```
--1
SELECT C.CUSTOMERID, C.LASTNAME, C.FIRSTNAME, B.MODELTYPE, P.COLORLIST, B.OrderDate,
B.SALESTATE
FROM CUSTOMER C INNER JOIN Bicycle B ON C.CustomerID = B.CUSTOMERID
                    INNER JOIN Paint P ON B.PaintID = P.PaintID
WHERE P.ColorList = 'RED' AND B.OrderDate between '2003-09-01' and '2003-09-30'
GROUP BY C.CustomerID, C.LASTNAME, C.FIRSTNAME, B.MODELTYPE, P.COLORLIST, B.OrderDate,
B.SALESTATE
--2
SELECT E.EMPLOYEEID, E.LASTNAME, B.MODELTYPE, B.STOREID, B.ORDERDATE
FROM   EMPLOYEE E INNER JOIN BICYCLE B ON E.EMPLOYEEID = B.EMPLOYEEID
WHERE  B.SHIPDATE BETWEEN '2001-01-01' AND '2001-12-31' AND B.STOREID = '1' AND
B.SALESTATE = 'WI'

--#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 Manufacturer M INNER JOIN Component C ON M.ManufacturerID = C.ManufacturerID
        INNER JOIN BikeParts BP ON BP.ComponentID = C.ComponentID
        INNER JOIN Bicycle B ON B.SerialNumber = BP.SerialNumber
WHERE C.Category = 'Rear derailleur'
             and C.Road IS NOT NULL
             AND B.SaleState = 'FL'
             AND (DATEPART(YYYY, B.OrderDate)=2002)

--4
SELECT C.CustomerID, C.FirstName, C.LastName, B.ModelType, B.SaleState, MAX(B.FrameSize)
AS LARGESTFRAMESIZE, B.OrderDate
FROM CUSTOMER C INNER JOIN BICYCLE B ON C.CustomerID = B.CustomerID
WHERE  B.FrameSize = (SELECT MAX (FrameSize) FROM Bicycle
                                        WHERE ModelType = 'Mountain full' AND SaleState
= 'GA' AND
                                        (DATEPART(YYYY, B.OrderDate)=2004)
                                        )
                                        AND ModelType = 'Mountain full' AND SaleState =
'GA' AND DATEPART(YYYY,B.OrderDate)=2004

GROUP BY  C.CustomerID, C.FirstName, C.LastName, B.ModelType, B.SaleState,B.OrderDate

--5
SELECT DISTINCT M.ManufacturerName, PO.ManufacturerID
FROM MANUFACTURER M INNER JOIN COMPONENT C ON M.MANUFACTURERID = C.MANUFACTURERID
     INNER JOIN PURCHASEITEM P ON C.COMPONENTID = P.COMPONENTID
     INNER JOIN PURCHASEORDER PO ON P.PURCHASEID = PO.PURCHASEID
WHERE YEAR(PO.ORDERDATE) = '2003' AND DISCOUNT = (SELECT MAX(DISCOUNT)
                                                                                FROM
PURCHASEORDER
                                                                                WHERE
YEAR(ORDERDATE) = 2003)

--6
SELECT TOP 1 C.COMPONENTID, M.MANUFACTURERNAME, C.PRODUCTNUMBER, C.ROAD, C.CATEGORY,
C.LISTPRICE, C.QUANTITYONHAND
FROM   COMPONENT C INNER JOIN MANUFACTURER M ON C.MANUFACTURERID = M.MANUFACTURERID
WHERE  C.QUANTITYONHAND > 200
ORDER BY LISTPRICE DESC
```

```
--#7 Which inventory item represents the most money sitting on the shelf—based on
estimated cost?
