Nick Jordy

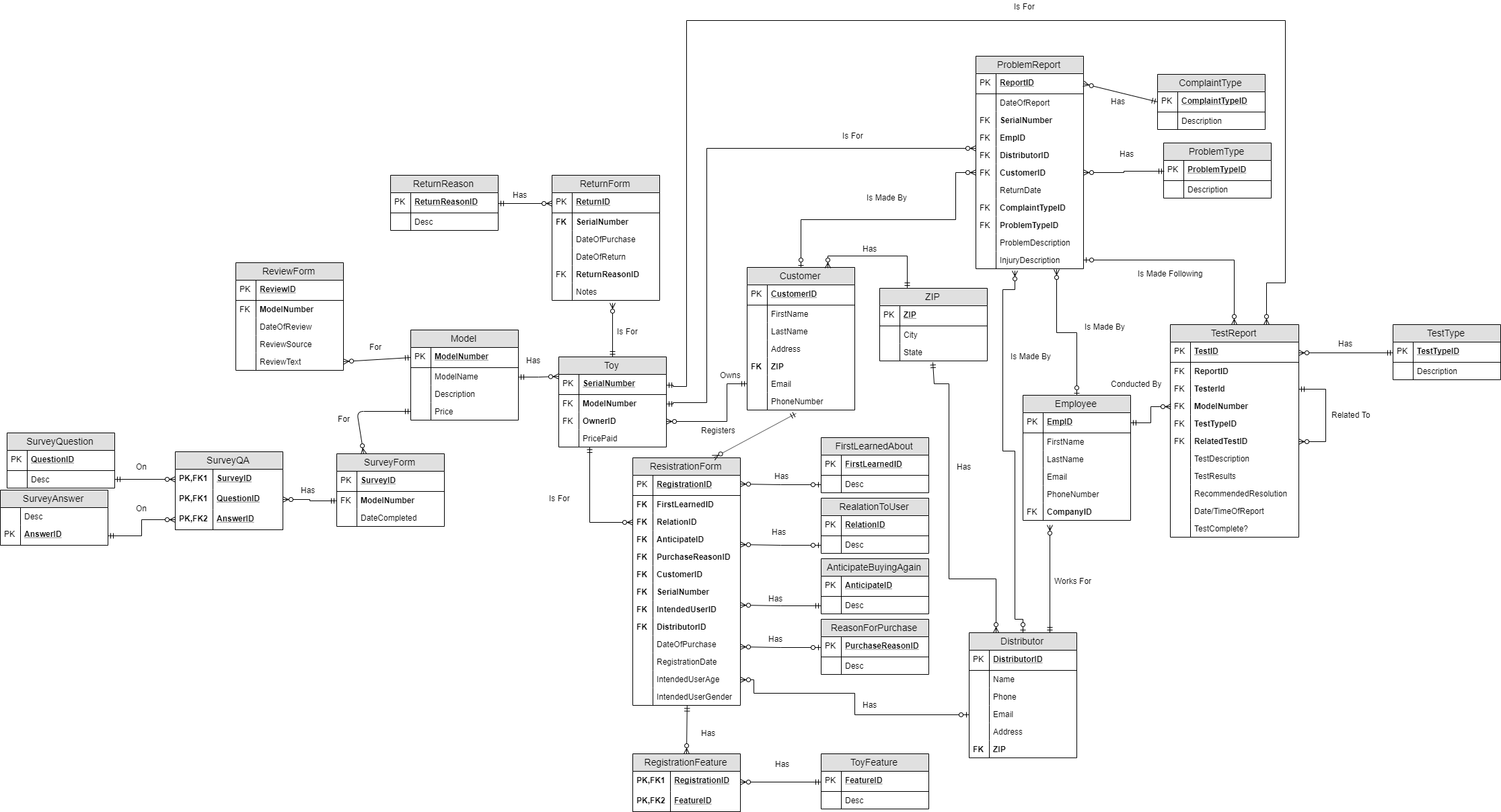
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Final Project

