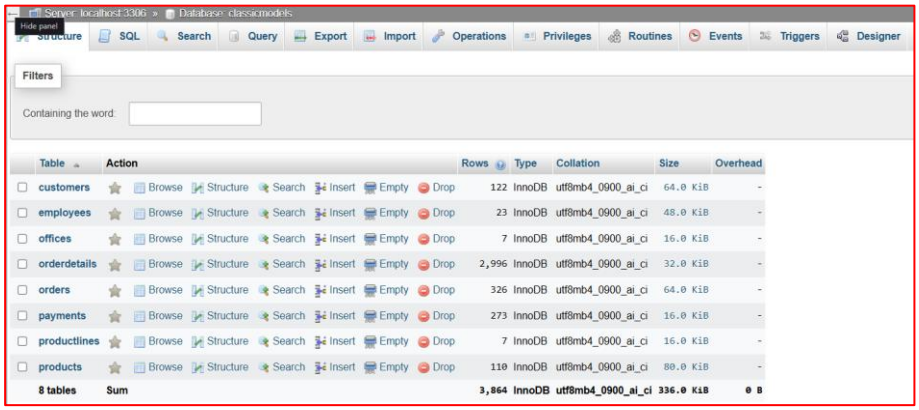
Aldo Khrisna Wijaya/SIB-2A/03

Jobsheet 2 – Database Operasional

Tugas 1

1. Import data perusahaan tersebut pada DBMS MySQL!



2. Analisa struktur data dari database perusahaan tersebut, dalam bentuk tabel, analisa hubungan setiap tabel nya!

NO	Tabel 1	Tabel 2	Jenis Relasi
1	productlines	products	1 to Many
2	products	orderdetails	1 to Many
3	orderdetails	orders	Many to 1
4	orders	customers	Many to 1
5	customers	payments	1 to Many
6	customers	employees	Many to 1
7	employees	employees	Many to 1
8	employees	offices	Many to 1

3. Analisa jumlah field pada setiap tabel!

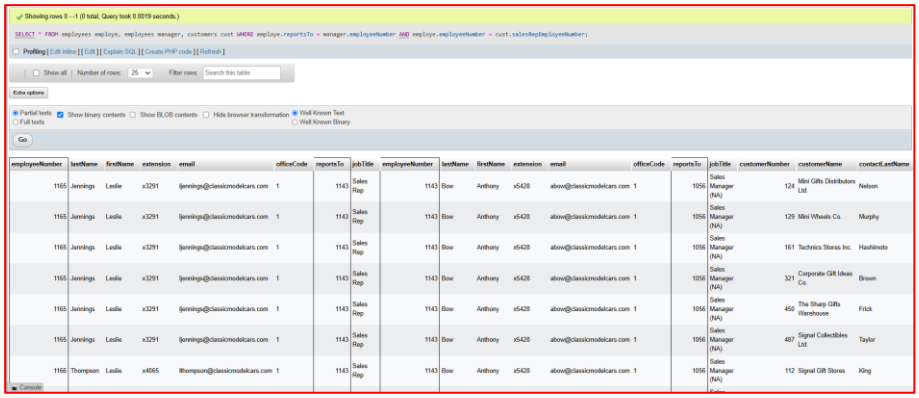
NO	Nama Tabel	Jumlah Field
1	productlines	4
2	products	9
3	orderdetails	5
4	orders	7
5	customers	13
6	payments	4
7	employees	8
8	offices	9

Analisa Data

Praktikum 1

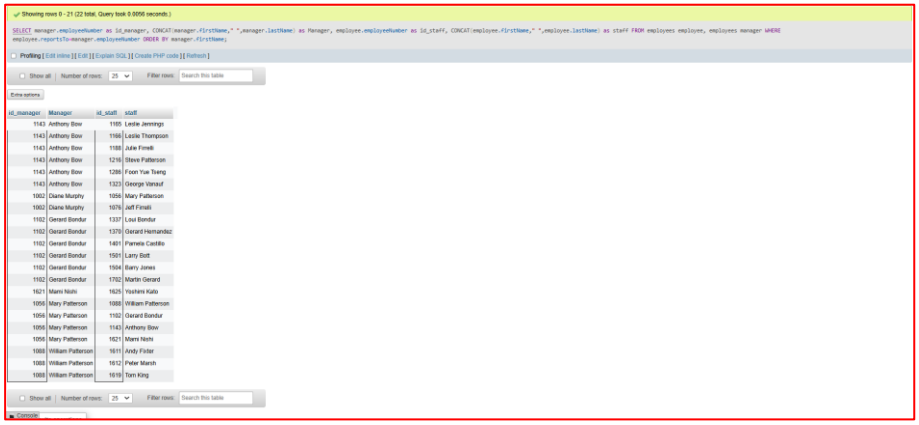
1. Jalankan **query** berikut pada **DBMS MySql** yang telah tersedia **data Perusahaan LegendVehicle.**

```
SELECT *
FROM employees employe, employes manager, customer cust
WHERE employee.reportsTo=manager.employeeNumber
AND employee.employeeNumber=cust.salesRepEmployeeNumber;
```

