# TECHNICKÁ UNIVERZITA KOŠICE

Fakulta elektrotechniky a informatiky
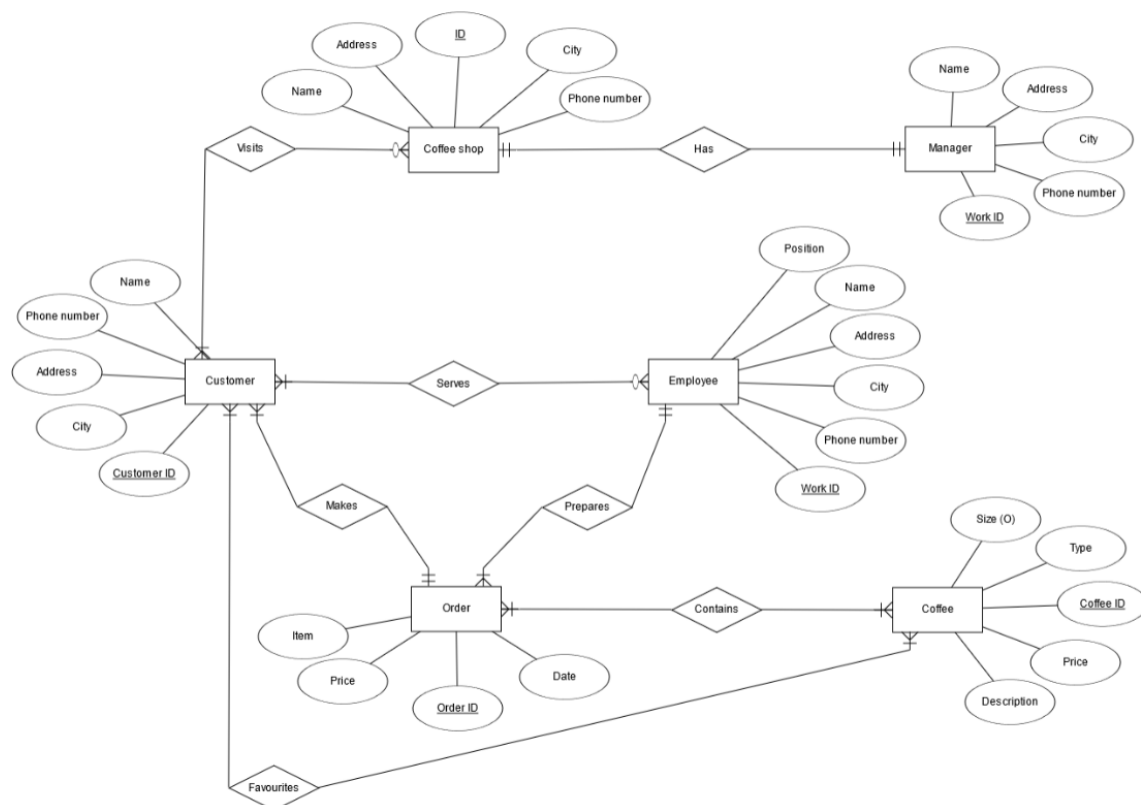
# Návrh databázy na kaviareň