Due: 12-16-2019

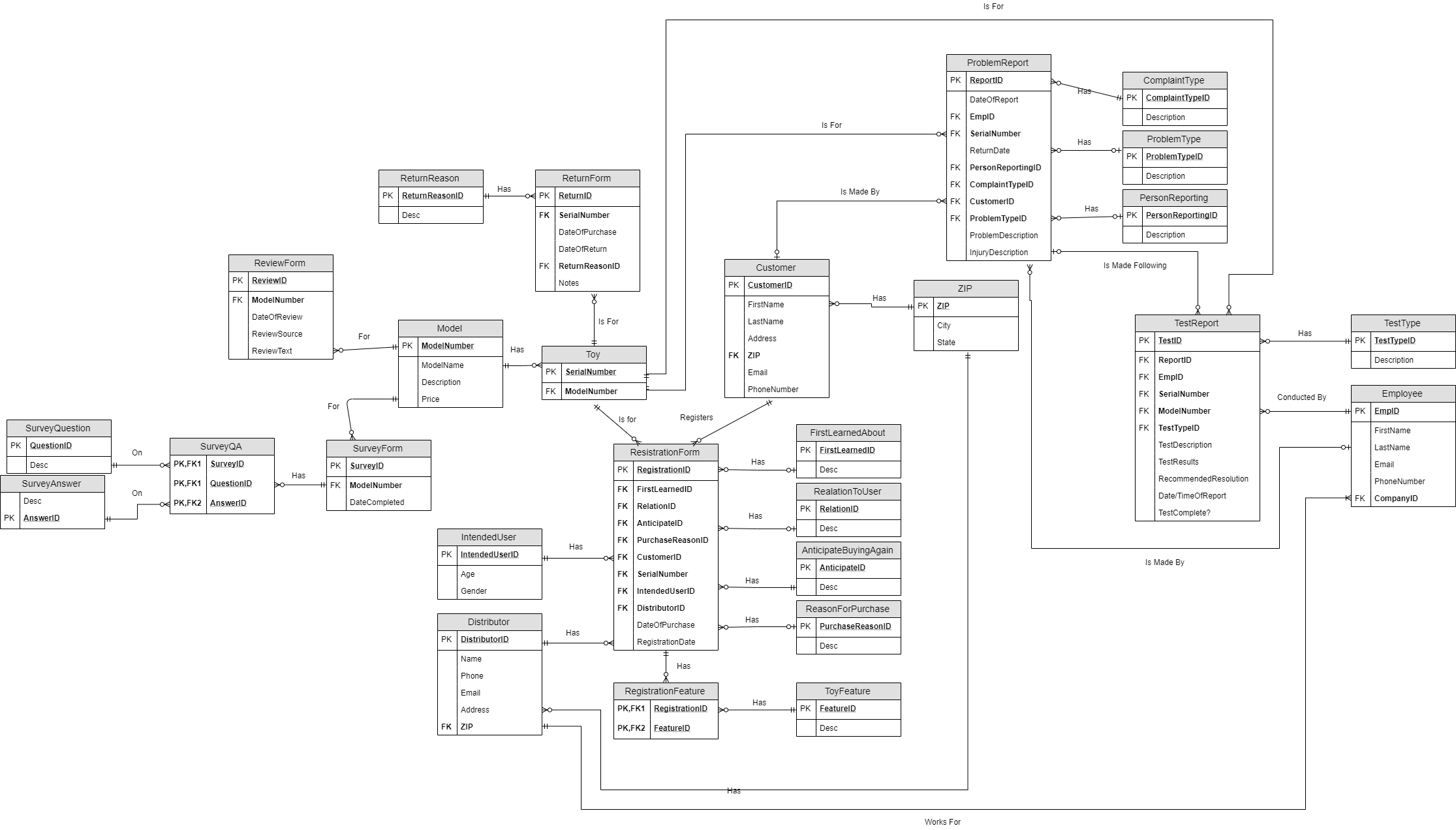
Part 1:

Revised ERD



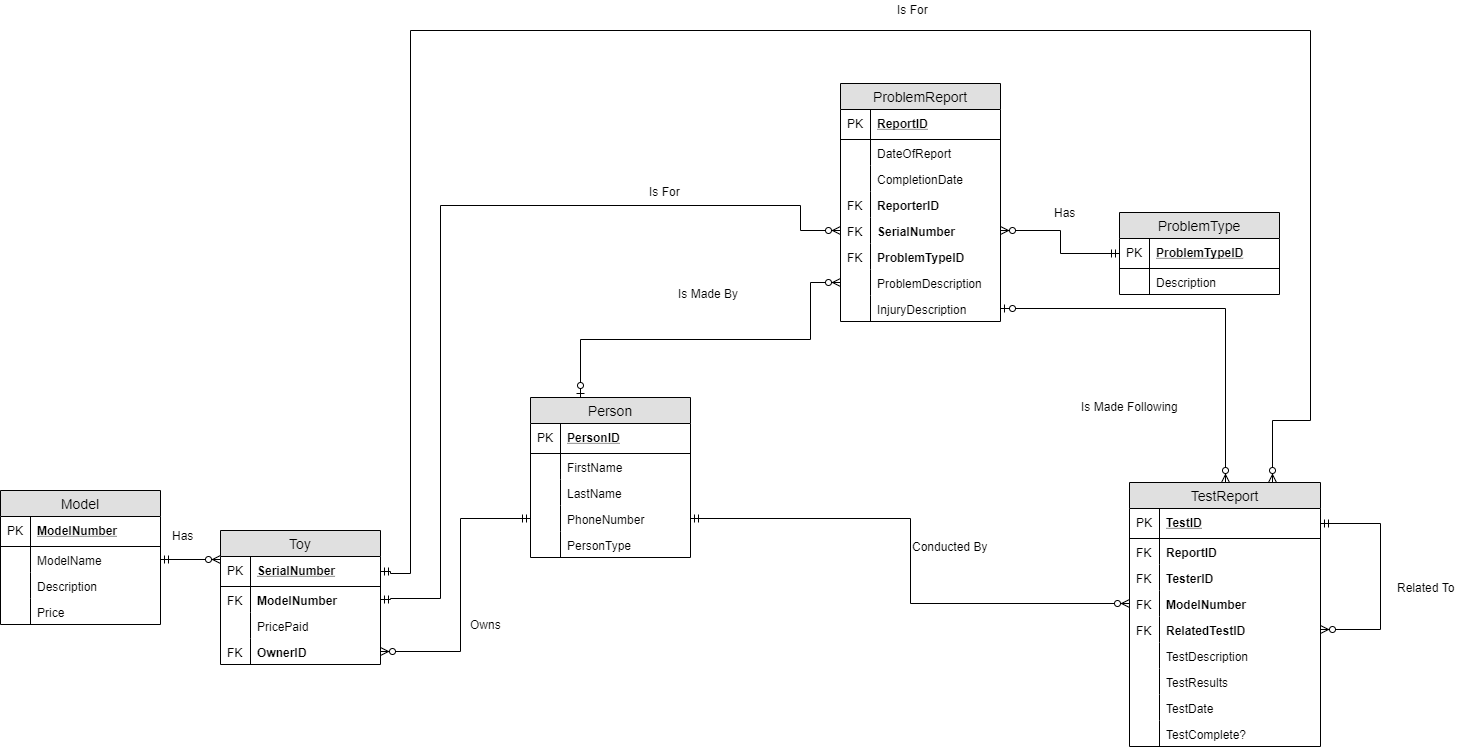
Part 2:

