**A7**

**CIS310-02**

**SAM ROGERS, BRYCE GREEN, NEIL TARR, PATRICK**

**MOHR**

**1. List the customers from California who bought red mountain bikes in September 2003. Use order date as date bought.**

SELECT C.CustomerID, C.FirstName, C.LASTNAME, B.ModelType, P.ColorList, B.Orderdate, B.SaleState FROM Bike..Paint P Inner Join Bike..Bicycle B ON B.PaintID = P.PaintID Inner Join Bike..Customer C ON C.CustomerID = B.CustomerID WHERE B.SaleState = 'CA' AND P.ColorList = 'RED' AND B.ModelType = 'Mountain' AND B.OrderDate >= '9-1-2003' AND B.OrderDate <= '9-30-2003'

**2. List the employees who sold race bikes shipped to Wisconsin without the help of a retail store in 2001.**

SELECT E.EmployeeID, E.LastName, B.ModelType, B.OrderDate, B.StoreID, B.SaleState FROM Bike..Employee E Inner Join Bike..Bicycle B ON E.EmployeeID = B.EmployeeID WHERE B.SaleState = 'WI' AND B.ModelType = 'RACE' AND (B.StoreID = 1 or B.StoreID = 2) AND B.OrderDate >= '1-1-2001' AND B.OrderDate <= '12-31-2001'

**3. List all of the (distinct) rear derailleurs installed on road bikes sold in Florida in 2002.**

SELECT DISTINCT C.ComponentID, M.ManufacturerName ,C.ProductNumber

FROM Bike..Component C INNER JOIN Bike..BikeParts P ON C.ComponentID = P.ComponentID INNER JOIN Bike..Bicycle B ON P.SerialNumber = B.SerialNumber INNER JOIN Bike..Manufacturer M ON C.ManufacturerID = M.ManufacturerID

WHERE C.Category = 'rear derailleur' AND B.ModelType = 'road' and B.SaleState = 'FL' AND B.OrderDate >= '1-1-2002' and B.OrderDate <= '12-31-2002'

**4. Who bought the largest (frame size) full suspension mountain bike sold in Georgia in 2004?**

SELECT TOP 1U.CUSTOMERID, U.LastName, U.FirstName, B.ModelType, B.SaleState, B.FrameSize, B.OrderDate

FROM Bike..Customer U INNER JOIN Bike..Bicycle B ON U.CustomerID = B.CustomerID INNER JOIN Bike..BikeParts P ON P.SerialNumber = B.SerialNumber

WHERE B.SaleState = 'GA'

AND B.OrderDate >= '1-1-2004'

AND B.OrderDate <= '12-31-2004'

AND B.ModelType = 'Mountain full'

GROUP BY U.CustomerID, U.FirstName, U.LastName, B.ModelType, B.SaleState, B.FrameSize, B.OrderDate

ORDER BY B.FrameSize Desc

**5. Which manufacturer gave us the largest discount on an order in 2003?**

SELECT M.ManufacturerID, M.ManufacturerName

FROM Bike..Manufacturer M INNER Join Bike..Component C ON M.ManufacturerID = C.ManufacturerID

INNER JOIN Bike..PurchaseItem P ON C.ComponentID = P.ComponentID

INNER JOIN Bike..PurchaseOrder O ON P.PurchaseID = O.PurchaseID

WHERE O.OrderDate >= '1-1-2003'

AND O.OrderDate <= '12-31-2003'

AND O.Discount = (SELECT TOP 1 Discount

FROM Bike..PurchaseOrder

WHERE OrderDate >= '1-1-2003'

AND OrderDate <= '12-31-2003'

ORDER BY Discount DESC)

Group BY M.ManufacturerID, M.ManufacturerName

**6. What is the most expensive road bike component we stock that has a quantity on hand greater than 200 units?**

SELECT TOP 1 C.ComponentID, M.ManufacturerName, C.ProductNumber, B.ModelType AS 'ROAD', C.Category, C.ListPrice, C.QuantityonHand

FROM Bike..Manufacturer M INNER JOIN Bike..Component C ON M.ManufacturerID = C.ManufacturerID

INNER JOIN Bike..BikeParts P ON C.ComponentID = P.ComponentID

INNER JOIN BIKE..Bicycle B ON P.SerialNumber = B.SerialNumber

WHERE C.QuantityOnHand > 200

AND B.ModelType = 'road'

