## Код программы

domains

city, street = string

house, flat = integer

adress = adr(city, street, house, flat)

surname, tel = string

university = string

brand, color = string

price = integer

bank, account = string

amount = integer

building, area, water\_vehicle = string

property = car(brand, color, price); build(building, price); ar(area, price); wv(water\_vehicle, price)

predicates

student\_tel(surname, tel)

university(surname, university)

un\_sprav(university, tel)

student\_adress(surname, adress)

tel\_sprav(surname, tel, adress)

car(surname, brand, color, price)

bank\_depositor(surname, bank, account, amount)

car\_by\_tel(tel, surname, brand, price)

brand\_by\_tel(tel, brand)

person\_by\_city(surname, city, street, bank, tel)

person\_by\_car(brand, color, surname, city, tel, bank)

property(surname, property)

props\_names(surname, string)

props\_names\_prices(surname, string, integer)

prop\_price(surname, symbol, price)

props\_total\_price(surname, price)

clauses

student\_tel("Pronin", "89167376051").

student\_tel("Pronin", "89167376052").

student\_tel("Lisnevsky", "89167376053").

student\_tel("Lisnevsky", "89167376054").

student\_tel("Klimov", "89167376055").

student\_tel("Klimov", "89167376056").

student\_tel("Alahov", "89167376057").

student\_tel("Alahov", "89167376058").

student\_tel("Trunov", "89167376050").

student\_tel("Trunov", "89167376059").

university("Pronin", "BMSTU").

university("Trunov", "BMSTU").

university("Klimov", "HSE").

university("Lisnevsky", "MIRAEA").

university("Alahov", "MIPT").

un\_sprav(U, T):-student\_tel(S, T),university(S, U).

student\_adress("Pronin", adr("Moscow", "Tverskaya", 1, 1)).

student\_adress("Lisnevsky", adr("Moscow", "Tverskaya", 1, 2)).

student\_adress("Klimov", adr("Moscow", "Tverskaya", 1, 3)).

student\_adress("Alahov", adr("Moscow", "Tverskaya", 1, 4)).

student\_adress("Trunov", adr("Moscow", "Tverskaya", 1, 5)).

tel\_sprav(S, T, A):-student\_tel(S, T),student\_adress(S, A).

car("Pronin", "Audi", "Black", 2000000).

car("Lisnevsky", "BMW", "Green", 3000000).

car("Klimov", "Ford", "Blue", 4000000).

car("Alahov", "BMW", "Red", 5000000).

car("Trunov", "Audi", "Violet", 7000000).

bank\_depositor("Pronin", "SberBank", "40817810099910004312", 7000000).

bank\_depositor("Lisnevsky", "SberBank", "40817810099910004313", 4000000).

bank\_depositor("Klimov", "VTB", "40817810099910004314", 5000000).

bank\_depositor("Alahov", "VTB", "40817810099910004315", 6000000).

bank\_depositor("Trunov", "RosBank", "40817810099910004316", 7000000).

bank\_depositor("Trunov", "SberBank", "40817810099910004317", 7000000).

bank\_depositor("Trunov", "VTB", "40817810099910004318", 8000000).

car\_by\_tel(T, S, B, P):-student\_tel(S, T),car(S, B, \_, P).

brand\_by\_tel(T, B):-car\_by\_tel(T, \_, B, \_).

person\_by\_city(S, C, St, B, T):-tel\_sprav(S, T, adr(C, St, \_, \_)),bank\_depositor(S, B, \_, \_).

person\_by\_car(Br, Col, S, City, T, Bank):-car(S, Br, Col, \_),tel\_sprav(S, T, adr(City, \_, \_, \_)),bank\_depositor(S, Bank, \_, \_).

property(S, car(B, C, P)):-car(S, B, C, P).

property("Pronin", build("Kremlin", 700)).

property("Pronin", ar("Russia", 80)).

property("Pronin", wv("Titanic", 9)).

property("Ilya", build("Mausoleum", 666)).

props\_names(S, N):-property(S, car(N, \_, \_)); property(S, build(N, \_)); property(S, ar(N, \_)); property(S, wv(N, \_)).

props\_names\_prices(S, N, P):-property(S, car(N, \_, P)); property(S, build(N, P)); property(S, ar(N, P)); property(S, wv(N, P)).

prop\_price(S, building, P) :- property(S, build(\_, P)), !.

prop\_price(S, area, P) :- property(S, ar(\_, P)), !.

prop\_price(S, water\_vehicle, P) :- property(S, wv(\_, P)), !.

prop\_price(S, car, P) :- property(S, car(\_, \_, P)), !.

prop\_price(\_, \_, 0).

props\_total\_price(S, SUM):-prop\_price(S, building, P1),

prop\_price(S, area, P2),

prop\_price(S, water\_vehicle, P3),

prop\_price(S, car, P4),

SUM = P1+P2+P3+P4.

goal

%property("Pronin", Y).

%props\_names("Pronin", NAME). %1

%props\_names\_prices("Pronin", NAME, PRICE). %2

props\_total\_price("Pronin", TOTAL\_PRICE). %3

## Таблица

Для 2го пункта и одной фамилии составить таблицу, отражающую конкретный порядок работы системы:

props\_names\_prices("Pronin", NAME, PRICE).

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| --- | --- | --- |
| № | Сравниваемые термы; результат; подстановка, если есть | Дальнейшие действия: прямой ход или откат (к чему приводит?) |
| 1 | props\_names\_prices("Pronin", NAME, PRICE) = props\_names\_prices(S, N, P); Успех; S="Pronin", N=NAME, P=PRICE |  |
| 2 | property("Pronin", car(N, \_, P)) = property(S, car(B, C, P)); Успех; S="Pronin", B=N, C=\_, P=P |  |
| 3 | car("Pronin", B, C, P) = car("Pronin", "Audi", "Black", 2000000); Успех; B="Audi", C="Black", P=2000000 | Найдено решение: NAME="Audi", PRICE=2000000 Откат NAME и PRICE |
| 4 | property("Pronin", build(N, P)) = property("Pronin", build("Kremlin", 700)); Успех; N="Kremlin", P=700 | Найдено решение: NAME="Kremlin", PRICE=700 Откат NAME и PRICE |
| 5 | property("Pronin", ar(N, P)) = property("Pronin", ar("Russia", 80)); Успех; N="Russia", P=80 | Найдено решение: NAME="Russia", PRICE=80 Откат NAME и PRICE |
| 6 | property("Pronin", wv(N, P)) = property("Pronin", wv("Titanic", 9)); Успех; N="Titanic", P=9 | Найдено решение: NAME=" Titanic ", PRICE=9 Откат NAME и PRICE |

Больше успехов нету, итого 4 ответа:

NAME=Audi, PRICE=2000000

NAME=Kremlin, PRICE=700

NAME=Russia, PRICE=80

NAME=Titanic, PRICE=9