**Problem 1.1** Produce a table consisting of the names and addresses of the subscribers and their phone numbers.

Select name, address, areacode, officecode, stationcode from lines Join subscribers using (portID);

name address areacode officecode stationcode

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Mats Sundin 45 Elgin St. 613 134 0001

Jason Allis 46 Elgin St. 613 136 0002

Eric Lindro 48 Elgin St. 613 156 0003

Bryan MacCa 23 MacLeod S 613 220 0004

Steve Nash 1129 Otterso 613 221 0005

Michael Jor 1223 Carling 613 222 0006

Roger Cleme 14 Hopewell 613 223 0007

Jack Morris 23 Prince of 613 226 0008

Roberto Alo 55 Moodie Dr 613 227 0009

Joe Carter 18 Summerset 613 229 0010

Wayne Grekz 45 Merviale. 613 310 0011

George Bell 46 Colon By 613 322 0012

Eric Staal 423 Riversid 613 333 0013

Roy Hallada 23 Ogilvie R 613 334 0014

Mario Lemie 1129 Bank Dr 613 389 0015

Patrick Roy 1223 Greenba 613 457 0016

Martin Brod 14 Baseline 613 489 0017

Homer Simps 123 Prince o 613 523 0018

Bart Simpso 155 Moodie D 613 568 0019

Joe Johnson 21 Sussex Dr 613 578 0020

Vince Carte 45 Hunt Club 613 623 0021

Ed Belfour 46 Fisher St 613 645 0022

Bobby Orr 48 Prince Ed 613 657 0023

Bobby Hull 23 Wellingto 613 712 0024

Gordie Howe 1129 Preston 613 728 0025

Larry Bird 1223 Warden 613 798 0026

Mark Messie 14 Finch Ave 416 219 0027

Wade Redden 23 Steeles A 416 331 0028

Sidney Cros 55 Sheppard 416 333 0029

Peter Forsb 1 Kennedy Dr 416 334 0030

Paul Kariya 45 Midland. 416 756 0031

Rob Blake 12 19th Ave. 705 221 0032

Chris Prong 48 16th Ave. 905 347 0033

Gary Robert 23 John St. 905 657 0034

Alex Mogily 1129 14th Av 905 819 0035

Scott Gomez 1223 Montrea 819 223 0036

Frank Thoma 14 Hull Ave. 819 227 0037

Barry Bonds 23 Hood Rd. 705 221 0038

Hank Aaron 55 Denison A 819 223 0039

Babe Ruth 1 Old Kenned 819 227 0040

Ted William 45 Birchmoun 905 347 0041

Chris Bosh 46 Queens Av 905 657 0042

Steve Sampr 448 St Clare 905 819 0043

Kobe Bryan 23 Bayview S 416 219 0044

Kevin Garne 59 Mike Myer 416 331 0045

Larry Brown 99 Blue Jays 416 333 0046

Brooke Shie 69 College A 416 334 0047

Matt Stajan 50 LakeShore 416 756 0048

Tie Domi 89 Spidina R 705 221 0049

Tevor Kidd 30 McCowan A 819 227 0050

**Problem 1.2** Produce a table that lists all the area code, office code combinations and the number of subscribers with that area code, office code combination.

Create temp table temp1 as select areacode,officecode, portid from lines;

create temp table temp2 as select areacode, officecode from temp1, subscribers where temp1.portId = subscribers.portid;

select areacode, officecode, count(areacode and officecode) from temp2 group by areacode & officecode;

areacode officecode count(areacode and officecode)

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613 136 1

613 156 2

613 389 1

819 223 2

819 227 3

613 310 1

613 322 1

613 457 1

613 334 3

613 333 3

613 226 1

613 489 2

613 229 1

416 219 2

416 756 2

705 221 3

416 334 6

905 347 2

613 657 2

613 798 1

613 645 1

613 568 1

613 728 3

613 623 1

905 657 2

905 819 2

**Problem 1.3** List the names of all the subscribers who are originators of a call to someone who is also a subscriber.

Create table Result1 as select orig, term, name from subscribers, calls where calls.orig = subscribers.portID;

Create table Result2 as select portID from subscribers, calls where calls.term = subscribers.portID;

select Result1.name from Result1, Result2 where Result1.term = Result2.portID;

name

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Mats Sundin

Jason Allis

Homer Simps

Michael Jor

Ed Belfour

**Problem 1.4** Find the names and address of all subscribers who subscribe to all of the available services

select name, address from subscribers Natural Join (select line from (select line, count(\*) from service\_subscribers Group by line) Natural Join (select count(\*) from services));

This resulted in an empty table because there are 5 services and at most each subscriber is subscribed to 3.

**Problem 1.5** Find the names of all the subscribers who subscribe to at least two services.

create temp table temp1 as select line, count(\*) from service\_subscribers Group by line having count(line) >= 2;

select name from subscribers, temp1 where subscribers.portid = temp1.line;

name

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Mats Sundin

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Eric Lindro

Bryan MacCa

Michael Jor

Roger Cleme

Roberto Alo

Joe Carter

George Bell

Eric Staal

Mario Lemie

Patrick Roy

Homer Simps

Bart Simpso

Vince Carte

Gordie Howe

Mark Messie

Wade Redden

Sidney Cros

Peter Forsb

Paul Kariya

Chris Prong

Gary Robert

Scott Gomez

Frank Thoma

Hank Aaron

Babe Ruth

Chris Bosh

Steve Sampr

Kevin Garne

Larry Brown

Matt Stajan

Tie Domi

**Problem 1.6** Produce a table that lists the most popular service (or services). That is, give the name of the service that has the most subscribers.

create temp table temp1 as select service, count(\*) "count\_num" from service\_subscribers Group by service;

create temp table temp2 as select max(count\_num) as max\_num from temp1;

service

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MSG

**Problem 1.7** Find all the trunks that could be used to route a call to the following  Toronto number (416) 333-1347. (For this query it does not matter if the trunks are all busy or have idle channels, we only want to find the actual trunk id's that could be used to route the call.)

select portid from trunk\_routes where ((area = "416" and office = "000") or (area = "416" and office = "333") or (area = "000" and office = "000"));

portid

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102

102

106

107

**Problem 1.8** Write an SQL query that would find if the line with phone number (613) 712-0024 is currently available to take a call (that it is IDLE).

Select state from lines where (areacode = "613" and officecode = "712" and stationcode = "0024");

**Problem 1.9** Write an SQL query that will produce in one table a list of all the acceptable trunks that can be used to route a call to the 416 area code, office code 334. This query should list the trunks in the order of preference. (The answer should list trunks routes 416,334 then 416,000 then 000,000 for example)

create temp table temp1 as select \* from trunk\_routes where ((area = "416" and office = "334") or (area = "416" and office = "000") or (area = "000" and office = "000")) order by area and office desc;

**Problem 1.10** Produce a table that lists the name of all the service-subscribers that subscribe to at least all the same services as Jason Allison subscribes to but possibly others as well. Jason Allison rents the line with portID=2.

create temp table temp1 as select service from service\_subscribers where line = 2;

create temp table temp2 as select line from service\_subscribers, temp1 where temp1.service = service\_subscribers.service;

create temp table temp3 as select distinct name from subscribers, temp2 where temp2.line = subscribers.portid;