GROUP BY C.ComponentID, M.ManufacturerName, C.ProductNumber, B.ModelType, C.Category, C.ListPrice, C.QuantityonHand

ORDER BY C.ListPrice Desc

**7. Which inventory item represents the most money sitting on the shelf—based on estimated cost?**

**SHOULD ASK FOR CLARIFICATION: DOES HE WANT THE EstCost\*Quantity?**

SELECT TOP 1 C.COMPONENTID, M.MANUFACTURERNAME, C.PRODUCTNUMBER, C.CATEGORY, C.Year, ROUND(C.EstimatedCost\*C.QuantityOnHand,2) AS [VALUE]

FROM BIKE..Component C INNER JOIN BIKE..Manufacturer M ON C.ManufacturerID = M.ManufacturerID

ORDER BY VALUE DESC

**8. What is the greatest number of components ever installed in one day by one employee?**

SELECT TOP 1 E.EmployeeID, E.LastName, P.DateInstalled, COUNT(P.COMPONENTID) AS CountOfComponentID

FROM BIKE..Employee E INNER JOIN BIKE..Bicycle B ON E.EmployeeID = B.EmployeeID INNER JOIN BIKE..BikeParts P ON B.SerialNumber = P.SerialNumber

GROUP BY E.EmployeeID, E.LastName, P.DateInstalled

ORDER BY CountOfComponentID DESC

**9. What was the most popular letter style on race bikes in 2003?**

SELECT TOP 1 L.LetterStyle, COUNT(L.LetterStyle) AS CountOfSerialNumber

FROM Bike..Bicycle E Inner JOIN Bike..LetterStyle L ON L.LetterStyle = E.LetterStyleID

WHERE E.ModelType = 'Race' AND E.OrderDate >= '1-1-2003' AND E.OrderDate <= '12-31-2003'

GROUP BY l.LetterStyle

ORDER BY CountOfSerialNumber DESC

**10. Which customer spent the most money with us and how many bicycles did that person buy in 2002?**

SELECT TOP 1 C.CustomerID, C.FirstName, C.LastName, COUNT(B.SerialNumber) AS [Number of Bikes], SUM(T.Amount) AS [Amount Spent]

FROM Bike..Customer C INNER JOIN Bike..CustomerTransaction T ON C.CustomerID = T.CustomerID INNER JOIN Bike..Bicycle B ON B.CustomerID = C.CustomerID

WHERE YEAR(T.TransactionDate) = '2002' AND T.Amount > 0

GROUP BY C.CustomerID, C.FirstName, C.LastName

ORDER BY SUM(T.Amount) DESC

**11. Have the sales of mountain bikes (full suspension or hard tail) increased or decreased from 2000 to 2004 (by count not by value)?**

SELECT YEAR(OrderDate) AS SaleYear, COUNT(SerialNumber) AS [Count Of Serial Number]

FROM Bike..Bicycle

WHERE YEAR(OrderDate) >= '2000' AND YEAR(OrderDate) <= '2004' AND (ModelType = 'Mountain Full' OR ModelType = 'Mountain')

GROUP BY YEAR(OrderDate)

ORDER BY SaleYear

**12. Which component did the company spend the most money on in 2003?**

SELECT TOP 1 C.ComponentID, M.ManufacturerName, C.ProductNumber, C.Category, MAX(I.PricePaid) AS [Value]

FROM Bike..Component C Inner Join Bike..Manufacturer M ON M.ManufacturerID = C.ManufacturerID

INNER JOIN Bike..PurchaseItem I ON I.ComponentID = C.ComponentID

INNER JOIN Bike..PurchaseOrder P ON P.PurchaseID = I.PurchaseID

WHERE YEAR(P.OrderDate) = 2003

GROUP BY C.ComponentID, M.ManufacturerName, C.ProductNumber, C.Category

ORDER BY Value DESC

**13. Which employee painted the most red race bikes in May 2003?**

SELECT E.LastName, E.EmployeeID, COUNT(B.SerialNumber) AS [Number Painted]

FROM Bike..Paint P INNER JOIN Bike..Bicycle B ON B.PaintID = P.PaintID INNER JOIN Bike..Employee E ON E.EmployeeID = B.EmployeeID

WHERE YEAR(OrderDate) = '2003' AND MONTH(OrderDate) = '5' AND B.ModelType = 'RACE' AND P.ColorList = 'RED'

