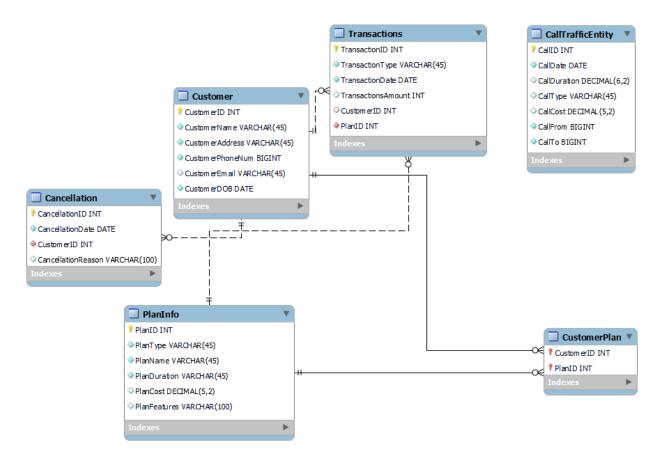
## Section 1:



## Section 2:

- -- MySQL Script generated by MySQL Workbench
- -- Sat May 4 17:02:58 2024
- -- Model: New Model Version: 1.0
- -- MySQL Workbench Forward Engineering

SET @OLD\_UNIQUE\_CHECKS=@@UNIQUE\_CHECKS, UNIQUE\_CHECKS=0; SET @OLD\_FOREIGN\_KEY\_CHECKS=@@FOREIGN\_KEY\_CHECKS, FOREIGN\_KEY\_CHECKS=0; SET @OLD\_SQL\_MODE=@@SQL\_MODE, SQL\_MODE='ONLY\_FULL\_GROUP\_BY,STRICT\_TRANS\_TABLES,NO\_ZERO\_IN\_DATE,NO\_ ZERO\_DATE,ERROR\_FOR\_DIVISION\_BY\_ZERO,NO\_ENGINE\_SUBSTITUTION';

```
-- Schema mydb
-- Schema mydb
CREATE SCHEMA IF NOT EXISTS 'mydb' DEFAULT CHARACTER SET utf8;
USE `mydb`;
-- Table `mydb`.`CallTrafficEntity`
DROP TABLE IF EXISTS `mydb`.`CallTrafficEntity`;
CREATE TABLE IF NOT EXISTS 'mydb'.'CallTrafficEntity' (
 'CallID' INT NOT NULL AUTO INCREMENT,
 'CallDate' DATE NOT NULL,
 'CallDuration' DECIMAL(6,2) NULL,
 'CallType' VARCHAR(45) NULL,
 'CallCost' DECIMAL(5,2) NULL,
 'CallFrom' BIGINT UNSIGNED NOT NULL,
 'CallTo' BIGINT UNSIGNED NOT NULL,
 PRIMARY KEY ('CallID'))
ENGINE = InnoDB;
-- Table `mydb`.`Cancellation`
DROP TABLE IF EXISTS 'mydb'. 'Cancellation';
CREATE TABLE IF NOT EXISTS 'mydb'. 'Cancellation' (
 `CancellationID` INT NOT NULL AUTO INCREMENT,
 'CancellationDate' DATE NOT NULL,
 'CustomerID' INT NOT NULL,
 `CancellationReason` VARCHAR(100) NULL,
 PRIMARY KEY ('CancellationID'),
 INDEX 'CustomerID_idx' ('CustomerID' ASC) VISIBLE,
 CONSTRAINT `CustomerID`
      FOREIGN KEY ('CustomerID')
      REFERENCES 'mydb'.'Customer' ('CustomerID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
```

```
ENGINE = InnoDB;
-- Table `mydb`.`Customer`
DROP TABLE IF EXISTS 'mydb'.'Customer';
CREATE TABLE IF NOT EXISTS 'mydb'. 'Customer' (
 'CustomerID' INT NOT NULL AUTO INCREMENT,
 'CustomerName' VARCHAR(45) NOT NULL,
 'CustomerAddress' VARCHAR(45) NOT NULL,
 'CustomerPhoneNum' BIGINT UNSIGNED NOT NULL,
 `CustomerEmail` VARCHAR(45) NULL,
