1. Which merchandise items have an average sale price more than 50 percent higher than their average purchase cost?

```
SELECT M.ItemID, AVG(OI.Cost) as [Average Cost], AVG(SI.SalePrice) as [Average Sale Price]
FROM Merchandise M inner join SaleItem SI on M.ItemID = SI.ItemID inner join OrderItem OI on
M.ItemID = OI.ItemID
group by M.ItemID, M.Description
having AVG(SI.SalePrice) > (1.5 * AVG(OI.Cost))
ORDER BY M.ItemID;
```

Results | Messages

	ItemID	Description	AvgOfCost	AvgOfSalePrice
1	7	Dog Toy	3.08	5.90
2	23	Aquarium-25 gal	39.8833	67.50

2. On average, which supplier charges the highest shipping cost as a percent of the merchandise order total. OrderTotal is Sum(Quantity*Cost) and PctShipCost is Avg(ShippingCost/OrderTotal)?

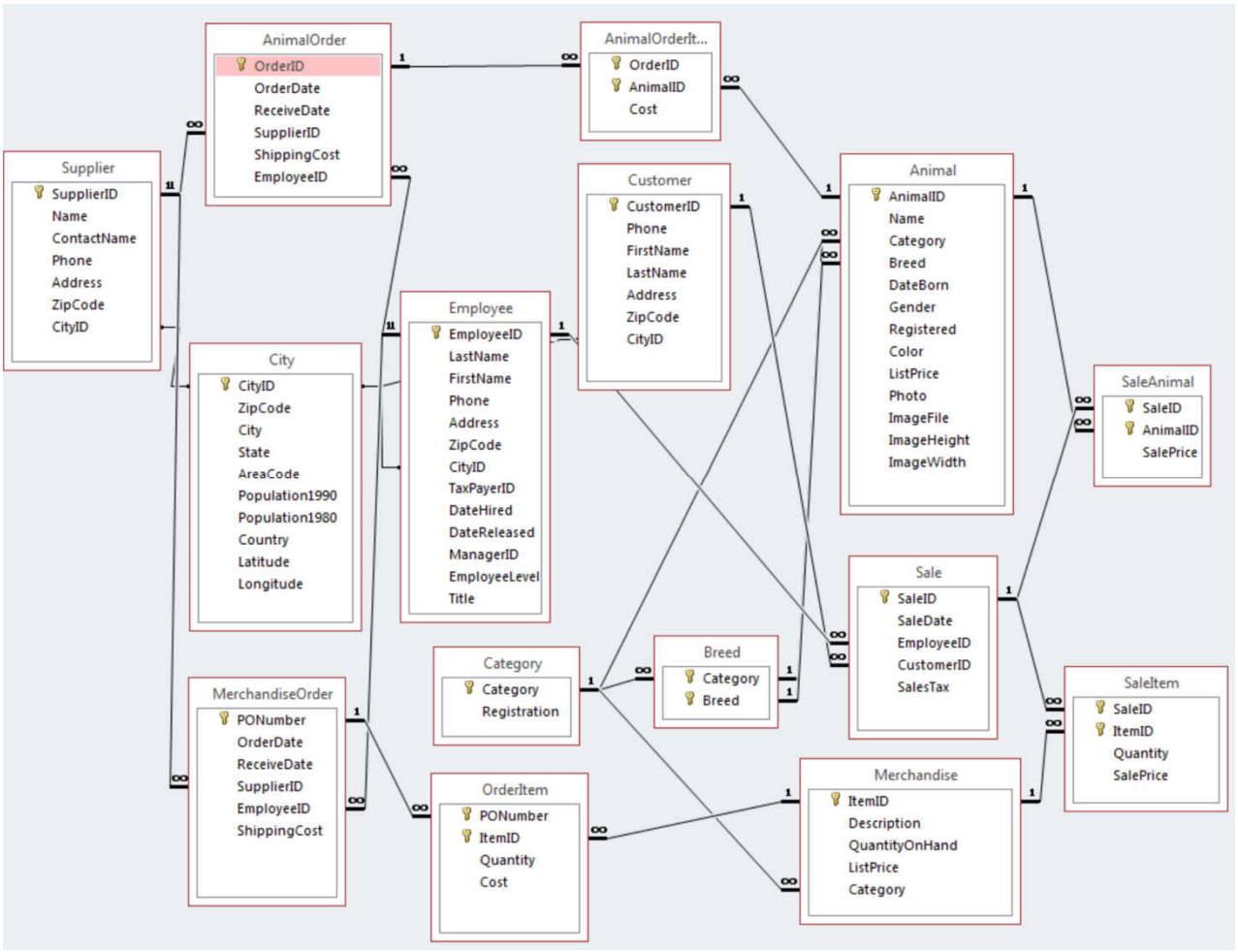
```
SELECT TOP 1 MO.SupplierID, Name, (AVG(ShippingCost) / SUM(Cost*Quantity))*100 AS
PctShipCost
FROM PET..MerchandiseOrder MO
INNER JOIN PET..OrderItem OI ON MO.PONumber = OI.PONumber
INNER JOIN PET..Supplier SU ON MO.SupplierID = SU.SupplierID
GROUP BY MO.SupplierID, Name
ORDER BY PctShipCost DESC
```

