The most popular pizzeria in town, namely "Mozzarella Pizzeria," aims to deliver pizzas that meet their customers' requirements for the most delicious experience. Currently, there have been issues with pizza deliveries to some customers, and data has been extracted from the knowledge base regarding the pizzas and desserts offered in the pizzeria, pizza ingredients, customer information, and their orders.

Pizza -> pizza name, price  
%pica -> ime na pica, cena v leva

pizza(margarita, 8).

pizza(pepperoni, 11).

pizza(chetiri\_sirena, 11).

pizza(vegetarianska, 9).

pizza(kaprichoza, 10).

Ingredients -> pizza type, sauce, type of cheese, main ingredient

%sustavki -> vid pizza, sos, wid kashkaval(poruska), glavna sustavka v pizza

ingredients(margarita,domaten\_sos,mozzarella,bosilek).

ingredients(pepperoni,domaten\_sos,mozzarella,pepperoni).

ingredients(chetiri\_sirena,smetanov\_sos,mozzarella,sinyo\_sirene).

ingredients(vegetarianska,domaten\_sos,mozzarella,carevica).

ingredients(kaprichoza,domaten\_sos,mozzarella,gubi).

Client -> name, email, number, neighborhood, street

%klient -> ime, email, tel.nomer, kvartal, ulica

client(ivan,ivan@abv.bg,0888888888,mladost,vqra7).

client(gergana,gergana@abv.bg,0899999999,center,mladost9).

client(maria,maria@abv.bg,0877777777,troshevo,milosardie19).

client(petur,petur@abv.bg,0866666666,vladislavovo,levski24).

client(georgi,georgi@abv.bg,0899889988,center,kovachev11).

Orders -> client name, pizza type, quantity

%poruchki -> ime na klient, vid pizza, broi pizza

poruchka(ivan,pepperoni,2).

poruchka(maria,vegetarianska,1).

poruchka(georgi,kaprichoza,3).

poruchka(petur,chetiri\_sirena,1).

poruchka(gergana,pepperoni,5).

Dessert -> dessert type, price

%dessert -> vid dessert, cena v leva

dessert(shokoladovo\_sufle,6).

dessert(cheesecake,6).

dessert(sladoled,5).

dessert(palachinka,4).

dessert(panakota,4).

dessert(tiramisu,5).

1) Ivan wants an employee to suggest a pizza with mozzarella and pepperoni.

/\*

%1. Ivan iska ot slujitel da mu preporucha pizza sus sustavki mozzarella i pepperoni

ivan\_wants\_pizza:-ingredients(Pizza,X,mozzarella,pepperoni),write("Ivan trqbva da opita "),write(Pizza),nl,!.

ivan\_wants\_pizza:-not(ingredients(Pizza,X,mozzarella,pepperoni)),write("Nqma pizza s predpochitanite sustavki na Ivan."),nl.

?- ivan\_wants\_pizza.

\*/

2) If a customer places an order worth 25 BGN or more, they are entitled to free delivery. If the order is below 25 BGN, there is a 3 BGN delivery fee.

/\*

%2. Ako klient napravi poruchka na stoinoist nad ili ravna na 25lv, to toi ima pravo na bezplatna dostavka

%ako poruchkata e pod 25lv, dostavkata e 3 lv

calc\_order(Klient,Cena\_poruchka):-poruchka(Klient,Y,Broi),pizza(Y,Cena),Cena\_poruchka is Broi \* Cena,write("Poruchkata na "),write(Klient),write(" e = "),write(Cena\_poruchka),write(" lv."),nl.

calc\_delivery(Client,Cena\_poruchka,Cena\_dostavka):-calc\_order(Client,Cena\_poruchka),(Cena\_poruchka >= 25 -> Cena\_dostavka is 0 ; Cena\_dostavka is 3),write("Dostavkata e = "),write(Cena\_dostavka),write(" lv."), nl.

calc\_total:-client(Klient,X,Y,Z,W),calc\_delivery(Klient,Cena\_poruchka,Cena\_dostavka),Total is Cena\_poruchka + Cena\_dostavka,write("Krainata cena na "),write(Klient),write(" e = "),write(Total),write(" lv."),nl,fail.