 'CustomerDOB' DATE NOT NULL,
 PRIMARY KEY ('CustomerID'),
 UNIQUE INDEX 'CustomerID_UNIQUE' ('CustomerID' ASC) VISIBLE)
ENGINE = InnoDB;
-- Table `mydb`.`CustomerPlan`
DROP TABLE IF EXISTS 'mydb'. 'CustomerPlan';
CREATE TABLE IF NOT EXISTS 'mydb'. 'CustomerPlan' (
 'CustomerID' INT NOT NULL,
 'PlanID' INT NOT NULL,
 PRIMARY KEY ('CustomerID', 'PlanID'),
 INDEX `PlanID_idx` (`PlanID` ASC) VISIBLE,
 CONSTRAINT 'CustomerID'
      FOREIGN KEY ('CustomerID')
      REFERENCES 'mydb'.'Customer' ('CustomerID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
 CONSTRAINT 'PlanID'
      FOREIGN KEY ('PlanID')
      REFERENCES 'mydb'. 'PlanInfo' ('PlanID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB;
```

```
-- Table `mydb`.`PlanInfo`
DROP TABLE IF EXISTS 'mydb'. 'PlanInfo';
CREATE TABLE IF NOT EXISTS 'mydb'. 'PlanInfo' (
 'PlanID' INT NOT NULL AUTO INCREMENT,
 'PlanType' VARCHAR(45) NOT NULL,
 'PlanName' VARCHAR(45) NOT NULL,
 'PlanDuration' VARCHAR(45) NOT NULL,
 'PlanCost' DECIMAL(5,2) NULL,
 'PlanFeatures' VARCHAR(100) NULL,
 PRIMARY KEY ('PlanID'),
 UNIQUE INDEX 'PlanID UNIQUE' ('PlanID' ASC) VISIBLE)
ENGINE = InnoDB;
-- Table 'mydb'. 'Transactions'
DROP TABLE IF EXISTS 'mydb'. 'Transactions';
CREATE TABLE IF NOT EXISTS 'mydb'. 'Transactions' (
 `TransactionID` INT NOT NULL AUTO INCREMENT,
 `TransactionType` VARCHAR(45) NOT NULL,
 `TransactionDate` DATE NOT NULL,
 `TransactionsAmount` INT NULL,
 'CustomerID' INT NULL,
 'PlanID' INT NOT NULL,
 PRIMARY KEY ('TransactionID'),
 INDEX 'CustomerID_idx' ('CustomerID' ASC) VISIBLE,
 INDEX 'PlanID idx' ('PlanID' ASC) VISIBLE,
 CONSTRAINT 'CustomerID'
      FOREIGN KEY (`CustomerID`)
      REFERENCES 'mydb'.'Customer' ('CustomerID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
 CONSTRAINT 'PlanID'
      FOREIGN KEY ('PlanID')
      REFERENCES 'mydb'. 'PlanInfo' ('PlanID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB;
```