- 

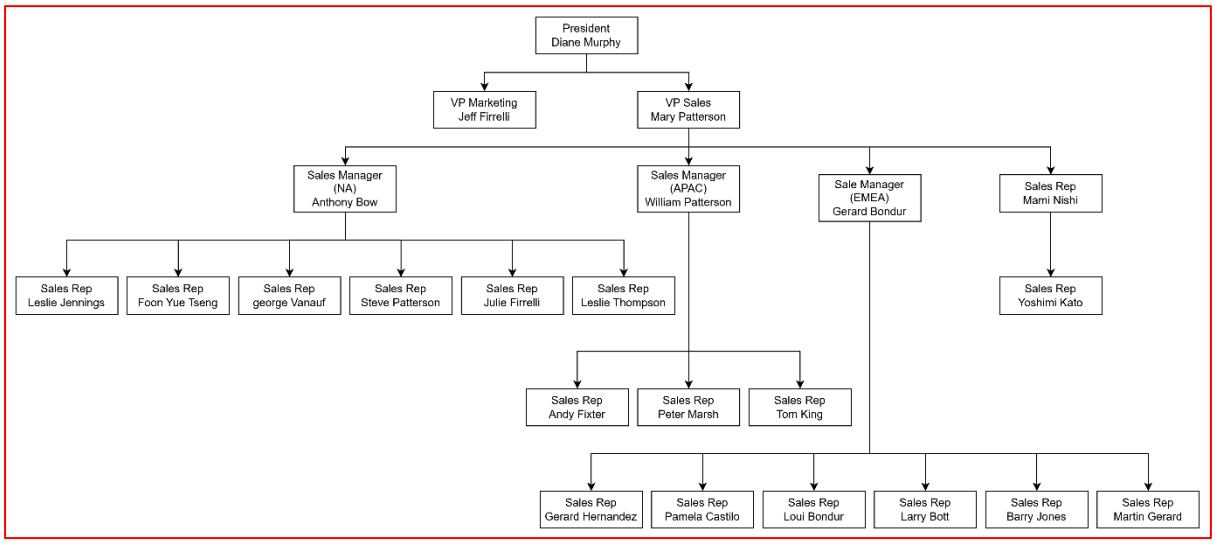
2. Buka **tab baru** pada browser untuk melakukan eksekusi **query** berikut:

```
SELECT manager.employeeNumber as id_manager,
CONCAT(manager.firstName," ,manager.lastName) as Manager,
employee.employeeNumber as id_staff,
CONCAT(employee.firstName," ",employee.lastName) as staff
FROM employees employee, employees manager
WHERE employee.reportsTo=manager.employeeNumber
ORDER BY manager.firstName;
```

- 

Tugas 2

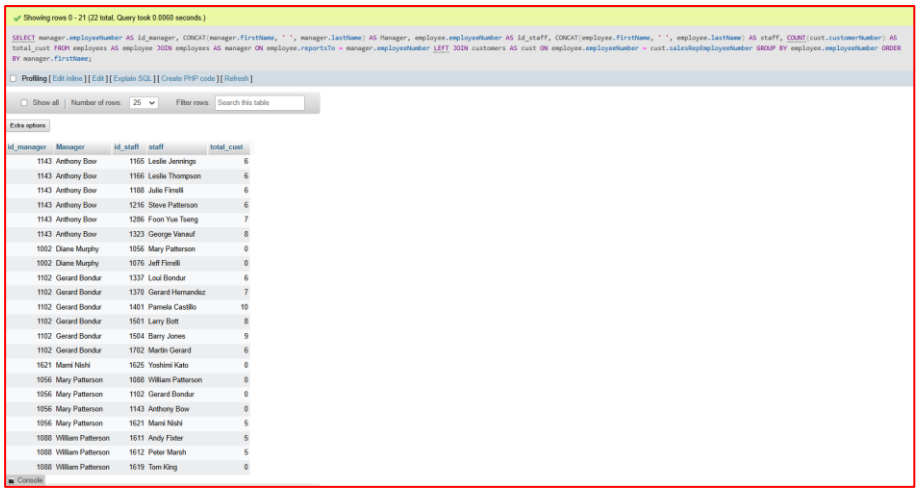
1. Gambarlah hirarki organisasi berdasarkan atasan dari setiap pegawai sesuai dengan hasil prkatikum diatas!