SupplierID	Name	PctShipCost
14	Harrison	0.12

3. Which customer has given us the most total money for animals and merchandise? SumofSalePrice is total money from animal sales given by sum(SalePrice). MerchTotal is total money from Merchandise sale given by Sum(Quantity*SalePrice). GrandTotal is SumofSalePrice added with MerchTotal. You may want to use ISNULL function to convert null values to zero. This is important because if a customer has SumofSalePrice as null while MerchTotal is not null, the addition of the two would be null. After all, any number + NULL = NULL. (ISNULL(MerchTotal,0)+ISNULL(SumOfSalePrice, 0)) AS GrandTotal

```
SELECT TOP 1 SE.CustomerID, LastName, FirstName, SUM(SI.SalePrice*Quantity) AS MercTotal,
SUM(SA.SalePrice) AS AnimalTotal, SUM(SI.SalePrice*Quantity + SA.SalePrice) AS GrandTotal
FROM PET..Sale SE
INNER JOIN PET..Customer CU ON SE.CustomerID = CU.CustomerID
INNER JOIN PET..SaleItem SI ON SE.SaleID = SI.SaleID
INNER JOIN PET..SaleAnimal SA ON SE.SaleID = SA.SaleID
GROUP BY FirstName, LastName, SE.CustomerID
ORDER BY GrandTotal DESC
```

CustomerID	LastName	FirstName	MerchTotal	SumOfSalePrice	GrandTotal
1	Walkin	Walkin	2071.35	190.16	2261.51



4. List the products with a list price greater than the average list price of all products. Make sure you do this in one single query.

ItemID	Description	ListPrice
1	Dog Kennel-Small	45.00
2	Dog Kennel-Medium	65.00
3	Dog Kennel-Large	85.00
4	Dog Kennel-Extra Large	110.00
6	Cat Bed-Medium	35.00

```
SELECT ItemID, Description, ListPrice
        FROM PET..MERCHANDISE
        WHERE ListPrice > (SELECT AVG(ListPrice) FROM PET..MERCHANDISE)
```

5. List the employees and their total merchandise sales expressed as a percentage of total merchandise sales for all employees. TotalSales is Sum(SalePrice*Quantity). PctSales is TotalSales for **an** employee / TotalSales for **all** employees.

EmployeeID	FirstName	LastName	TotalSales	PctSales
4	Alan	Hopkins	1643.76	0.1944
2	Bill	Gibson	1311.75	0.1552
3	Katy	Reasoner	1144.60	0.1354
1	Keith	Reeves	1070.28	0.1266
7	Dustin	Farris	1016.73	0.1202
5	Leisha	James	1002.87	0.1186
8	Carlos	Carpenter	669.60	0.0792
9	Jessica	O'Connor	311.40	0.0368
6	Anissa	Eaton	196.20	0.0232
10	Howard	Shields	84.60	0.01
11	Sally	Smith	0.00	0.00

```
SELECT SL.EmployeeID, EM.FirstName, EM.LastName, Sum(SI.SalePrice * SI.Quantity) AS TotalSales,
(Sum(SI.SalePrice * SI.Quantity) / (SELECT sum(SalePrice * Quantity) FROM PET..SaleItem)) AS PctSales
        FROM PET..Employee EM
        INNER JOIN PET..Sale SL ON EM.EmployeeID = SL.EmployeeID
        INNER JOIN PET..SaleItem SI ON SL.SaleID = SI.SaleID
        GROUP BY SL.EmployeeID, EM.FirstName, EM.LastName
        ORDER BY TotalSales DESC;
```

6. Which customers who bought more than $100 in merchandise in May also spent more than $50 on merchandise in October? MayTotal is Sum(SalePrice*Quantity) for the month of May. Function Month(date) returns the month included in the date.