Original ERD



Part 3:

Prototype ERD



Part 4:

Prototype Database

| Create Table proj\_Model  (ModelNumber char(6) Primary Key,  ModelName varchar(100) Not Null,  ModelDescription varchar(100),  ModelPrice money); |
| --- |
| Create Table proj\_Person  (PersonID int identity(1,1) Primary Key,  PersonLastName varchar(100) Not Null,  PersonFirstName varchar(100) Not Null,  PersonPhone varchar(100) Not Null,  PersonType char(1) Not Null); |
| Create Table proj\_Toy  (ToySerialNumber char(10) Primary Key,  ToyModelNumber char(6) Not Null,  ToyOwnerID int,  ToyPricePaid money,  Foreign Key (ToyModelNumber) References proj\_Model (ModelNumber),  Foreign Key (ToyOwnerId) References proj\_Person (PersonID)); |
| Create Table proj\_ProblemType  (ProblemTypeID int Primary Key,  ProblemTypeDesc varchar(100)); |
| Create Table proj\_ProblemReport  (ProblemReportID int Primary Key,  ProblemReportDateOfReport datetime Not Null,  ProblemReportCompletionDate datetime,  ProblemReportProblemDesc varchar(100) Not Null,  ProblemReportInjuryDesc varchar(100),  ProblemReportSerialNumber char(10) Not Null,  ProblemReportProblemTypeID int Not Null,  ProblemReportReporterID int Not Null,  Foreign Key (ProblemReportSerialNumber) References proj\_Toy (ToySerialNumber),  Foreign Key (ProblemReportProblemTypeID) References proj\_ProblemType (ProblemTypeID),  Foreign Key (ProblemReportReporterID) References proj\_Person (PersonID)); |
| Create Table proj\_Test  (TestID int Primary Key,  TestDate datetime Not Null,  TestDesc varchar(200) Not Null,  TestResults varchar(200),  TestComplete char(1) Not Null,  TestTesterID int Not Null,  TestReportID int Not Null,  TestRelatedTestID int,  Foreign Key (TestTesterID) References proj\_Person (PersonID),  Foreign Key (TestReportID) References proj\_ProblemReport (ProblemReportID),  Foreign Key (TestRelatedTestID) References proj\_Test (TestID),  Constraint checkCompletion Check (TestComplete IN('Y', 'N'))); |

| **proj\_Model** |
| --- |
| **proj\_Person** |
| **proj\_Toy** |
| **proj\_ProblemType** |
| **proj\_ProblemReport** |
| **proj\_Test** |

Part 5:

SQL Queries

1. **Query 1**

Select pr.ProblemReportID,

Convert(varchar, pr.ProblemReportDateOfReport, 7) as ReportDate,

Convert(varchar, pr.ProblemReportCompletionDate, 7) as ReportCompletionDate,

pr.ProblemReportProblemDesc,

ts.TestID,

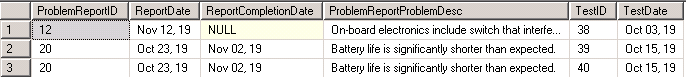
Convert(varchar, ts.TestDate, 7) as TestDate

From proj\_ProblemReport pr

Inner Join proj\_Test ts

On pr.ProblemReportID = ts.TestReportID

Where ts.TestDate < pr.ProblemReportDateOfReport;