SET SQL\_MODE=@OLD\_SQL\_MODE; SET FOREIGN\_KEY\_CHECKS=@OLD\_FOREIGN\_KEY\_CHECKS; SET UNIQUE\_CHECKS=@OLD\_UNIQUE\_CHECKS;

## Section 3:

```
INSERT INTO customer (CustomerName, CustomerAddress, CustomerPhoneNum,
CustomerEmail, CustomerDOB)
VALUES("Nathan MacKinnon", "3456 Cherry Tree Lane", 3038675309,
NMacKinnon@gmail.com, '1995-09-01');
INSERT INTO customer (CustomerName, CustomerAddress, CustomerPhoneNum,
CustomerEmail, CustomerDOB)
VALUES("Mikko Rantanen", "1946 Park Ave", 9702457896, MRantanen@gmail.com,
'1996-10-29');
INSERT INTO customer (CustomerName, CustomerAddress, CustomerPhoneNum,
CustomerEmail, CustomerDOB)
VALUES("Alexandar Geogiev", "3962 Spruce Way", 7208519271, Georgie@gmail.com,
'1996-02-10');
INSERT INTO customer (CustomerName, CustomerAddress, CustomerPhoneNum,
CustomerEmail, CustomerDOB)
VALUES("Cale Makar", "3456 Colorado Ave", 3037658347, CaleM@gmail.com, '1998-10-30');
INSERT INTO customer (CustomerName, CustomerAddress, CustomerPhoneNum,
CustomerEmail, CustomerDOB)
VALUES("Gabriel Landeskog", "8683 Mountain Drive", 7206069252, Landy@gmail.com,
'1992-11-23');
INSERT INTO cancellation (CancellationDate, CustomerID, CancellationReason)
VALUES('2024-05-04', 5, "Broken Phone");
INSERT INTO customerplan(CustomerID, PlanID)
VALUES
(14,1),
(15,1),
(16,1),
(12,2),
(13,3);
INSERT INTO planinfo(PlanType, PlanName, PlanDuration, PlanCost, PlanFeatures)
VALUES
("single", "basic", "year-long", 100.99, "basic phone and texting"),
("prepaid", "premium upfront", "year-long", 180.99, "unlimited phone and texting"),
("postpaid", "DataNow, Pay Later", "year-long", 112.99, basic phone and texting),
("data only", "pay for what you use", "monthly", 16.99, "basic phone and texting");
```

```
INSERT INTO transactions (TransactionType, TransactionDate, TransactionsAmount,
CustomerID, PlanID)
VALUES
("plan activation", '2022-05-04', 181, 12, 2);
("payment", '2023-05-04', 181, 12, 2);
("payment", '2024-05-04', 181, 12, 2);
("plan activation", '2022-05-04', 0, 13, 3);
("payment", '2023-05-04', 113, 13, 3);
("payment", '2024-05-04', 113, 13, 3);
("plan activation", '2023-04-04', 17, 14, 4);
("plan change", '2023-05-04', 101, 14, 1);
("payment", '2024-05-04', 101, 14, 1);
("plan activation", '2022-05-04', 101, 15, 1);
("payment", '2023-05-04', 101, 15, 1);
("payment", '2024-05-04', 101, 15, 1);
("plan activation", '2022-05-04', 101, 16, 1);
("payment", '2023-05-04', 101, 16, 1);
("cancellation", '2024-05-03', 0, 16, 1);
INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo)
VALUES('2024-04-27', 9.7, "local", 2.5, 9702457896, 3038675309);
INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo)
VALUES('2024-03-03', 15.9, "local", 5.5, 9702457896, 7206069252);
INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo)
VALUES('2024-02-11', 120.5, "local", 50.5, 3038675309, 9702457896);
INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo)
VALUES('2024-05-03', 17.8, "local", 4.0, 9702457896, 3037658347);
INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo)
VALUES('2023-11-02', 14.3, "local", 3.5, 7208519271, 7203495730);
INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo)
```

VALUES('2024-01-21', 15.9, "local", 5.5, 7208519271, 7206069252);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo)

VALUES('2024-02-14', 20.0, "local", 10.5, 3038665309, 7208519271);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2024-02-07', 10.1, "local", 1.5, 7208519271, 7206069252);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2024-01-01', 12.9, "local", 2.5, 3038675309, 7204859347);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2023-12-25', 5.0, "local", 15.5, 3038675309, 7204859347);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2024-01-21', 15.9, "local", 5.5, 7208519271, 7206069252);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2024-02-14', 20.0, "local", 10.5, 3038665309, 7208519271);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2024-02-07', 10.1, "local", 1.5, 7208519271, 7206069252);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2024-01-01', 12.9, "local", 2.5, 3038675309, 7204859347);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2023-12-25', 5.0, "local", 15.5, 3038675309, 7204859347);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2024-01-21', 15.9, "local", 5.5, 7208519271, 7206069252);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2024-02-14', 20.0, "local", 10.5, 3038665309, 7208519271);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2024-02-07', 10.1, "local", 1.5, 7208519271, 7206069252);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2024-01-01', 12.9, "local", 2.5, 3038675309, 7204859347);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2023-12-25', 5.0, "local", 15.5, 3038675309, 7204859347);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2024-01-21', 15.9, "local", 5.5, 7208519271, 7206069252);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2024-02-14', 20.0, "local", 10.5, 3038665309, 7208519271);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2024-03-31', 12.1, "local", 2.1, 7206069252, 7206069252);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2024-01-17', 14.9, "local", 4.5, 3038675309, 7206069252);