?-calc\_total.

\*/

3) Georgi has a budget of 15 BGN, and he wants to place an order that must include 1 pizza and 1 dessert. The employee offers him all available deals.

/\*

%3. Georgi ima budget 15 lv, toi iska da napravi poruchka, v koqto zaduljitelno ima 1 pizza i 1 dessert

%Slujitel mu predlaga vsichki vuzmojni oferti

budget(georgi,15).

calc\_order(Klient,Pizza,Dessert,Cena\_poruchka):-pizza(Pizza,PizzaCena),dessert(Dessert,DessertCena),Cena\_poruchka is PizzaCena + DessertCena.

calc\_delivery(Klient,Cena\_poruchka,Cena\_dostavka):-budget(Klient,Budjet),(Cena\_poruchka >= 25 -> Cena\_dostavka is 0 ; Cena\_dostavka is 3).

offer\_menu(Klient,Pizza,Dessert,Obshto):-calc\_order(Klient,Pizza,Dessert,Cena\_poruchka),calc\_delivery(Klient,Cena\_poruchka,Cena\_dostavka),budget(Klient,Budget),Obshto is Cena\_poruchka + Cena\_dostavka,Obshto =< Budget.

?- offer\_menu(georgi,Pizza,Dessert,TotalCost),write(Pizza),write(" "),write(Dessert),write(" "),write(TotalCost),nl,fail.

\*/

4) Currently, there are 2 offers available:

* The first offer includes Margherita pizza, 4 Cheese pizza, and Vegetarian pizza + a complimentary pancake.
* The second offer includes Pepperoni pizza, Capricciosa pizza, and 4 Cheese pizza + a complimentary chocolate soufflé.

Gergana wants to choose an offer that includes either a pancake or Capricciosa pizza, but she prefers to have a pancake.

/\*

%4. V momenta tekat 2 oferti

% purvata e s pizza margarita, 4 sirena i vegetarianska + podaruk palachinka

% vtorata e s pizza pepperoni, kapricoza i 4 sirena + podaruk shokoladovo sufle

% Gergana iska da vzeme oferta, v koqto ima ili pizza kaprichoza ili palachinka, no predpochita v ofertata da ima palachinka

offer(margarita,chetiri\_sirena,vegetarianska,palachinka,Price):-Price is 8 + 11 + 9.

offer(pepperoni,kaprichoza,chetiri\_sirena,shokoladovo\_sufle,Price):-Price is 11 + 10 + 11.

appropriate:-offer(X,Y,Z,Dessert, Price),Dessert is palachinka,write(X),write(", "),write(Y),write(", "),write(Z),write(" + "),write(Dessert),write(" - "),write(Price),write(" lv."),nl,!.

appropriate:-offer(X,Y,Z,Dessert,Price),((X is kaprichoza);(Y is kaprichoza);(Z is kaprichoza)),write(X),write(", "),write(Y),write(", "),write(Z),write(" + "),write(Dessert),write(" - "),write(Price),write(" lv."),nl.

?-appropriate.

\*/

5) The pizza delivery driver has orders to deliver to the city center. How many units of each type and how many in total does the delivery driver need to deliver to the city center?

%5. Dostavchik ima da dostavi poruchkite ot picariqta s adres - center

%kolko obshto pici trqbva da dostavi i kolko ot vseki vid

total\_pizzas(0).

poruchki\_za\_centura(TotalPizzas):-client(Ime,X,Y,Kvartal,Z),Kvartal = center,poruchka(Ime,Vid,Broi),total\_pizzas(P),TotalPizzas is P + Broi,retract(total\_pizzas(P)),assert(total\_pizzas(TotalPizzas)),write(Vid),write(" - "),write(Broi),nl.

total\_broiki:-total\_pizzas(TotalPizzas),write("Obshto vsichki pici: "),write(TotalPizzas),nl.

?- poruchki\_za\_centura(TotalPizzas),fail.

?- total\_broiki.

%retract - za iztrivane na fakti

%assert - dobavq nov fakt