1. **Query 2**

With cte\_CountProblemType as

(Select Count(\*) NumberPerType,

ProblemReportProblemTypeID

From proj\_ProblemReport

Group By ProblemReportProblemTypeID),

cte\_CountInjuryReport as

(Select Count(\*) NumberPerType,

ProblemReportProblemTypeID

From proj\_ProblemReport

Where ProblemReportInjuryDesc is not null

Group By ProblemReportProblemTypeID)

Select pt.ProblemTypeID,

pt.ProblemTypeDesc,

Case

When cpt.NumberPerType is null

Then '0'

Else

cpt.NumberPerType

End CountOfReports,

Case

When cir.NumberPerType is null

Then '0'

Else

cir.NumberPerType

End CountOfInjuryReports

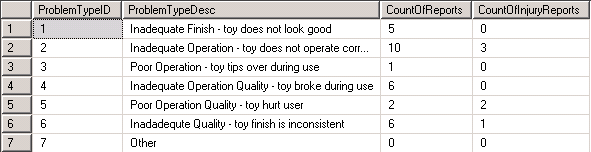
From proj\_ProblemType pt

Left Outer Join cte\_CountProblemType cpt

On cpt.ProblemReportProblemTypeID = pt.ProblemTypeID

Left Outer Join cte\_CountInjuryReport cir

On cir.ProblemReportProblemTypeID = pt.ProblemTypeID;



1. **Query 3**

Select Convert(varchar, pr.ProblemReportDateOfReport, 7) as DateOfReport,

pr.ProblemReportID,

pr.ProblemReportSerialNumber,

Case

When pr.ProblemReportCompletionDate is null

Then 'Not Complete'

Else

Convert(varchar, pr.ProblemReportCompletionDate, 7)

End DateCompleted,

Case

When pr.ProblemReportCompletionDate is null

Then Abs(DateDiff(Day, GetDate(), pr.ProblemReportDateOfReport))

Else

Abs(DateDiff(Day, pr.ProblemReportCompletionDate, pr.ProblemReportDateOfReport))

End DaysInSystem,

ty.ToyModelNumber,

md.ModelName,

Concat(ps.PersonLastName, ', ', Left(ps.PersonFirstName, 1), '.') as ReporterName,

Case

When ps.PersonType = 'C'

Then 'Customer'

When ps.PersonType = 'E'

Then 'Employee'

When ps.PersonType = 'D'

Then 'Distributor'

Else

'No Person Type'

End ReporterType,

pt.ProblemTypeDesc

From proj\_ProblemReport pr

Inner Join proj\_Toy ty

On ty.ToySerialNumber = pr.ProblemReportSerialNumber

Inner Join proj\_Model md

On md.ModelNumber = ty.ToyModelNumber

Inner Join proj\_Person ps

On ps.PersonID = pr.ProblemReportReporterID

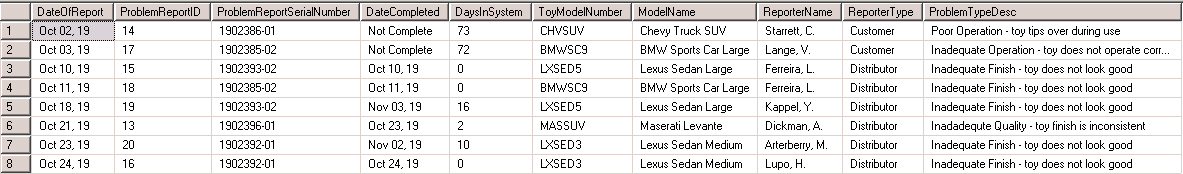
Inner Join proj\_ProblemType pt

On pt.ProblemTypeID = pr.ProblemReportProblemTypeID

Where Month(pr.ProblemReportDateOfReport) = '10'

and Year(pr.ProblemReportDateOfReport) = Year(GetDate())

Order By pr.ProblemReportDateOfReport;



1. **Query 4**

Select Convert(varchar, pr.ProblemReportDateOfReport, 7) as DateOfReport,

pr.ProblemReportID,

pr.ProblemReportSerialNumber,

Case

When pr.ProblemReportCompletionDate is null

Then 'Not Complete'

Else

Convert(varchar, pr.ProblemReportCompletionDate, 7)

End DateCompleted,

Case

When pr.ProblemReportCompletionDate is null

Then Abs(DateDiff(Day, GetDate(), pr.ProblemReportDateOfReport))

Else

Abs(DateDiff(Day, pr.ProblemReportCompletionDate, pr.ProblemReportDateOfReport))

End DaysInSystem,

ty.ToyModelNumber,

md.ModelName,

Concat(ps.PersonLastName, ', ', Left(ps.PersonFirstName, 1), '.') as ReporterName,

Case

When ps.PersonType = 'C'

Then 'Customer'

When ps.PersonType = 'E'

Then 'Employee'

When ps.PersonType = 'D'

Then 'Distributor'

Else

'No Person Type'

End ReporterType,

Convert(varchar, ts.TestDate, 7) as TestDate,

ts.TestDesc,

Case

When tester.PersonLastName is null

Then NULL

Else

Concat(tester.PersonLastName, ', ', Left(tester.PersonFirstName, 1), '.')