2. Buka **tab baru** pada browser untuk melakukan eksekusi **query** berikut:

```
SELECT manager.employeeNumber as id_manager,
concat(manager.firstName," ",manager.lastName) as Manager,
employee.employeeNumber as id_staff, concat(employee.firstName,"
",employee.lastName) as staff,
count(cust.customerNumber) as total_cust
FROM employees employee join employees manager on
employee.reportsTomanager.employeeNumber
left join customers cust on employee.employeeNumber=cust.salesRepEmployeeNumber
GROUP BY employee.employeeNumber
ORDER BY manager.firstName;
```

dari query tersebut menghasilkan jumlah **customer** dari setiap **staff**.

- 

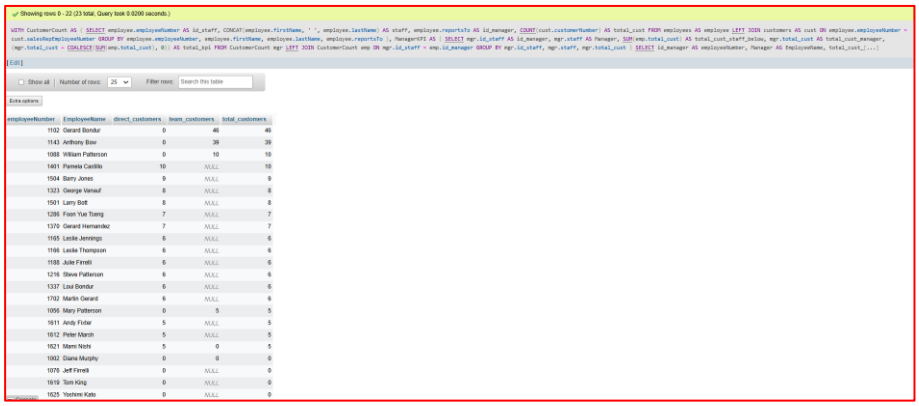
id_manager	Manager	id_staff	staff	total_cust
1143	Anthony Bow	1165	Leslie Jennings	6
1143	Anthony Bow	1166	Leslie Thompson	6
1143	Anthony Bow	1188	Julie Firrelli	6
1143	Anthony Bow	1216	Steve Patterson	6
1143	Anthony Bow	1286	Foon Yue Tseng	7
1143	Anthony Bow	1323	George Vanauf	8
1002	Diane Murphy	1056	Mary Patterson	0
1002	Diane Murphy	1076	Jeff Firrelli	0
1102	Gerard Bondur	1337	Loui Bondur	6
1102	Gerard Bondur	1370	Gerard Hernandez	7
1102	Gerard Bondur	1401	Pamela Castillo	10
1102	Gerard Bondur	1501	Larry Bott	8
1102	Gerard Bondur	1504	Barry Jones	9
1102	Gerard Bondur	1702	Martin Gerard	6
1621	Mami Nishi	1625	Yoshimi Kato	0
1056	Mary Patterson	1088	William Patterson	0
1056	Mary Patterson	1102	Gerard Bondur	0
1056	Mary Patterson	1143	Anthony Bow	0
1056	Mary Patterson	1621	Mami Nishi	5
1088	William Patterson	1611	Andy Fixter	5
1088	William Patterson	1612	Peter Marsh	5
1088	William Patterson	1619	Tom King	0