SELECT C.ComponentID, M.ManufacturerName, C.ProductNumber, C.Category, C.Year,
C.EstimatedCost AS "Value"
FROM COMPONENT C INNER JOIN Manufacturer M ON C.ManufacturerID = M.ManufacturerID
WHERE C.EstimatedCost = (SELECT MAX(EstimatedCost)
                                        FROM Component
                                        )
HAVING Sum([EstimatedCost] * QusntityOnHand]) =
       {
              SELECT TOP 1 SUM([EstimatedCost} * {QuantityOnHand}
              FROM Manufacturer M INNER JOIN Component C.ManufacturerID =
C.ManufacturerID
              WHERE C.Road = 'ROAD' AND C.QuantityonHand > 200 AND C.
--8
SELECT TOP 1 E.EmployeeID, E.LastName, BP.DateInstalled, COUNT(ComponentID) AS
CountofComponentID
FROM Employee E INNER JOIN BikeParts BP ON E.EmployeeID = BP.EmployeeID
WHERE E.EmployeeID > 0
GROUP BY E.EmployeeID, E.LastName, BP.DateInstalled
ORDER BY COUNT(ComponentID) desc


--9
SELECT TOP 1 LETTERSTYLEID, COUNT(LETTERSTYLEID) AS [COUNTOFSERIALNUMBER]
FROM Bicycle
WHERE ModelType = 'RACE' AND YEAR(OrderDate) = '2003'
GROUP BY LetterStyleID
ORDER BY COUNT(LETTERSTYLEID) DESC

--10
SELECT C.CUSTOMERID, C.LASTNAME, C.FIRSTNAME, (COUNT(T.REFERENCE)) AS [NUMBER OF BIKES] ,
SUM(T.AMOUNT) AS [AMOUNT SPENT]
FROM   CUSTOMERTRANSACTION T INNER JOIN CUSTOMER C ON T.CUSTOMERID = C.CUSTOMERID
WHERE  C.CUSTOMERID = (SELECT TOP 1 CUSTOMERID
                FROM CUSTOMERTRANSACTION
                ORDER BY AMOUNT DESC)
AND           T.TRANSACTIONDATE BETWEEN '2002-01-01' AND '2002-12-31' AND T.DESCRIPTION =
'ORDER WAS SHIPPED'
GROUP BY C.CUSTOMERID, C.LASTNAME, C.FIRSTNAME

--#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 "CountOfSerialNumber"
FROM     BICYCLE
WHERE     YEAR(ORDERDATE) >= 2000     AND
                YEAR(ORDERDATE) <= 2004     AND
                (MODELTYPE LIKE 'MOUNTAIN%')
GROUP BY  YEAR(ORDERDATE)
ORDER BY "SaleYear" DESC
--They have increased.

--12
SELECT TOP 1 C.ComponentID, M.ManufacturerName, C.ProductNumber, C.Category,
SUM(PI.PricePaid) AS VALUE
```

```
FROM Manufacturer M INNER JOIN Component C ON M.ManufacturerID = C.ManufacturerID
       INNER JOIN PurchaseItem PI ON C.ComponentID = PI.ComponentID
       INNER JOIN PurchaseOrder PO ON PI.PurchaseID = PO.PurchaseID
WHERE YEAR(PO.OrderDate) = 2003
GROUP BY C.ComponentID, M.ManufacturerName, C.ProductNumber, C.Category
ORDER BY SUM(PI.PricePaid) desc



--13
SELECT TOP 1 E.EMPLOYEEID, E.LASTNAME, COUNT(B.PAINTER) AS [NUMBER PAINTED]
FROM Employee E INNER JOIN Bicycle B ON E.EmployeeID = B.EmployeeID
                     INNER JOIN PAINT P ON B.PaintID = P.PaintID
WHERE ModelType = 'RACE' AND P.ColorList = 'RED' AND YEAR(B.ORDERDATE) = '2003'
GROUP BY E.EmployeeID, E.LastName
ORDER BY COUNT(B.PAINTER) DESC


--14
SELECT TOP 1 R.STOREID, R.STORENAME, C.CITY, SUM(B.SALEPRICE) AS [SUMOFSALEPRICE]
FROM   CITY C INNER JOIN RETAILSTORE R ON C.CITYID = R.CITYID INNER JOIN BICYCLE B ON
R.STOREID = B.STOREID
WHERE  C.STATE = 'CA' AND B.ORDERDATE BETWEEN '2003-01-01' AND '2003-12-31'
GROUP BY R.STOREID, R.STORENAME, C.CITY
ORDER BY SUM(B.SALEPRICE) DESC

--#15 What is the total weight of the components on bicycle 11356?