End TesterName,

ts.TestComplete

From proj\_ProblemReport pr

Inner Join proj\_Toy ty

On ty.ToySerialNumber = pr.ProblemReportSerialNumber

Inner Join proj\_Model md

On md.ModelNumber = ty.ToyModelNumber

Inner Join proj\_Person ps

On ps.PersonID = pr.ProblemReportReporterID

Left Outer Join proj\_Test ts

On ts.TestReportID = pr.ProblemReportID

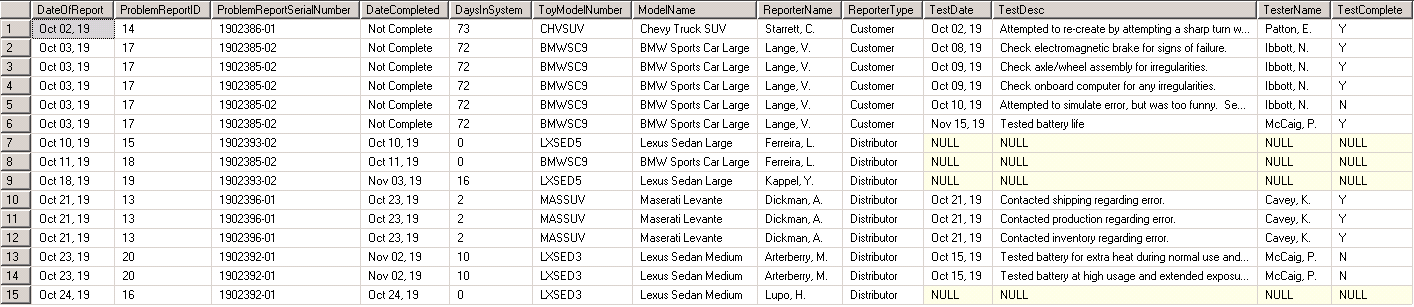
Left Outer Join proj\_Person tester

On tester.PersonID = ts.TestTesterID

Where Month(pr.ProblemReportDateOfReport) = '10'

and Year(pr.ProblemReportDateOfReport) = Year(GetDate())

Order By pr.ProblemReportDateOfReport;



1. **Query 5**

Create View proj\_VCountTestsPerProblemReport as

(Select Count(\*) as NumberPerPR,

TestReportID

From proj\_Test

Group By TestReportID)

Select Convert(varchar, pr.ProblemReportDateOfReport, 7) as DateOfReport,

pr.ProblemReportID,

pr.ProblemReportSerialNumber,

Case

When pr.ProblemReportCompletionDate is null

Then 'Not Complete'

Else

Convert(varchar, pr.ProblemReportCompletionDate, 7)

End DateCompleted,

Case

When pr.ProblemReportCompletionDate is null

Then Abs(DateDiff(Day, GetDate(), pr.ProblemReportDateOfReport))

Else

Abs(DateDiff(Day, pr.ProblemReportCompletionDate, pr.ProblemReportDateOfReport))

End DaysInSystem,

ty.ToyModelNumber,

md.ModelName,

Concat(ps.PersonLastName, ', ', Left(ps.PersonFirstName, 1), '.') as ReporterName,

Case

When ps.PersonType = 'C'

Then 'Customer'

When ps.PersonType = 'E'

Then 'Employee'

When ps.PersonType = 'D'

Then 'Distributor'

Else

'No Person Type'

End ReporterType,

Case

When ctpr.NumberPerPR is null

Then '0'