Tugas 3

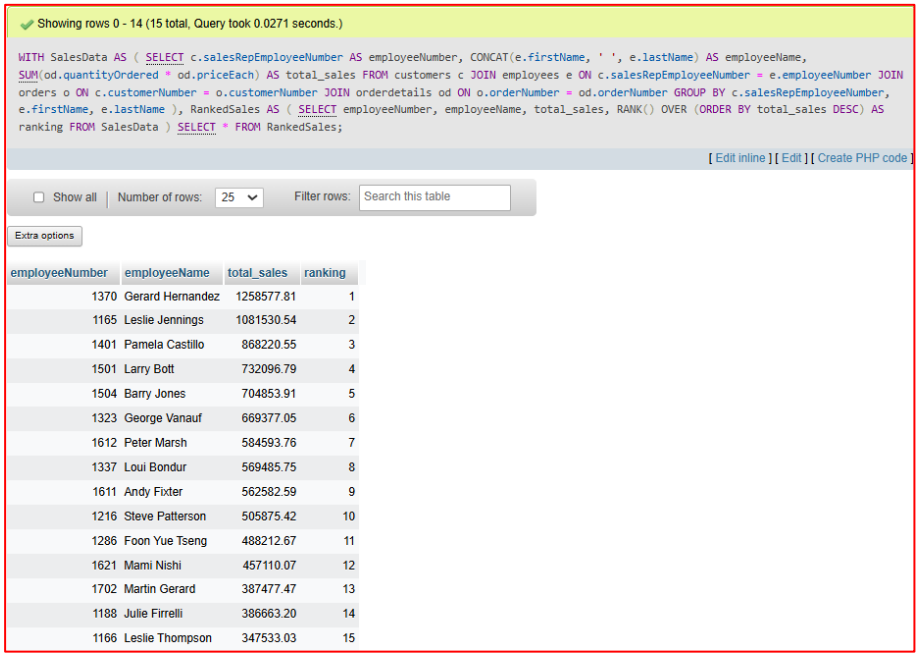
1. Siapakah staff dengan hirarki paling bawah yang berprestasi dilihat dari jumlah customer terbanyak?

- 

2. Jika KPI atasan dihitung dari customer yang dimilikinya dijumlah dengan customer dari staff dibawahnya, urutkan ranking prestasi keseluruhan pegawai beserta keterangan jumlah customer yang dimilikinya!

- 

3. Analisa kembali data LegendVehicle untuk mendapatkan ranking pegawai berdasarkan KPI **"Jumlah omset yang didapat".** Urutkan ranking pegawai beserta keterangan dana yang didapat!

- 

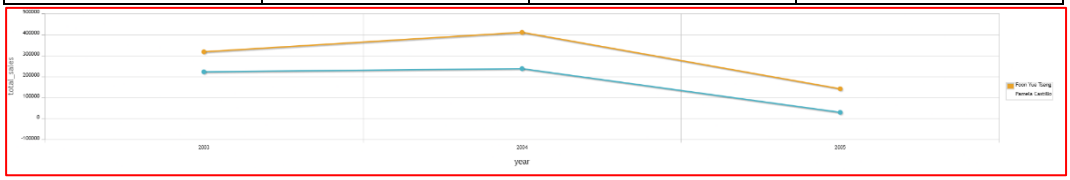
4. Jika KPI yang pertama merupakan "**Jumlah customer yang bertransaksi"** sedangkan KPI yang kedua **"Jumlah omset yang didapat".** Maka, berapakah jumlah field yang dibutuhkan untuk mendapatkan informasi tersebut?

KPI	Jumlah Field
Jumlah customer yang bertransaksi	3 field: employeeNumber, customerNumber, salesRepEmployeeNumber.

Jumlah omset yang didapat	5 field: employeeNumber, salesRepEmployeeNumber, orderNumber, quantityOrdered, priceEach.

5. Buatlah report pertahun untuk KPI **"Jumlah omset yang didapat"** pada **Foon Yue Tseng** dan **Pamela Castillo**. Serta gambarkan grafiknya (grafik garis).