Školský rok 2022

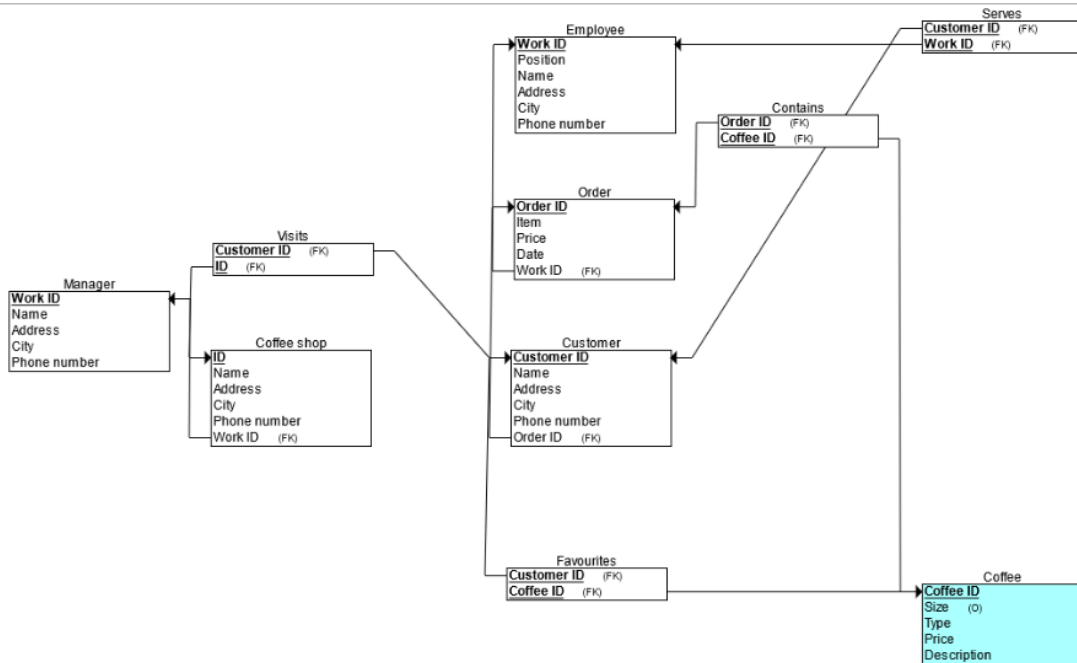Št. skupina 05                                                                 Dušan Mikloš

# ER diagram



Kaviareň má práve jedného Coffee manažéra a manažér prevádzky spravuje práve jednu prevádzku. Máme iba jednu kaviareň, ale zákazník môže navštevovať len viacero kaviarni kaviareň, ale kaviareň môže navštevovať 0 a viac zákazníkov. Viacero zamestnancov môže obsluhovať viacerých zákazníkov a viacerých zákazníkov obsluhuje viacero zamestnancov. Zákazník urobí práve jednu objednávku, ale jednu objednávku môže urobiť viacero zákazníkov spolu. Zamestnanec môže pripravovať viacero objednávok naraz, ale objednávka v našej malej kaviarni je vždy pripravovaná len jedným zamestnancom. Keďže náš sortiment je limitovaný len na kávy, každá objednávka musí obsahovať aspoň 1 kávu a každá káva musí byť na objednávke. Každý zákazník má obľúbenú kávu a každú kávu zákazníci obľubujú.

# Relačná schéma

Serves
Customer ID (FK)
Work ID (FK)

Employee
**Work ID**
Position
Name
Address
City
Phone number

Contains
Order ID (FK)
Coffee ID (FK)

Order
**Order ID**
Item
Price
Date
Work ID (FK)

Visits
**Customer ID** (FK)
**ID** (FK)

Manager
**Work ID**
Name
Address
City
Phone number

Coffee shop
**ID**
Name
Address
City
Phone number
Work ID (FK)

Customer
**Customer ID**
Name
Address
City
Phone number
Order ID (FK)

Favourites
**Customer ID** (FK)
**Coffee ID** (FK)

