;



5.7

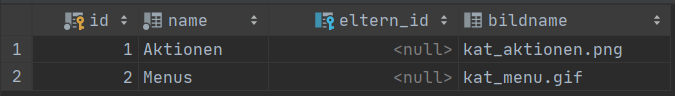
select \* from gericht where name like 'K%'; 

5.8

select id, name from gericht where name like '%suppe%';

5.9

select \* from kategorie where eltern\_id is null;



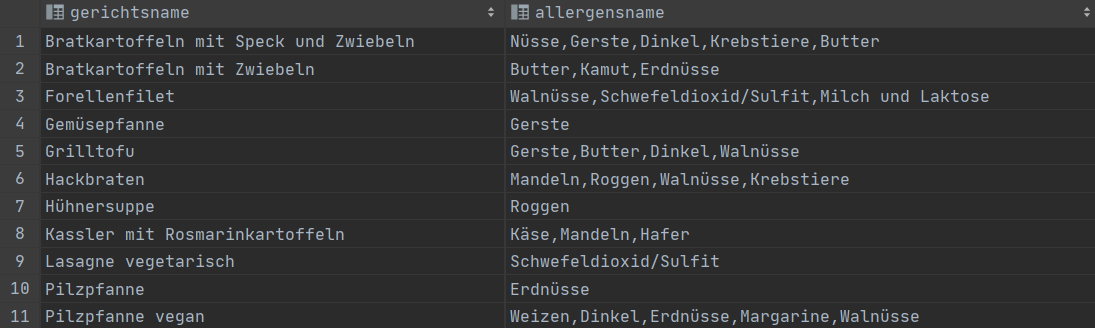
5.10

select g.name as gerichtsname, GROUP\_CONCAT(a.name) as allergensname from gericht g

join gericht\_hat\_allergen gha on g.id = gha.gericht\_id

join allergen a on gha.code = a.code

group by g.name;

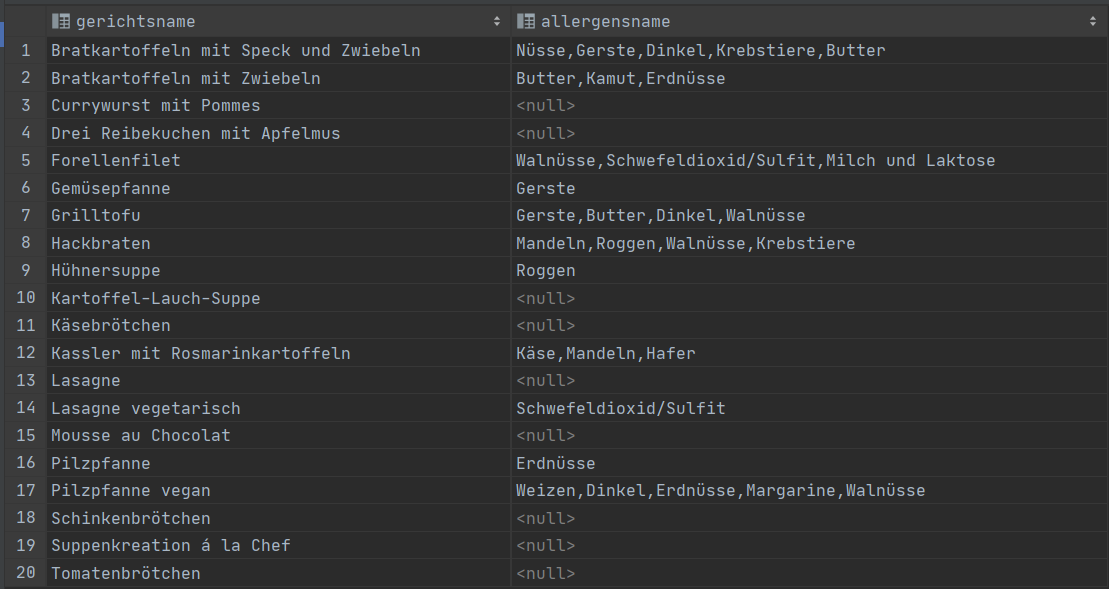


5.11

select g.name as gerichtsname, GROUP\_CONCAT(a.name) as allergensname from gericht g

left join gericht\_hat\_allergen gha on g.id = gha.gericht\_id

left join allergen a on gha.code = a.code

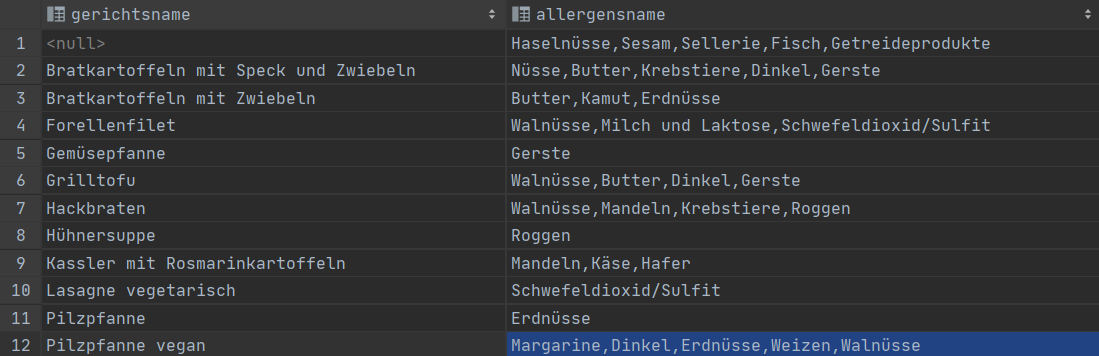
group by g.name; 

