

Given this database schema :

Dish(**DId**, name, type) type means: appetizer, dessert, main dish, etc.

Restaurant(**RId**, RName, type, ChefName, phoneNumber, address)

Offers(**Rid**, **DId**, price)

Write down the following queries in **SQL**:

1. Retrieve the restaurant **names** and **addresses** that serve "pizza" and "Macaroni".
2. Retrieve all restaurant **names** that serve "pizza" but not "Macaroni".
3. Retrieve the price of the most expensive dish of the restaurant "AlSaraya"
4. Give the number of menu that offers each restaurant

$$1) \pi_{\text{Rname}, \text{address}} (\text{Restaurant} \bowtie \sigma_{\text{RId} = \text{RId} \quad \text{DId} = \text{DId} \quad \text{name} = \text{"pizza"}} (\text{Dish}))$$

$$\cap$$

$$\pi_{\text{Rname}, \text{address}} (\text{Restaurant} \bowtie \sigma_{\text{RId} = \text{RId} \quad \text{DId} = \text{DId} \quad \text{name} = \text{"Macaroni"}} (\text{Dish}))$$

$$2) \pi_{\text{Rname}} (\text{Restaurant} \bowtie \sigma_{\text{RId} = \text{RId} \quad \text{DId} = \text{DId} \quad \text{name} = \text{"pizza"}} (\text{Dish})) -$$

$$\pi_{\text{Rname}} (\text{Restaurant} \bowtie \sigma_{\text{RId} = \text{RId} \quad \text{DId} = \text{DId} \quad \text{name} = \text{"Macaroni"}} (\text{Dish}))$$

$$3) \rho_{\text{max(Price)}} (\sigma_{\text{Rname} = \text{"AlSaraya"} \quad \text{RId} = \text{RId}} (\text{Restaurant} \bowtie \text{offers}))$$

$$4) \rho_{\text{count(*)}} (\text{Rname}) (\text{Restaurant} \bowtie \sigma_{\text{RId} = \text{RId} \quad \text{DId} = \text{DId}} (\text{Dish}))$$