Else

ctpr.NumberPerPR

End CountOfTests

From proj\_ProblemReport pr

Inner Join proj\_Toy ty

On ty.ToySerialNumber = pr.ProblemReportSerialNumber

Inner Join proj\_Model md

On md.ModelNumber = ty.ToyModelNumber

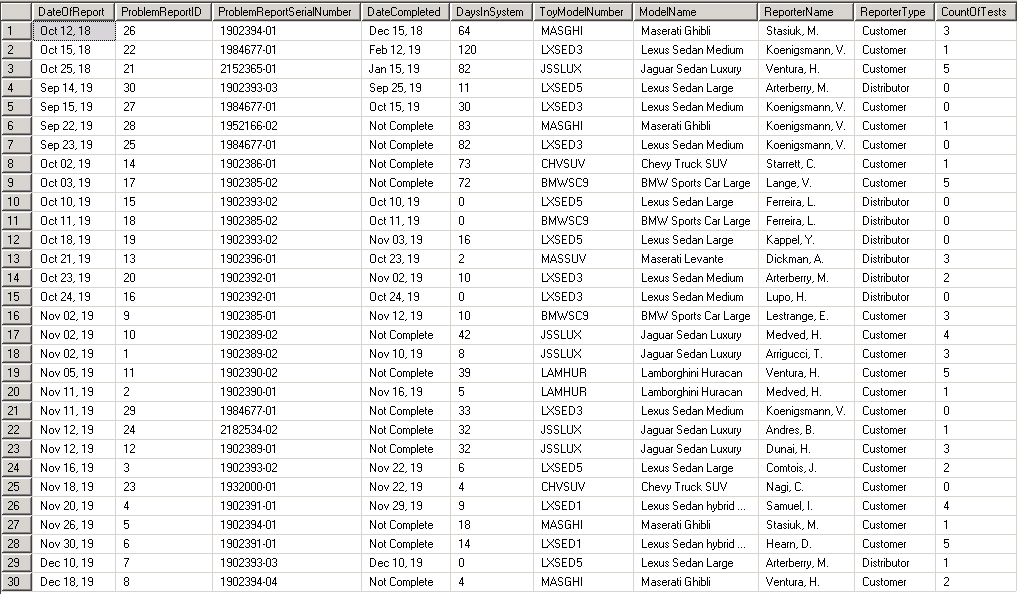
Inner Join proj\_Person ps

On ps.PersonID = pr.ProblemReportReporterID

Left Outer Join proj\_VCountTestsPerProblemReport ctpr

On ctpr.TestReportID = pr.ProblemReportID

Order By pr.ProblemReportDateOfReport;



1. **Query 6**

/\*Using View from Number 5\*/

Select Convert(varchar, pr.ProblemReportDateOfReport, 7) as DateOfReport,

pr.ProblemReportID,

pr.ProblemReportSerialNumber,

Case

When pr.ProblemReportCompletionDate is null

Then 'Not Complete'

Else

Convert(varchar, pr.ProblemReportCompletionDate, 7)

End DateCompleted,

Case

When pr.ProblemReportCompletionDate is null

Then Abs(DateDiff(Day, GetDate(), pr.ProblemReportDateOfReport))

Else

Abs(DateDiff(Day, pr.ProblemReportCompletionDate, pr.ProblemReportDateOfReport))

End DaysInSystem,

ty.ToyModelNumber,

md.ModelName,

Concat(ps.PersonLastName, ', ', Left(ps.PersonFirstName, 1), '.') as ReporterName,

Case

When ps.PersonType = 'C'

Then 'Customer'

When ps.PersonType = 'E'

Then 'Employee'

When ps.PersonType = 'D'

Then 'Distributor'

Else

'No Person Type'

End ReporterType,

Case

When ctpr.NumberPerPR is null

Then '0'

Else

ctpr.NumberPerPR

End CountOfTests

From proj\_ProblemReport pr

Inner Join proj\_Toy ty

On ty.ToySerialNumber = pr.ProblemReportSerialNumber

Inner Join proj\_Model md

On md.ModelNumber = ty.ToyModelNumber

Inner Join proj\_Person ps

On ps.PersonID = pr.ProblemReportReporterID

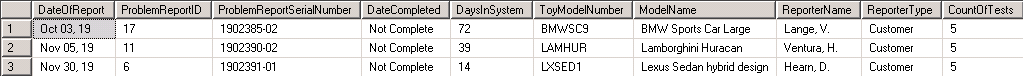
Left Outer Join proj\_VCountTestsPerProblemReport ctpr

On ctpr.TestReportID = pr.ProblemReportID

Where pr.ProblemReportCompletionDate is null

and ctpr.NumberPerPR in (Select Max(NumberPerPR) From proj\_VCountTestsPerProblemReport)

Order By pr.ProblemReportDateOfReport;



1. **Query 7**

Create View proj\_vCountOfReportsPerModel as

(Select Count(\*) as TotalPerModel,

md.ModelNumber

From proj\_ProblemReport pr

Inner Join proj\_Toy ty

On ty.ToySerialNumber = pr.ProblemReportSerialNumber

Inner Join proj\_Model md

On md.ModelNumber = ty.ToyModelNumber

Group By md.ModelNumber);

Create View proj\_vCountOfInjuryReportsPerModel as

(Select Count(\*) as TotalPerModel,

md.ModelNumber

From proj\_ProblemReport pr

Inner Join proj\_Toy ty

On ty.ToySerialNumber = pr.ProblemReportSerialNumber

Inner Join proj\_Model md

On md.ModelNumber = ty.ToyModelNumber

Where pr.ProblemReportInjuryDesc is not null

Group By md.ModelNumber);

Create View proj\_vMostRecentModelReport as

(Select Max(pr.ProblemReportDateOfReport) as MostRecentDate,

md.ModelNumber

From proj\_ProblemReport pr

Inner Join proj\_Toy ty

On ty.ToySerialNumber = pr.ProblemReportSerialNumber

Inner Join proj\_Model md

On md.ModelNumber = ty.ToyModelNumber

Group By md.ModelNumber);

Create View proj\_vEarliestModelReport as

(Select Min(pr.ProblemReportDateOfReport) as EarliestDate,

md.ModelNumber

From proj\_ProblemReport pr

Inner Join proj\_Toy ty

On ty.ToySerialNumber = pr.ProblemReportSerialNumber

Inner Join proj\_Model md

On md.ModelNumber = ty.ToyModelNumber

Group By md.ModelNumber);