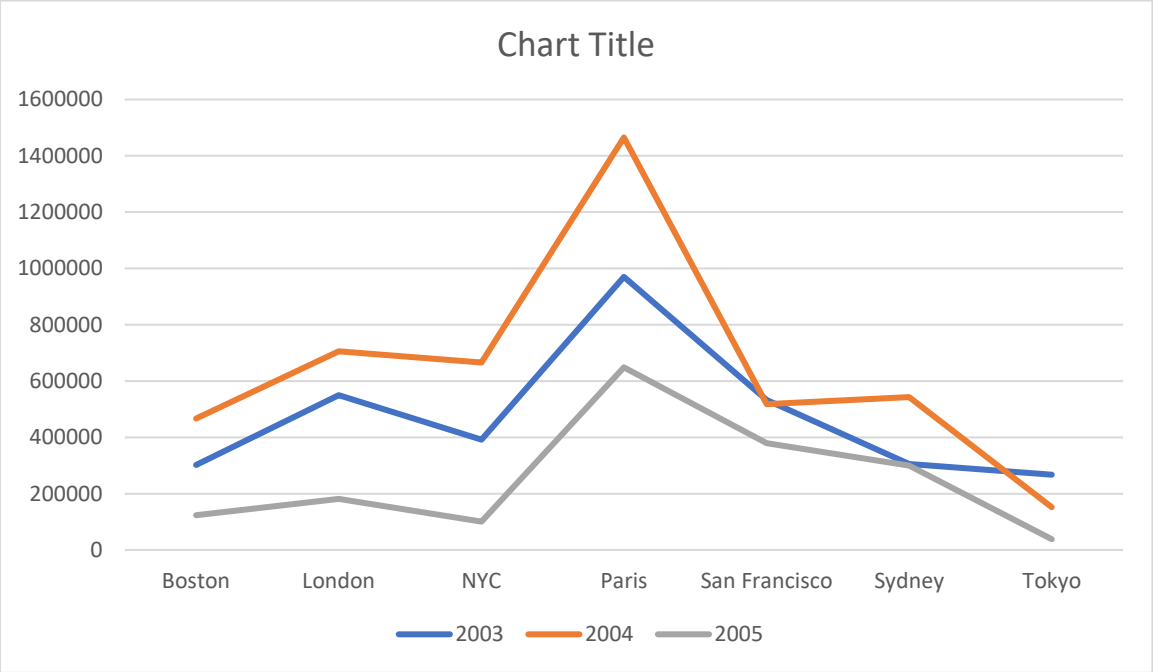
Nama	2003	2004	2005
Foon Yue Tseng	221887.03	237255.26	29070.38
Pamela Castillo	317104.78	409910.07	141205.70



Studi Kasus

1. Field apa saja yang diperlukan untuk menampilkan penjualan di setiap cabang.
   - Nama Cabang : offices.officeCode, offices.city.
   - Tahun Penjualan : orders.orderDate.
   - Total Omset : orderdetails.quantityOrdered, orderdetails.priceEach.
2. Bentuk query dengan memperhatikan relasi antar tabel.
   -
```sql
SELECT
    o.city AS Nama_Cabang,
    SUM(CASE WHEN YEAR(ord.orderDate) = 2003 THEN od.quantityOrdered * od.priceEach ELSE 0 END) AS `2003`,
    SUM(CASE WHEN YEAR(ord.orderDate) = 2004 THEN od.quantityOrdered * od.priceEach ELSE 0 END) AS `2004`,
    SUM(CASE WHEN YEAR(ord.orderDate) = 2005 THEN od.quantityOrdered * od.priceEach ELSE 0 END) AS `2005`
FROM offices o
JOIN employees e ON o.officeCode = e.officeCode
JOIN customers c ON e.employeeNumber = c.salesRepEmployeeNumber
JOIN orders ord ON c.customerNumber = ord.customerNumber
JOIN orderdetails od ON ord.orderNumber = od.orderNumber
GROUP BY o.city
ORDER BY o.city;
```

Nama Cabang	2003	2004	2005
Boston	301781.38	467177.07	123580.17
London	549551.94	706014.52	181384.24
NYC	391175.53	665317.99	101096.20
Paris	969959.90	1465229.84	648571.84
San Francisco	532681.13	517408.62	378973.82
Sydney	304949.11	542996.02	299231.22
Tokyo	267249.40	151761.45	38099.22



Soal Bonus

buatlah report lain dengan sumber data OLTP yang sama, analisa field yang digunakan, bentuk struktur query dan tuliskan dalam tabel serta grafiknya.