GROUP BY E.EmployeeID, E.LastName

ORDER BY [Number Painted] DESC

**14. Which California bike shop helped sell the most bikes (by value) in 2003?**

SELECT R.StoreID, R.StoreName, C.City, SUM(B.SalePrice) AS [SUM of SALE PRICE]

FROM Bike..RetailStore R INNER JOIN Bike..City C ON C.CityID = R.CityID

INNER JOIN Bike..Bicycle B ON B.StoreID = R.StoreID

WHERE YEAR(B.OrderDate) = '2003' AND B.SaleState = 'CA'

GROUP BY R.StoreID, R.StoreName, C.City

ORDER BY [SUM of SALE PRICE] DESC

**15. What is the total weight of the components on bicycle 11356?**

SELECT SUM(C.Weight) AS [Total Weight]

FROM Bike..BikeParts BP INNER JOIN Bike..Component C ON C.ComponentID = BP.ComponentID

WHERE BP.SerialNumber = 11356

**16. What is the total list price of all items in the 2002 Campy Record groupo?**

SELECT GP.GroupName, SUM(C.LISTPRICE) AS [SUM OF LIST PRICE]

FROM Bike..Groupo GP INNER JOIN Bike..GroupComponents GC ON GP.ComponentGroupID = GC.GroupID

INNER JOIN Bike..Component C ON C.ComponentID = GC.ComponentID

WHERE GP.GroupName = 'Campy Record 2002'

GROUP BY GP.GroupName

ORDER BY [SUM OF LIST PRICE]

**17. In 2003, were more race bikes built from carbon or titanium (based on the down tube)?**

SELECT TM.Material, COUNT(B.SerialNumber) AS [COUNT OF SERIAL NUMBER]

FROM BIKE..Bicycle B INNER JOIN Bike..BicycleTubeUsage BTU ON BTU.SerialNumber = B.SerialNumber

INNER JOIN BIKE..TubeMaterial TM ON BTU.TubeID = TM.TubeID

WHERE B.ModelType = 'race' AND YEAR(OrderDate) = '2003' AND (TM.Material = 'carbon fiber' OR TM.Material = 'titanium')

GROUP BY TM.Material

ORDER BY [COUNT OF SERIAL NUMBER] DESC

**18. What is the average price paid for the 2001 Shimano XTR rear derailleurs?**

SELECT AVG(PT.PricePaid) AS [Average List Price]

FROM BIKE..PurchaseItem PT INNER JOIN Bike..Component C ON PT.ComponentID = C.ComponentID

INNER JOIN Bike..PurchaseOrder PO ON PT.PurchaseID = PO.PurchaseID

INNER JOIN Bike..GroupComponents GC ON C.ComponentID = GC.ComponentID

INNER JOIN Bike..Groupo G ON G.ComponentGroupID = GC.GroupID

WHERE C.Category = 'rear derailleur' AND G.GroupName = 'Shimano XTR 2001'

ORDER BY [Average List Price]

**19. What is the average top tube length for a 54 cm (frame size) road bike built in 1999?**

SELECT AVG(TopTube) AS [AVERAGE of TOP Tube]

FROM Bike..Bicycle

WHERE FrameSize = '54' AND ModelType = 'ROAD' AND YEAR(OrderDate) = '1999'

**20. On average, which costs (list price) more: road tires or mountain bike tires?**

SELECT Road, AVG(ListPrice) as [AvgListPrice]

FROM bike..Component

WHERE Road = 'Road' OR Road = 'MTB'

group by Road

order by [AvgListPrice] Desc

**21. In May 2003, which employees sold road bikes that they also painted?**

Select B.EmployeeID, E.LastName

FROM Bike..Bicycle B INNER JOIN Bike..Employee E on B.EmployeeID = E.EmployeeID

Where B.ModelType = 'Road' AND YEAR(b.OrderDate) = '2003' AND Month(OrderDate) = '5'

AND B.Painter = B.EmployeeID

Group By B.EmployeeID, E.LastName

Order By E.LastName

**22. In 2002, was the Old English letter style more popular with some paint jobs?**

Select P.PaintID, P.ColorName, COUNT(B.SerialNumber) as [Number of Bikes Painted]