CustomerID	LastName	FirstName	MayTotal
47	Carver	Bernice	194.40

```
SELECT SA.CustomerID, LastName, FirstName, SUM(SalePrice*Quantity) AS MayTotal
        FROM PET..Sale SA
        INNER JOIN PET..Customer CU ON SA.CustomerID = CU.CustomerID
        INNER JOIN PET..SaleItem SI ON SA.SaleID = SI.SaleID
        GROUP BY FirstName, LastName, SA.CustomerID, SaleDate
        HAVING (MONTH(SaleDate) = 5 AND SUM(SalePrice*Quantity) > 100) AND
        SA.CustomerID IN (SELECT CustomerID FROM PET..SALE SA
        INNER JOIN PET..SaleItem SI ON SA.SaleID = SI.SaleID
GROUP BY CustomerID, SaleDate
HAVING MONTH(SaleDate) = 10 AND SUM(SalePrice*Quantity) > 50)
```

7. Which merchandise items with a list price of more than $50 had no sales July?

ItemID	Description	ListPrice
2	Dog Kennel-Medium	65.00
3	Dog Kennel-Large	85.00
4	Dog Kennel-Extra Large	110.00
23	Aquarium-25 gal	75.00
24	Aquarium-100 gal	150.00

```
SELECT DISTINCT M.ItemID, M.Description, M.ListPrice
FROM PET..Merchandise M
INNER JOIN PET..SaleItem SI ON M.ItemID = SI.ItemID
INNER JOIN PET..Sale S ON SI.SaleID = S.SaleID
WHERE ListPrice > 50 AND
MONTH(SaleDate) <> 7
```

8. Which merchandise items with more than 100 units on hand have not been ordered in 2004? Use an outer join to answer the question.

ItemID	Description	QuantityOnHand
12	Cat Food-Dry-5 pound	413
13	Cat Food-Dry-10 pound	224
14	Cat Food-Dry-25 pound	300
35	Collar-Cat	150

```
SELECT ME.ItemID, Description, QuantityOnHand
FROM PET..Merchandise ME
LEFT OUTER JOIN PET..OrderItem OI ON ME.ItemID = OI.ItemID
LEFT OUTER JOIN PET..MerchandiseOrder MO ON OI.PONumber = MO.PONumber
WHERE QuantityOnHand > 100 AND
OI.ItemID IS NULL    OR
YEAR(OrderDate) <> 2004
```

9. Which merchandise items with more than 100 units on hand have not been ordered in 2004? Use a subquery to answer the question.