INSERT INTO calltrafficentity (CallDate, CallDuration, CallType, CallCost, CallFrom, CallTo) VALUES('2023-12-27', 6.0, "local", 1.7, 7206069252, 7204859347);

## Section 4:

 ${\tt SELECT\ customer.Customer.Customer.Customer.Name,\ planinfo.PlanID,\ planinfo.planType,\ planinfo.PlanName}$ 

**FROM** 

customer

INNER JOIN customerplan, planinfo

WHERE

customer.CustomerID = customerplan.CustomerID

AND

planinfo.PlanID = customerplan.PlanID;

	CustomerID	CustomerName	PlanID	planType	PlanName
•	14	Alexandar Geogiev	1	single	basic
	15	Cale Makar	1	single	basic
	16	Gabriel Landeskog	1	single	basic
	12	Nathan MacKinnon	2	prepaid	premium upfront
	13	Mikko Rantanen	3	postpaid	DataNow, Pay Later

SELECT \* FROM calltrafficentity;

CallID 1	CallDate	CallDuration	CallType	CallCost	CallEnan	o lle
1			Cuiri ypc	CaliCost	CallFrom	CallTo
	2024-04-03	10.30	local	3.50	3038675309	3037658347
2	2024-04-03	10.30	local	3.50	3038675309	7204859347
3	2024-04-27	9.70	local	2.50	9702457896	3038675309
4	2024-03-03	15.90	local	5.50	9702457896	7206069252
5	2024-02-11	120.50	local	50.50	3038675309	9702457896
6	2024-05-03	17.80	local	4.00	9702457896	3037658347
7	2023-11-02	14.30	local	3.50	7208519271	7203495730
8	2024-01-21	15.90	local	5.50	7208519271	7206069252
9	2024-02-14	20.00	local	10.50	3038665309	7208519271
10	2024-02-07	10.10	local	1.50	7208519271	7206069252
11	2024-01-01	12.90	local	2.50	3038675309	7204859347
12	2023-12-25	5.00	local	15.50	3038675309	7204859347
13	2024-01-21	15.90	local	5.50	7208519271	7206069252
14	2024-02-14	20.00	local	10.50	3038665309	7208519271
15	2024-02-07	10.10	local	1.50	7208519271	7206069252
16	2024-01-01	12.90	local	2.50	3038675309	7204859347
17	2023-12-25	5.00	local	15.50	3038675309	7204859347
18	2024-01-21	15.90	local	5.50	7208519271	7206069252
19	2024-02-14	20.00	local	10.50	3038665309	7208519271
20	2024-02-07	10.10	local	1.50	7208519271	7206069252
21	2024-01-01	12.90	local	2.50	3038675309	7204859347
22	2023-12-25	5.00	local	15.50	3038675309	7204859347
	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	2 2024-04-03 3 2024-04-27 4 2024-03-03 5 2024-02-11 6 2024-05-03 7 2023-11-02 8 2024-01-21 9 2024-02-14 10 2024-02-07 11 2024-01-01 12 2023-12-25 13 2024-01-21 14 2024-02-14 15 2024-02-07 16 2024-01-01 17 2023-12-25 18 2024-01-01 19 2024-02-14 2024-02-14 2024-02-14 2024-02-14 2024-02-14	2 2024-04-03 10.30 3 2024-04-27 9.70 4 2024-03-03 15.90 5 2024-02-11 120.50 6 2024-05-03 17.80 7 2023-11-02 14.30 8 2024-01-21 15.90 9 2024-02-14 20.00 10 2024-02-07 10.10 11 2024-01-01 12.90 12 2023-12-25 5.00 13 2024-02-14 20.00 14 2024-02-14 20.00 15 2024-02-14 20.00 16 2024-01-01 12.90 17 2023-12-25 5.00 18 2024-01-01 12.90 17 2023-12-25 5.00 18 2024-01-01 12.90 19 2024-02-14 20.00 20 2024-02-14 20.00 20 2024-02-14 20.00 20 2024-02-17 10.10 20 2024-02-17 10.10 20 2024-02-17 10.10 20 2024-02-17 10.10 21 2024-01-01 12.90	2 2024-04-03 10.30 local 3 2024-04-27 9.70 local 4 2024-03-03 15.90 local 