From Bike..Bicycle B INNER JOIN Bike..Paint P on B.PaintID = P.PaintID

WHERE YEAR(B.OrderDate) = '2002' and B.LetterStyleID = 'English'

Group BY P.PaintID, P.ColorName

Order BY [Number of Bikes Painted] Desc

**23. Which race bikes in 2003 sold for more than the average price of race bikes in 2002?**

SELECT SalePrice, SerialNumber, ModelType, OrderDate

FROM Bike..Bicycle

WHERE YEAR(OrderDate) = '2003' AND ModelType = 'race' AND SalePrice > (SELECT AVG(SalePrice) FROM Bike..Bicycle WHERE YEAR(OrderDate) = '2002' AND ModelType = 'race')

GROUP BY SerialNumber, ModelType, OrderDate, SalePrice

ORDER By SalePrice

**24. Which component that had no sales (installations) in 2004 has the highest inventory value (cost basis)?**

SELECT TOP 1 M.ManufacturerName, C.ProductNumber, C.Category, SUM(C.ListPrice \* C.QuantityOnHand) AS [Value], C.ComponentID

FROM BIKE..COMPONENT C INNER JOIN BIKE..Manufacturer M ON C.ManufacturerID = M.ManufacturerID

INNER JOIN BIKE..BikeParts P ON P.ComponentID = C.ComponentID

WHERE YEAR(P.DateInstalled) <> '2004'

GROUP BY M.ManufacturerName, C.ProductNumber, C.Category,C.ComponentID, P.DateInstalled

ORDER BY [Value] DESC

**25. Create a vendor contacts list of all manufacturers and retail stores in California. Include only the columns for VendorName and Phone. The retail stores should only include stores that participated in the sale of at least one bicycle in 2004**

SELECT R.StoreName as 'Store Name Or Manufacturer Name', R.Phone

FROM Bike..RetailStore R INNER JOIN Bike..Bicycle B ON B.StoreID = R.StoreID INNER JOIN Bike..City C ON C.CityID = R.CityID

WHERE b.SaleState = 'CA' AND YEAR(B.OrderDate) = '2004'

GROUP BY R.StoreName, R.Phone

**26. List all of the employees who report to Venetiaan.**

SELECT LastName, FirstName, Title

FROM Bike..Employee

WHERE CurrentManager = (SELECT EmployeeID FROM Bike..Employee WHERE LastName = 'Venetiann')

**27. List the components where the company purchased at least 25 percent more units than it used through June 30, 2000.**

SELECT C.ComponentID, M.ManufacturerName, C.ProductNumber, C.Category,

I.QuantityReceived AS [TotalReceived], COUNT(P.DateInstalled) AS [TotalUsed],

((COUNT(P.DateInstalled) - I.QuantityReceived)\*(I.PricePaid - C.ListPrice)) AS [NetGain],

((COUNT(P.DateInstalled) - I.QuantityReceived)/(I.PricePaid - C.ListPrice)) AS [NetPct], C.ListPrice

FROM BIKE..COMPONENT C INNER JOIN BIKE..Manufacturer M ON C.ManufacturerID = M.ManufacturerID

INNER JOIN BIKE..PurchaseItem I ON I.ComponentID = C.ComponentID

INNER JOIN BIKE..PurchaseOrder O ON O.PurchaseID = I.PurchaseID

INNER JOIN BIKE..BikeParts P ON P.ComponentID = C.ComponentID

WHERE YEAR(P.DateInstalled) <= '2000' AND MONTH(P.DateInstalled) <= '6' AND DAY(P.DateInstalled) <= '30'

GROUP BY C.ComponentID, M.ManufacturerName, C.ProductNumber, C.Category, I.QuantityReceived, I.PricePaid,

C.ListPrice

HAVING I.QuantityReceived >= COUNT(P.DateInstalled) \* 1.25

**28. In which years did the average build time for the year exceed the overall average build time for all years? The build time is the difference between order date and ship date.**

SELECT YEAR(OrderDate) AS [Year], AVG(DATEDIFF(DAY,OrderDate, ShipDate)) AS [BuildTime]  
FROM BIKE..Bicycle  
GROUP BY YEAR(OrderDate)  
HAVING AVG(DATEDIFF(DAY,OrderDate, ShipDate)) >   
 (SELECT AVG(DATEDIFF(DAY,OrderDate, ShipDate))  
 FROM BIKE..Bicycle)