Penjualan per Bulan setiap tahun

1. Field
    - Orders.orderNumber, orders.orderDate(MONTHNAME dan YEAR).
2. Query
    - SELECT
    - MONTHNAME(o.orderDate) AS Bulan,
    - COUNT(CASE WHEN YEAR(o.orderDate) = 2003 THEN o.orderNumber END) AS `2003`,
    - COUNT(CASE WHEN YEAR(o.orderDate) = 2004 THEN o.orderNumber END) AS `2004`,
    - COUNT(CASE WHEN YEAR(o.orderDate) = 2005 THEN o.orderNumber END) AS `2005`
    - FROM orders o
    - GROUP BY MONTH(o.orderDate), MONTHNAME(o.orderDate)
    - ORDER BY MONTH(o.orderDate);
3. Tabel
    -

Bulan	2003	2004	2005
January	5	8	12
February	3	11	12
March	6	8	13
April	7	10	12
May	6	8	15
June	7	12	0
July	7	11	0
August	5	12	0
September	8	12	0
October	18	13	0
November	30	33	0
December	9	13	0

4. Grafik

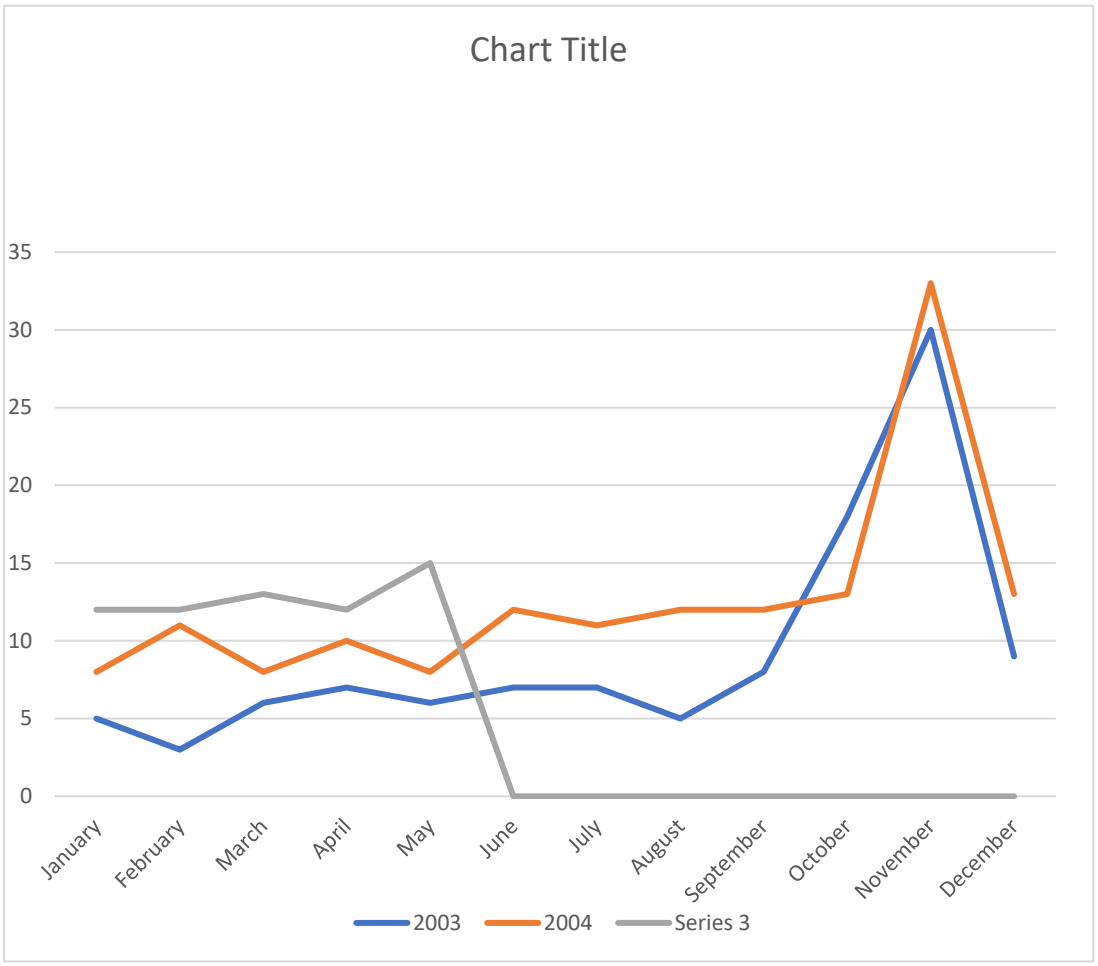


Chart Title
35
30
25
20
15
10
5
0
January
February
March
April
May
June
July
August
September
October
November
December
2003
2004
Series 3