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CSC4500

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Basic & Advanced SQL Queries

**Requirements:**

20 Total Queries

* 10 Complex Queries (JOIN, ORDER BY, HAVING, utilize sub-queries, aliases, etc.)
* 10 Basic

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| --- | --- | --- |
| SQL Description | SQL Query | Output Results (Screenshot) |
| We want to show all products with their category name, sub-category name, manufacturer name, as well as the username of the person who created the product. We don’t just want to see arbitrary numbers when looking at the products. | select ProductID, P\_Code, P\_Name, P\_Desc1, Cat\_Name, SubCat\_Name, MFG\_Name, W\_WarehouseName, U\_username from products inner join category c on products.FK\_CategoryID = c.CategoryID inner join sub\_category sc on products.FK\_SubCategoryID = sc.SubCategoryID inner join manufacturers m on products.FK\_ManufacturerID = m.ManufacturerID inner join warehouses w on products.FK\_WarehouseID = w.WarehouseID inner join users u on products.FK\_CreatedBy = u.userID; |  |
| We want to show all active users (not deleted) and all their information including their associated addresses. So we can sent them promotional materials. | select \* from users inner join addresses a on users.userID = a.FK\_UserID inner join user\_roles ur on users.FK\_RoleID = ur.RoleID where isDeleted <> 1; |  |
| Select all user from the users table who are not deleted and have the admin role so we can audit the current administrators. | select userID, U\_username, U\_emailAddress, R\_Name, U\_registrationDate from users inner join user\_roles ur on users.FK\_RoleID = ur.RoleID where isDeleted <> 1 AND R\_Name LIKE '%Admin%' order by userID; |  |
| We want to know what products have a name less than 11 characters and contain the letter “H.” These products need to be updated because they are older models of the product. | select ProductID, P\_Name, P\_Code, P\_Price from products group by ProductID having length(P\_Name) <= 10 AND P\_Name LIKE '%H%'; |  |
| We want to view all orders that have been placed throughout the history of the database. (This includes adding in all product information and their categories) | select OrderID, U\_username, U\_emailAddress, P\_Code, P\_Name, Cat\_Name, SubCat\_Name, OrderedQty from orders inner join users u on orders.FK\_UserID = u.userID inner join order\_details od on orders.OrderID = od.FK\_OrderID inner join products p on od.FK\_ProductID = p.ProductID inner join category c on p.FK\_CategoryID = c.CategoryID inner join sub\_category sc on p.FK\_SubCategoryID = sc.SubCategoryID |  |
| We want to view all products that are currently being stored in the main warehouse (Warehouse with ID of #1) | select ProductID, P\_Name, P\_Code, P\_Desc1, W\_WarehouseName from products inner join warehouses w on products.FK\_WarehouseID = w.WarehouseID where WarehouseID = 1; |  |
| How many registered users have more than 1 saved address?  (We want to see how many users are actually using the multi-address feature) | select userID, U\_username, count(AddressID) AS NumOfAddressesForUser from users inner join addresses a on users.userID = a.FK\_UserID group by userID having count(AddressID) > 1  -- For actual count # --  select count(\*) as CountOfUsersWithMoreThan1Address from(select userID, U\_username, count(AddressID) AS NumOfAddressesForUser from users inner join addresses a on users.userID = a.FK\_UserID group by userID having count(AddressID) > 1) as derivedTable; |  |
| We want to view all the products that were bought in order #5.  (Show me all the line items purchased from the order with order number 5) | select OrderID, userID, U\_username, OrderedQty, ProductID, P\_Code, P\_Name from orders inner join users u on orders.FK\_UserID = u.userID inner join order\_details od on orders.OrderID = od.FK\_OrderID inner join products p on od.FK\_ProductID = p.ProductID where OrderID = 5; |  |
| What is the dollar sum and total number of items ordered from order number 1? | select sum(OrderedQty) as 'OrderNumber1TotalProducts', sum(P\_Price) as 'OrderNumber1Total' from orders inner join order\_details od on orders.OrderID = od.FK\_OrderID inner join products p on od.FK\_ProductID = p.ProductID where OrderID = 1; |  |
| What is the most popular item purchased?  (A lot more complicated than I though it was going to be. Involved a complex inner query within the FROM statement. Also involved creating an alias for this temporary table) | select ProductID, count(ProductID) as 'ProductSaleFrequency' from (select ProductID from order\_details inner join products p on order\_details.FK\_ProductID = p.ProductID) as temp group by ProductID order by ProductSaleFrequency DESC; -- Add limit 1 (to find just the top product)  -- simpler version? select FK\_ProductID, count(FK\_ProductID) as 'ProductSaleFrequency' from (select FK\_ProductID from order\_details) as temp group by FK\_ProductID order by ProductSaleFrequency DESC; |  |
| Who is the oldest registered user in our database? (Earliest DOB)  (We want to reward this person for being with us) | select userID, U\_firstName, U\_DOB from users where U\_DOB = (select min(U\_DOB) from users); |  |
| How many inactive products are currently in our database?  (We would like to know this information because we either want to delete or re-activate these products) | select count(\*) as NumOfInactiveAndNotDeletedProducts from products where P\_isActive = 1 AND P\_isDeleted <> 1; |  |
| What is the email address and registration date of any user that has a name starting with an “A” | select userID, U\_firstName, U\_emailAddress, U\_registrationDate from users where U\_firstName LIKE 'A%'; |  |
| How many orders have been placed in the past 5 years? | select \* from orders where year(O\_DatePlaced) > (year(current\_date)-5); |  |
| Are there any users who have not created any products yet?  [Uses left outer join on products]  Or  [Uses right outer join on users] | select userID, U\_username, U\_firstName, U\_lastName, ProductID from users left outer join products p on users.userID = p.FK\_CreatedBy where ProductID is null;  -- OR --  select ProductID, userID, U\_username from products right outer join users u on u.userID = products.FK\_CreatedBy where ProductID is null; |  |
| We want to see all products that are manufactured by “Ratke Inc” and are currently active within our catalog. | select ProductID, P\_Code, P\_Desc1, P\_Price, MFG\_Name from products join manufacturers m on products.FK\_ManufacturerID = m.ManufacturerID where MFG\_Name LIKE '%Ratke Inc%' AND P\_isActive = 1; |  |
| We want to select all users who have an address in Arizona so we can send them customized marketing materials. | select userID, U\_username, U\_emailAddress, A\_State from users inner join addresses a on users.userID = a.FK\_UserID where A\_State LIKE '%Arizona%' |  |
| We want to see how many products have a sub category of “Arizona Coyotes” to see if we should order more product or not. | select ProductID, P\_Name, P\_Desc1, SubCat\_Name from products inner join sub\_category sc on products.FK\_SubCategoryID = sc.SubCategoryID where SubCat\_Name = 'Arizona Coyotes' |  |
| How many products are there currently in the product database? | select count(\*) as ProductCount from products |  |
| We need to find the user id of a user with username “jtookey2” so we can audit their site activity. | select userID from users where U\_username LIKE '%jtookey2%'; |  |