5 2024-02-11 120.50 local 6 2024-05-03 17.80 local 7 2023-11-02 14.30 local 8 2024-01-21 15.90 local 9 2024-02-14 20.00 local 10 2024-02-07 10.10 local 11 2024-01-01 12.90 local 12 2023-12-25 5.00 local 13 2024-01-21 15.90 local 14 2024-02-14 20.00 local 15 2024-01-01 12.90 local 16 2024-01-01 12.90 local 17 2023-12-25 5.00 local 18 2024-01-01 12.90 local 19 2024-01-01 12.90 local 10 2024-01-01 12.90 local 11 2023-12-25 5.00 local 12 2023-12-25 5.00 local 13 2024-01-01 12.90 local 14 2024-01-01 12.90 local 15 2024-01-01 12.90 local 17 2023-12-25 10.00 local 18 2024-01-11 15.90 local 19 2024-01-11 15.90 local 19 2024-02-14 20.00 local 20 2024-02-07 10.10 local	2 2024-04-03 10.30 local 3.50 3 2024-04-27 9.70 local 2.50 4 2024-03-03 15.90 local 5.50 5 2024-02-11 120.50 local 50.50 6 2024-05-03 17.80 local 4.00 7 2023-11-02 14.30 local 5.50 9 2024-02-14 20.00 local 5.50 9 2024-02-14 20.00 local 10.50 10 2024-02-07 10.10 local 1.50 11 2024-01-01 12.90 local 5.50 12 2023-12-25 5.00 local 15.50 13 2024-02-14 20.00 local 15.50 14 2024-02-14 20.00 local 15.50 15 2024-02-14 20.00 local 10.50 16 2024-01-01 12.90 local 5.50 17 2023-12-25 5.00 local 15.50 18 2024-01-01 12.90 local 10.50 16 2024-01-01 12.90 local 15.50 17 2023-12-25 5.00 local 15.50 18 2024-01-01 12.90 local 5.50 19 2024-02-14 20.00 local 15.50 19 2024-02-14 20.00 local 15.50 19 2024-02-14 20.00 local 10.50 20 2024-02-14 20.00 local 10.50 20 2024-02-14 20.00 local 10.50 20 2024-02-07 10.10 local 1.50 20 2024-02-07 10.10 local 1.50 20 2024-02-07 10.10 local 2.50 20 2024-01-01 12.90 local 2.50	2 2024-04-03 10.30 local 3.50 3038675309 3 2024-04-27 9.70 local 2.50 9702457896 4 2024-03-03 15.90 local 5.50 9702457896 5 2024-02-11 120.50 local 50.50 3038675309 6 2024-05-03 17.80 local 4.00 9702457896 7 2023-11-02 14.30 local 3.50 7208519271 8 2024-01-21 15.90 local 5.50 7208519271 9 2024-02-14 20.00 local 10.50 3038665309 10 2024-02-07 10.10 local 1.50 7208519271 11 2024-01-01 12.90 local 2.50 3038675309 12 2023-12-25 5.00 local 15.50 7208519271 14 2024-02-14 20.00 local 15.50 7208519271 14 2024-02-14 20.00 local 15.50 3038675309 15 2024-02-17 10.10 local 15.50 3038675309 16 2024-02-17 10.10 local 15.50 3038675309 17 2023-12-25 5.00 local 10.50 3038665309 18 2024-01-01 12.90 local 15.50 3038675309 18 2024-01-01 12.90 local 15.50 3038675309 18 2024-01-21 15.90 local 15.50 3038675309 18 2024-02-14 20.00 local 15.50 3038675309 20 2024-02-07 10.10 local 15.50 3038665309 20 2024-02-07 10.10 local 15.50 7208519271 21 2024-01-01 12.90 local 5.50 7208519271 21 2024-01-01 12.90 local 5.50 7208519271 21 2024-01-01 12.90 local 5.50 7208519271

SELECT PlanName, SUM(Transactionsamount) AS "Total revenue from transaction" FROM transactions
INNER JOIN
planinfo
WHERE transactions.PlanID = planinfo.PlanID
Group BY transactions.PlanID;

	PlanName	Total revenue from transaction
•	basic	707
	premium upfront	543
	DataNow, Pay Later	226
	pay for what you use	17