Create View proj\_vTestsPerModel as

(Select Count(\*) TotalPerModel,

md.ModelNumber

From proj\_Test tst

Inner Join proj\_ProblemReport pr

On tst.TestReportID = pr.ProblemReportID

Inner Join proj\_Toy ty

On ty.ToySerialNumber = pr.ProblemReportSerialNumber

Inner Join proj\_Model md

On md.ModelNumber = ty.ToyModelNumber

Group By md.ModelNumber);

Create View proj\_vMostRecentModelTest as

(Select Max(tst.TestDate) MostRecentDate,

md.ModelNumber

From proj\_Test tst

Inner Join proj\_ProblemReport pr

On tst.TestReportID = pr.ProblemReportID

Inner Join proj\_Toy ty

On ty.ToySerialNumber = pr.ProblemReportSerialNumber

Inner Join proj\_Model md

On md.ModelNumber = ty.ToyModelNumber

Group By md.ModelNumber);

Create View proj\_vEarliestModelTest as

(Select Min(tst.TestDate) EarliestDate,

md.ModelNumber

From proj\_Test tst

Inner Join proj\_ProblemReport pr

On tst.TestReportID = pr.ProblemReportID

Inner Join proj\_Toy ty

On ty.ToySerialNumber = pr.ProblemReportSerialNumber

Inner Join proj\_Model md

On md.ModelNumber = ty.ToyModelNumber

Group By md.ModelNumber);

Select md.ModelNumber,

md.ModelDescription,

Case

When crm.TotalPerModel is null

Then '0'

Else

crm.TotalPerModel

End CountOfReports,

Case

When cim.TotalPerModel is null

Then '0'

Else

cim.TotalPerModel

End CountOfInjuryReports,

Case

When mrmr.MostRecentDate is null

Then 'n/a'

Else

convert(varchar, mrmr.MostRecentDate, 7)

End MostRecentReportDate,

Case

When emr.EarliestDate is null

Then 'n/a'

Else

convert(varchar, emr.EarliestDate, 7)

End EarliestReportDate,

Case

When tpm.TotalPerModel is null

Then '0'

Else

tpm.TotalPerModel

End CountOfTests,

Case

When mrmt.MostRecentDate is null

Then 'n/a'

Else

convert(varchar, mrmt.MostRecentDate, 7)

End MostRecentTest,

Case

When emt.EarliestDate is null

Then 'n/a'

Else

Convert(varchar, emt.EarliestDate, 7)

End EarliestTest

From proj\_Model md

Left Outer Join proj\_vCountOfReportsPerModel crm

On crm.ModelNumber = md.ModelNumber

Left Outer Join proj\_vCountOfInjuryReportsPerModel cim

On cim.ModelNumber = md.ModelNumber

Left Outer Join proj\_vMostRecentModelReport mrmr

On mrmr.ModelNumber = md.ModelNumber

Left Outer Join proj\_vEarliestModelReport emr

On emr.ModelNumber = md.ModelNumber

Left Outer Join proj\_vTestsPerModel tpm

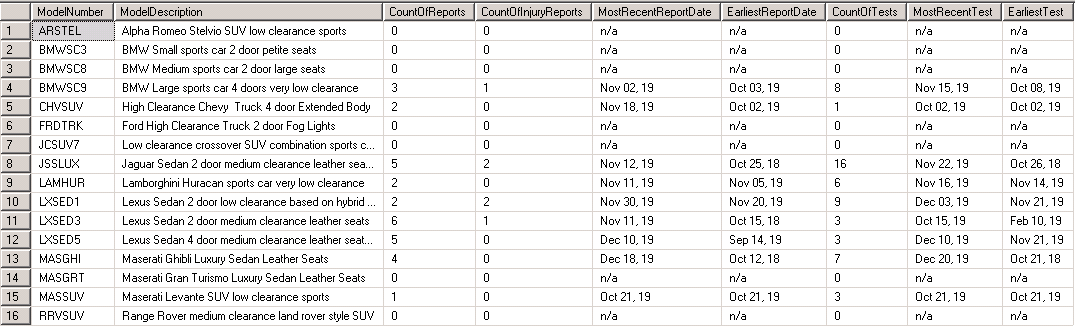
On tpm.ModelNumber = md.ModelNumber

Left Outer Join proj\_vMostRecentModelTest mrmt

On mrmt.ModelNumber = md.ModelNumber

Left Outer Join proj\_vEarliestModelTest emt

On emt.ModelNumber = md.ModelNumber;



1. **Query 8**

/\*Using the views from Seven\*/

Select md.ModelNumber,

md.ModelDescription,

Case

When crm.TotalPerModel is null

Then '0'

Else

crm.TotalPerModel

End CountOfReports,

Case

When cim.TotalPerModel is null

Then '0'

Else

cim.TotalPerModel

End CountOfInjuryReports,

Case

When mrmr.MostRecentDate is null

Then 'n/a'