SELECT SUM(C.WEIGHT) AS "TotalWeight"
FROM   BICYCLE B INNER JOIN BikeParts BP ON B.SerialNumber = BP.SerialNumber
                           INNER JOIN COMPONENT C  ON BP.ComponentID = C.ComponentID
WHERE  B.SerialNumber = '11356'

--16
Select Top 1 G.GroupName, SUM(C.ListPrice) AS SumofListPrice
From Component C INNER JOIN GroupComponents GC ON C.ComponentID = GC.ComponentID
INNER JOIN Groupo G ON GC.ComponentID = G.ComponentGroupID
WHERE G.GroupName = 'Campy' and C.Year = 2002
Group By G.GroupName
ORDER BY SUM(C.ListPrice) desc



--17
SELECT TOP 1 T.MATERIAL, COUNT(BTU.SERIALNUMBER) AS [COUNTOFSERIALNUMBER]
FROM TUBEMATERIAL T INNER JOIN BicycleTubeUsage BTU ON T.TubeID = BTU.TubeID
                           INNER JOIN Bicycle B ON BTU.SerialNumber = B.SerialNumber
WHERE YEAR(B.ORDERDATE) = '2003' AND T.Material = 'CARBON FIBER' OR T.Material =
'TITANIUM'
GROUP BY T.Material
ORDER BY COUNT(BTU.SerialNumber) DESC

--18
SELECT AVG(P.PRICEPAID) AS [AVGPOFPRICEPAID]
```

```
FROM   COMPONENT C INNER JOIN PURCHASEITEM P ON C.COMPONENTID = P.COMPONENTID
WHERE  C.YEAR = 2001 AND C.COMPONENTID = P.COMPONENTID

--#19 What is the average top tube length for a 54 cm (frame size) road bike built in
1999? Use Order Date.
SELECT AVG(TOPTUBE) AS "AvgOfTopTube"
FROM   BICYCLE
WHERE  YEAR(ORDERDATE) = 1999 AND
          MODELTYPE = 'ROAD'     AND
          FRAMESIZE = '54'

--20
SELECT Top 1 Road, AVG(LIstPrice) as AvgofListPrice
FROM Component
WHERE Road ='Road' OR Road = 'MTB'
GROUP BY Road
ORDER BY AVG(ListPrice)


--21
SELECT DISTINCT E.EMPLOYEEID, E.LASTNAME
FROM Employee E INNER JOIN Bicycle B ON E.EmployeeID = B.EmployeeID
WHERE YEAR(B.ORDERDATE) = '2003' AND B.ModelType = 'ROAD' AND B.Painter = E.EmployeeID


--22
SELECT P.PAINTID, P.COLORNAME, COUNT(B.LETTERSTYLEID) AS [NUMBER OF BIKES PAINTED]
FROM   PAINT P INNER JOIN BICYCLE B ON P.PAINTID = B.PAINTID
WHERE  B.ORDERDATE BETWEEN '2002-01-01' AND '2002-12-31' AND B.LETTERSTYLEID = 'ENGLISH'
GROUP BY P.PAINTID, P.COLORNAME

--#23 Which race bikes in 2003 sold for more than the average price of race bikes in
2002?