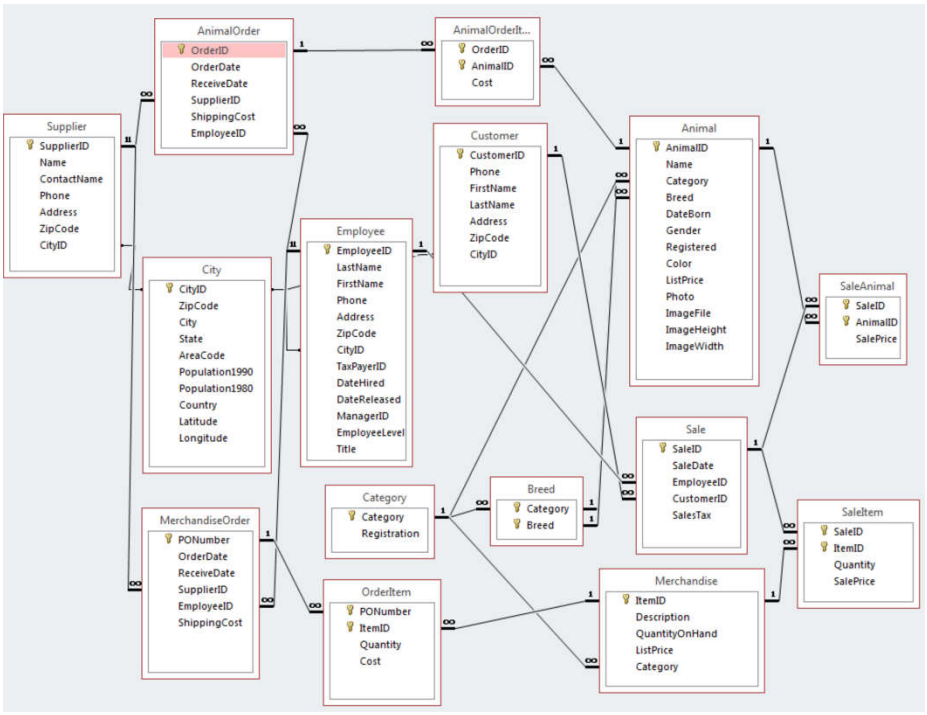
ItemID	Description	QuantityOnHand
12	Cat Food-Dry-5 pound	413
13	Cat Food-Dry-10 pound	224
14	Cat Food-Dry-25 pound	300
35	Collar-Cat	150

```
SELECT ItemID, Description, QuantityOnHand
 FROM PET..Merchandise
 WHERE ItemID IN (SELECT ME.ItemID
 FROM PET..Merchandise ME
 LEFT OUTER JOIN PET..OrderItem OI ON ME.ItemID = OI.ItemID
 LEFT OUTER JOIN PET..MerchandiseOrder MO ON OI.PONumber = MO.PONumber
 WHERE QuantityOnHand > 100 AND
 OI.ItemID IS NULL    OR
 YEAR(OrderDate) <> 2004)
```

10. List all suppliers (animals and merchandise) who sold us items in June. Identify whether they sold use animals or merchandise. One way to do this is to use a union query. You can tag the sale type by just using 'Sold Us Merchandise in June' AS 'Type of Sale' or 'Sold Us Animals in June' AS 'Type of Sale' in the query.

NAME	Type of Sale
Frost	Sold Us Animals in June
Harrison	Sold Us Merchandise in June
Osborne	Sold Us Merchandise in June
Parrish	Sold Us Merchandise in June

```
SELECT  S.NAME, 'Sold Us Animals in June' AS [Type of Sale]
FROM PET..SUPPLIER S INNER JOIN PET..ANIMALORDER AO ON S.SUPPLIERID =
AO.SUPPLIERID
WHERE MONTH(AO.ORDERDATE) = 6
UNION ALL
SELECT  S.NAME, 'Sold Us Merchandise in June' AS [Type of Sale]
FROM PET..SUPPLIER S INNER JOIN PET..MERCHANDISEORDER MO ON
S.SUPPLIERID =  MO.SUPPLIERID
WHERE MONTH(MO.ORDERDATE) = 6
```


AnimalOrder
OrderID
OrderDate
ReceiveDate
SupplierID
ShippingCost
EmployeeID
AnimalOrderIt...
OrderID
AnimalID
Cost
Supplier
SupplierID
Name
ContactName
Phone
Address
ZipCode
CityID
Customer
CustomerID
Phone
FirstName
LastName
Address
ZipCode
CityID
Animal
AnimalID
Name
Category
Breed
DateBorn
Gender
Registered
Color
ListPrice
Photo
ImageFile
ImageHeight
ImageWidth
Employee
EmployeeID
LastName
FirstName
Phone
Address
ZipCode
CityID
TaxPayerID
DateHired
DateReleased
ManagerID
EmployeeLevel
Title
City
CityID
ZipCode
City
State
AreaCode
Population1990
Population1980
Country
Latitude
Longitude
SaleAnimal
SaleID
AnimalID
SalePrice
Sale
SaleID
SaleDate
EmployeeID
CustomerID
SalesTax
Category
Category
Registration
Breed
Category
Breed
SaleItem
SaleID
ItemID
Quantity
SalePrice
MerchandiseOrder
PONumber
OrderDate
ReceiveDate
SupplierID
EmployeeID
ShippingCost
OrderItem
PONumber
ItemID
Quantity
Cost
Merchandise
ItemID
Description
QuantityOnHand
ListPrice
Category