Else

convert(varchar, mrmr.MostRecentDate, 7)

End MostRecentReportDate,

Case

When emr.EarliestDate is null

Then 'n/a'

Else

convert(varchar, emr.EarliestDate, 7)

End EarliestReportDate,

Case

When tpm.TotalPerModel is null

Then '0'

Else

tpm.TotalPerModel

End CountOfTests,

Case

When mrmt.MostRecentDate is null

Then 'n/a'

Else

convert(varchar, mrmt.MostRecentDate, 7)

End MostRecentTest,

Case

When emt.EarliestDate is null

Then 'n/a'

Else

Convert(varchar, emt.EarliestDate, 7)

End EarliestTest

From proj\_Model md

Left Outer Join proj\_vCountOfReportsPerModel crm

On crm.ModelNumber = md.ModelNumber

Left Outer Join proj\_vCountOfInjuryReportsPerModel cim

On cim.ModelNumber = md.ModelNumber

Left Outer Join proj\_vMostRecentModelReport mrmr

On mrmr.ModelNumber = md.ModelNumber

Left Outer Join proj\_vEarliestModelReport emr

On emr.ModelNumber = md.ModelNumber

Left Outer Join proj\_vTestsPerModel tpm

On tpm.ModelNumber = md.ModelNumber

Left Outer Join proj\_vMostRecentModelTest mrmt

On mrmt.ModelNumber = md.ModelNumber

Left Outer Join proj\_vEarliestModelTest emt

On emt.ModelNumber = md.ModelNumber

Where crm.TotalPerModel in (Select Max(TotalPerModel) From proj\_vCountOfReportsPerModel);



1. **Query 9**

Select pr.ProblemReportID,

md.ModelNumber,

md.ModelName,

Convert(varchar, pr.ProblemReportDateOfReport, 7) as ReportDate,

pr.ProblemReportProblemDesc,

pt.ProblemTypeDesc,

Concat(rper.PersonLastName, ', ', Left(rper.PersonFirstName, 1), '.') as ReportingPerson,

tst.TestID,

Convert(varchar, tst.TestDate, 7) as TestDate,

tst.TestDesc,

Concat(tper.PersonLastName, ', ', Left(tper.PersonFirstName, 1), '.') as TestingPerson,

pr.ProblemReportInjuryDesc

From proj\_Test tst

Inner Join proj\_ProblemReport pr

On pr.ProblemReportID = tst.TestReportID

Inner Join proj\_Toy ty

On ty.ToySerialNumber = pr.ProblemReportSerialNumber

Inner Join proj\_Model md

On md.ModelNumber = ty.ToyModelNumber

Inner Join proj\_ProblemType pt

On pt.ProblemTypeID = pr.ProblemReportProblemTypeID

Inner Join proj\_Person rper

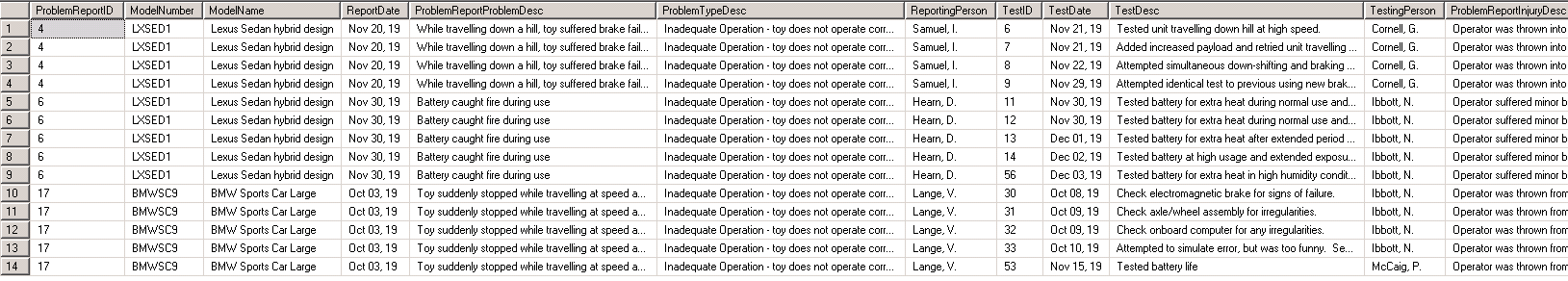
On rper.PersonID = pr.ProblemReportReporterID

Inner Join proj\_Person tper

On tper.PersonID = tst.TestTesterID

Where pr.ProblemReportProblemDesc Like '%battery%' and pr.ProblemReportInjuryDesc is not null

Order By pr.ProblemReportID;



1. **Query 10**

/\*Using view "proj\_vCountOfReportsPerModel"\*/

Select md.ModelNumber,

md.ModelName,

md.ModelDescription,

md.ModelPrice

From proj\_Model md

Where md.ModelNumber not in (Select ModelNumber From proj\_vCountOfReportsPerModel);