5.12

select g.name as gerichtsname, GROUP\_CONCAT(a.name) as allergensname from gericht g

right join gericht\_hat\_allergen gha on gha.gericht\_id = g.id

right join allergen a on gha.code = a.code group by g.name;

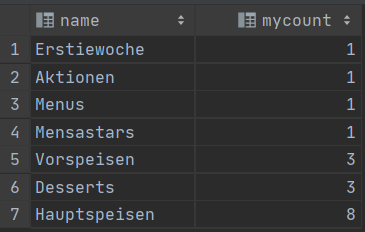


5.13

select k.name, COUNT(\*) as mycount from kategorie k

left join gericht\_hat\_kategorie ghk on k.id = ghk.kategorie\_id

group by k.name order by mycount ASC;



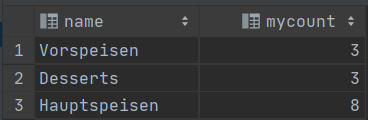
5.14

select k.name, COUNT(\*) as mycount from kategorie k

left join gericht\_hat\_kategorie ghk on k.id = ghk.kategorie\_id

group by k.name having mycount > 2

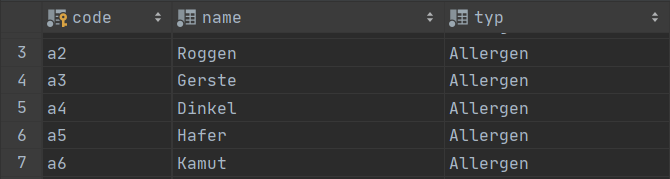
order by mycount ASC;



5.15

update allergen a

set a.name = 'Kamut'

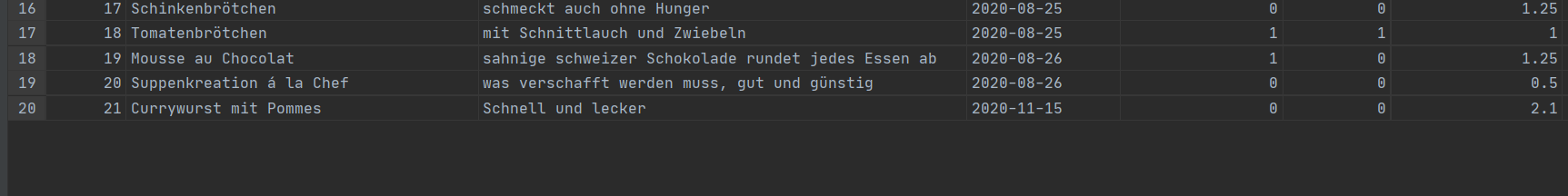
where a.code = 'a6'; 

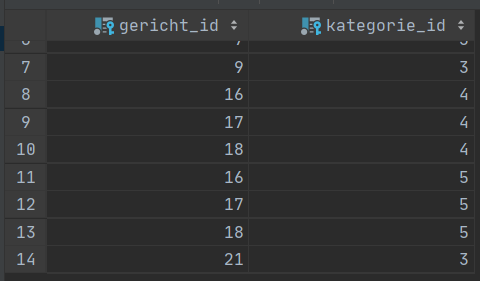
5.16

insert into gericht(id, name, beschreibung, erfasst\_am, preis\_intern, preis\_extern) VALUES

(21, 'Currywurst mit Pommes' , 'Schnell und lecker', '2020-10-20', '2.20', '2.5');

insert into gericht\_hat\_kategorie(gericht\_id, kategorie\_id) VALUES (21, 3);





Aufgabe 8 ( Relation Schreibweise )

Rückfragen ( Rückfragenummer, KontaktID, Text, Thema, Alter, Erfassungszeitpunkt, Dringlichkeit )

Kontakt ( KontaktID, Anrede, Vorname, Nachname, Email, Telefonnummer, Rechnungsadresse)

Kunden( Kontakt)

Zulieferer( Kontakt, Lieferungszeitfenster)

Anrede( Titel, KontaktID )

Anschift( KontaktID, Straße, Postleitzahl, Ort)

Rechnungsadresse(Anschift)

Hausanschift(Anschift)

HauptanschiftHausanschift)

Zweitwohnsitz (Hausanschift)