Coffee
**Coffee ID**
Size (O)
Type
Price
Description

# SQL skript

```sql
CREATE TABLE Manager
(
  Name VARCHAR(50) NOT NULL,
  Address VARCHAR(50) NOT NULL,
  Work_ID INT NOT NULL,
  City VARCHAR(50) NOT NULL,
  Phone_number VARCHAR(20) NOT NULL,
  PRIMARY KEY (Work_ID)
```

```sql
);
CREATE TABLE Coffee_shop
(
  Name VARCHAR(50) NOT NULL,
  Address VARCHAR(50) NOT NULL,
  City VARCHAR(50) NOT NULL,
  Phone_number VARCHAR(20) NOT NULL,
  ID INT NOT NULL,
  Work_ID INT NOT NULL,
  PRIMARY KEY (ID),
  FOREIGN KEY (Work_ID) REFERENCES Manager(Work_ID)
);
CREATE TABLE Employee
(
  Position VARCHAR(50) NOT NULL,
  Name VARCHAR(50) NOT NULL,
  Address VARCHAR(50) NOT NULL,
  City VARCHAR(50) NOT NULL,
  Work_ID INT NOT NULL,
  Phone_number VARCHAR(20) NOT NULL,
  ID INT NOT NULL,
  PRIMARY KEY (Work_ID),
  FOREIGN KEY (ID) REFERENCES Coffee_shop(ID)
);
CREATE TABLE Orders
(
  Item VARCHAR(50) NOT NULL,
  Price INT NOT NULL,
  Order_ID INT NOT NULL,
  Date DATE NOT NULL,
  Work_ID INT NOT NULL,
  PRIMARY KEY (Order_ID),
  FOREIGN KEY (Work_ID) REFERENCES Employee(Work_ID)
);

CREATE TABLE Customer
(
  Name VARCHAR(50) NOT NULL,
  Address VARCHAR(50) NOT NULL,
  Phone_number VARCHAR(20) NOT NULL,
  City VARCHAR(50) NOT NULL,
  Customer_ID INT NOT NULL,
  Order_ID INT NOT NULL,
  PRIMARY KEY (Customer_ID),
  FOREIGN KEY (Order_ID) REFERENCES Orders(Order_ID)
);
CREATE TABLE Coffee
(
```

```sql
  Size VARCHAR(15),
  Type VARCHAR(100) NOT NULL,
  Price INT NOT NULL,
  Description VARCHAR(100) NOT NULL,
  Coffee_ID INT NOT NULL,
  PRIMARY KEY (Coffee_ID)
);
CREATE TABLE Favourites
(
  Customer_ID INT NOT NULL,
  Coffee_ID INT NOT NULL,
  PRIMARY KEY (Customer_ID, Coffee_ID),
  FOREIGN KEY (Customer_ID) REFERENCES Customer(Customer_ID),
  FOREIGN KEY (Coffee_ID) REFERENCES Coffee(Coffee_ID)
);
CREATE TABLE Serves
(
  Customer_ID INT NOT NULL,
  Work_ID INT NOT NULL,
  PRIMARY KEY (Customer_ID, Work_ID),
  FOREIGN KEY (Customer_ID) REFERENCES Customer(Customer_ID),
  FOREIGN KEY (Work_ID) REFERENCES Employee(Work_ID)
);
-
- pridal som: tel.c u zakaznika ak by bola objednavka, zmenil som vztahy medz
i zakaznikom a kavarnou/pracovnikom, kava size je optional a par dalsich
relacii
-- tabulka serves znaci kto obsluhoval akeho zakaznika

INSERT INTO Manager (Name, Phone_number ,Address,City,Work_ID)
    VALUES('Robert Mudry', '+421814447885', 'Ursulinska 54', 'Prešov',100001)
,
        ('Jan Škatula', '+421919466815', 'Slobody 54', 'Košice',200002),
        ('Jozef Bubak', '+421910447085', 'Tothová 54', 'Košická nová Ves',3
00003),
        ('Lukáš Zduby', '+421910047805', 'Paletová 54', 'Bratislava',400004
),
        ('Roko Oblak', '+421977447865', 'Hromozvodská 54', 'Bardejov',50000
5);

INSERT INTO Coffee_shop(Name, Address, City, Phone_number, ID, Work_ID)
    VALUES('Coffeterrier','Pribinova 7','Prešov','+421918777545',44755860,100
001),
    ('GoTo - IT coffee','Alojzova 12','Košice','+421977989521',44755861,20000
2),
    ('Tasty Coffee','Mliečna 4','Košická nová Ves','+421921587412',44755862,3
00003),
    ('Double','Bobkova 54','Bratislava','+421933582693',44755863,400004),
```

```sql
        ('Trippe','Zelená 9','Bardejov','+421901159753',44755864,500005);

INSERT INTO Employee (Position, Name, Address, City, Work_ID, Phone_number, ID)
