

# مکتب شریف

اولین بوتکمپ آموزشی - استخدامی ایران



تمرین خانگی  
(HW4)

مکتب شریف  
جاوا





1 - Although you always wanted to be an artist, you ended up being an expert on databases because you love to cook data and you somehow confused database with database. Your old love is still there, however, so you set up a database company, ArtBase, that builds a product for art galleries. The core of this product is a database with a schema that captures all the information that galleries need to maintain. Galleries keep information about artists, their names (which are unique), birthplaces, age, and style of art. For each piece of artwork, the artist, the year it was made, its unique title, its type of art (e.g., painting, lithograph, sculpture, photograph), and its price must be stored. Pieces of artwork are also classified into groups of various kinds, for example, portraits, still lifes, works by Picasso, or works of the 19th century; a given piece may belong to more than one group. Each group is identified by a name (like those just given) that describes the group. Finally, galleries keep information about customers. For each customer, galleries keep that person's unique name, address, total amount of dollars spent in the gallery (very important!), and the artists and groups of art that the customer tends to like. Please design an ER diagram for the database, including the creation of tables, and also provide answers to the following queries.



- 1- How would you write a query to display all the information of artists whose artwork prices exceed the average price of artworks in the database?
- 2- How can you calculate the number of customers interested in a specific art style but haven't purchased any artwork of that style yet?
- 3- What query would you use to find artists who have participated in the least number of art groups?
- 4- How do you find customers who haven't made any purchases from the gallery recently?
- 5- Write a query to compute the count of artworks created by each artist in a particular art style.
- 6- How can you retrieve a list of artists who created artworks in a specific year?
- 7- What query would you use to find artworks created by two or more artists?
- 8- How would you find customers from a particular city who are interested in a specific art style?
- 9- Write a query to calculate the average price of artworks for each artist.
- 10- How can you identify customers who have purchased the highest number of artworks from a specific art group?



## نکات:

- نام **فایل** ارسالی خود را به این صورت قرار دهید: به عنوان مثال:
  - Firstname\_Lastname\_HWNumber\_maktabNumber
- **!** دقت فرمایید که منظور از Number - بعد از HW شماره تمرین می باشد.
- **!** دقت فرمایید که منظور از Number - بعد از Maktab شماره بوتکمپ می باشد.
- در صورتی که تمرین شامل چند فایل و فولدر می باشد حتماً آنها را در قالب یک فایل فشرده شده تجميع کنید (ZIP/ RAR)
- در صورت لزوم یک فایل word به عنوان توضیح در کنار کدهای خود قرار دهید.
- در صورتی که سوالی دارید **در کارتابل گروهی خود از مربیان** بپرسید.