SELECT SERIALNUMBER, MODELTYPE, ORDERDATE, SALEPRICE
FROM BICYCLE
WHERE MODELTYPE = 'RACE' AND
         YEAR(ORDERDATE) = 2003 AND
         SALEPRICE > (SELECT AVG(SALEPRICE)
                              FROM   BICYCLE
                              WHERE  MODELTYPE = 'RACE'
--24
SELECT TOP 1 M.ManufacturerName, C.ProductNumber, C.Category, MAX(C.EstimatedCost)*
MAX(C.QuantityOnHand) AS Value, C.ComponentID
FROM BikeParts BP INNER JOIN Component C  ON BP.ComponentID = C.ComponentID
       INNER JOIN Manufacturer M ON C.ManufacturerID = C.ManufacturerID
WHERE BP.DateInstalled IS NULL
GROUP BY M.ManufacturerName, C.ProductNumber, C.Category, C.ComponentID
ORDER BY  MAX(C.EstimatedCost)* MAX(C.QuantityOnHand) desc
)

--25
SELECT DISTINCT M.MANUFACTURERNAME AS [VENDOR NAME], M.PHONE AS PHONE
FROM MANUFACTURER M INNER JOIN CITY C ON M.CITYID = C.CITYID
     INNER JOIN RetailStore RS ON C.CityID = RS.CityID
     INNER JOIN Bicycle B ON RS.StoreID = B.StoreID
WHERE C.STATE = 'CA' AND YEAR(OrderDate) = 2004
```

```
UNION
SELECT DISTINCT R.STORENAME, R.PHONE
FROM RETAILSTORE R INNER JOIN CITY C ON R.CityID = C.CityID
     INNER JOIN Bicycle B ON R.StoreID = B.StoreID
WHERE C.State = 'CA' AND YEAR(OrderDate) = 2004

--26
SELECT LASTNAME, EMPLOYEEID, LASTNAME, FIRSTNAME, TITLE
FROM   EMPLOYEE AS EMPLOYEE_1 INNER JOIN EMPLOYEE ON EMPLOYEE_1.EMPLOYEEID =
EMPLOYEE.CURRENTMANAGER
WHERE  CURRENTMANAGER = (SELECT EMPLOYEEID
                         FROM EMPLOYEE
                         WHERE LASTNAME = 'VENETIAAN')

--#27 List the components where the company purchased at least 25 percent more units than
it used through June 30, 2000.(IMPORTANT QUESTION)
SELECT C.COMPONENTID, M.MANUFACTURERNAME, C.PRODUCTNUMBER, C.CATEGORY,
PI.QUANTITYRECEIVED AS "TotalReceived", COUNT(P.DATEINSTALLED) AS "TotalUsed",
             ((COUNT(DATEINSTALLED)-PI.QuantityReceived)*(C.LISTPRICE - PI.PRICEPAID))
AS "NetGain",
              ((COUNT(DATEINSTALLED)-PI.QuantityReceived)/(C.LISTPRICE-PI.PRICEPAID)) AS
"NetPct",  C.ListPrice
FROM COMPONENT C INNER JOIN MANUFACTURER M ON M.MANUFACTURERID = C.MANUFACTURERID
                           INNER JOIN BIKEPARTS P ON P.COMPONENTID = C.COMPONENTID
                           INNER JOIN PURCHASEITEM PI ON PI.COMPONENTID = C.COMPONENTID
                           INNER JOIN PURCHASEORDER PO ON PO.PURCHASEID = PI.PURCHASEID
WHERE  PO.ReceiveDate <= '30-JUN-2000'
GROUP BY C.ComponentID, M.ManufacturerName, C.ProductNumber, C.Category,
PI.QuantityReceived, C.LISTPRICE, PI.PRICEPAID
HAVING PI.QuantityReceived >= 1.25 * COUNT(P.DATEINSTALLED)


--28
SELECT YEAR(ORDERDATE) AS YEAR, AVG(DATEDIFF(DAY, ORDERDATE, SHIPDATE))
AS [BUILD TIME]
FROM Bicycle
GROUP BY YEAR(ORDERDATE)
HAVING AVG(DATEDIFF(DAY, ORDERDATE, SHIPDATE)) > (SELECT AVG(DATEDIFF(DAY,
ORDERDATE, SHIPDATE)) AS [TOTAL AVERAGE]
FROM Bicycle)
```