    VALUES('Waitress', 'Nina Malegová', 'Komenskeho 44', 'Košice',100,'+421944711655',44755860),
    ('Product seller', 'Emma Mercerová', 'Hroncova 47', 'Košice',101,'+421944711655',44755861),
    ('Barrista', 'Otto Kolovrátok', 'Moldavská 477', 'Košice',102,'+421944711655',44755862),
    ('Cleaner', 'Emanuela Rodriguez', 'Humenská 94', 'Košice',103,'+421944711655',44755863),
    ('Plumber', 'Jožo Kubáni', 'Národná 104', 'Bratislava',104,'+421977884655',44755864);

INSERT INTO Orders(Item, Price, Order_ID, Date, Work_ID)
    VALUES ('Cappuccino',2.5,14870,'2022-02-27T01:11:14.000Z',100),
     ('Guatemala SHB',23,14871,'2022-04-11T01:11:14.000Z',101),
     ('Colombia Supremo Papoyan',18,14872,'2022-03-14T01:11:14.000Z',102),
     ('Lungo',1.4,14873,'2022-02-21T01:11:14.000Z',103),
     ('Moroccan Tobacco coffee',15,14874,'2022-01-21T01:11:14.000Z',104);


INSERT INTO Customer (Name, Phone_number, Address, City, Customer_ID, Order_ID)
    VALUES ('Viki Brachova', '+421918793554', 'Koniferska 114', 'Belza', 54781,14870),
    ('Zdeno Chara', '+421938222554', 'Sv.Nicolausa 10', 'Kosice', 54782,14871),
    ('Hulmiho Ukolen', '+421918577587', 'Krušovická 5', 'Poprad', 54783,14872),
    ('Dáša Mapidu', '+421922323554', 'Pilsnerská 22', 'Prešov', 54784,14873),
    ('Dromedar Baran', '+421957741554', 'Starého Ferneta 4', 'Košice', 54785,14874);



INSERT INTO Coffee(Size, Type, Price, Description, Coffee_ID)
    VALUES('','Cappuccino',2.5,'The perfect balance of espresso, steamed milk and foam',1),
    ('L','Guatemala SHB',23,'First sip reminds you of lemon and cherry',2),
    ('M','Colombia Supremo Papoyan',18,'Tremendous aroma, soft and sweet taste',3),
    ('','Lungo',1.4,'Want something medium sized and strong? Dont hesitate!',4),
    ('S','Moroccan Tobacco coffee',15,'Delicious taste of strawberries and strong coffee beans',5);
```

```sql
INSERT INTO Serves(customer_id, work_id)
    VALUES(54781,100),
    (54782,101),
    (54783,102),
    (54784,103),
    (54785,104);

INSERT INTO Favourites(customer_id, coffee_id)
    VALUES(54781,1),
    (54782,2),
    (54783,3),
    (54784,4),
    (54785,5);


--2 pohľady s jednoduchým netriviálnym selectom nad jednou tabuľkou
--najdi zakaznika s najvyssim ID
SELECT Name, Address, City, Customer_ID
FROM Customer
WHERE Customer.Customer_ID > 54782
ORDER BY Customer_ID DESC;

--najdi kavy drahsie ako 2e
SELECT Type, Price, Coffee_ID
FROM Coffee
WHERE Coffee.Price > 2
ORDER BY Price DESC;

--3 pohľady so spájaním tabuliek
--najdi zakaznikov a zorad ich podla ceny ktoru platili za objednavku
SELECT Name, O.Price
FROM Customer
JOIN Orders O on Customer.Order_ID = O.Order_ID
WHERE O.Price > 2
ORDER BY O.Price DESC;

--
spojenie 3 tabuliek, ukaze employeeho ktory spracoval objednavku od customera
SELECT Employee.Name,Employee.Work_ID, v.Order_ID
FROM Employee
JOIN Orders v on Employee.Work_ID = v.Work_ID
JOIN Customer c on v.Order_ID = c.Order_ID
WHERE v.Order_ID > 14870 AND c.Order_ID < 14874;

--priradi manazera prevadzky k mestu v ktorom su kaviarne
SELECT Manager.City, m.Work_ID
FROM Manager
RIGHT OUTER JOIN Coffee_shop m  ON m.Work_ID = Manager.Work_ID
ORDER BY Manager.City;
```

```sql
--agregacne
--Trzba za objednavky
SELECT sum(Price) AS Trzba
FROM Orders
WHERE Price > 0;

--Priemerna cena kavy
SELECT  avg(Price) AS Priemerna_cena
FROM Orders
WHERE Price > 0
```