A DATABASE DEVELOPMENT PROJECT

MINISTRY DATABASE – QODESH FAMILY CHURCH

DATA ADMINISTRATION CONCEPTS AND DATABASE DEVELOPMENT
(IST 659)

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CHURCH MINISTRY DATABASE

An Attendance Database Experiment

PROJECT SUMMARY

Over the years, the Qodesh Family Church, a denomination of the United Group of Lighthouse Churches has straggled with tracking and keeping of proper data on the various ministries under the church but importantly the Ministry and Programs organized by the church. Microsoft excel, is currently employed as the church's database for tracking all ministries and program attendance. However, the church is unable to provide adequate data regarding the growth of church and other ministries. This project is therefore focusing its work on designing and creating a database to track activities and program attendance of the church. The database will also aim at monitoring the progress of individuals in building their Christian faith, and provide a platform for organizing other church activities as a whole.

This document will provide all users and developers details about the development of a database for Qodesh Family Church.

The development of the 'PROJECT' as it was called started with understanding the operation of the Qodesh Family Church. We used some of the user questions and interactions to develop our conceptual model as our basis of what needs to be done.

We developed a number of tables for storing or recording activities of the church. After the development stage, we populated the database with 'Dummy' records in order to test the system. Few changes were made.

At this moment, we are confident the 'Project' will perform its functions and meet the needs of the users.

STAKEHOLDERS DESCRIPTION

Stakeholders, for the purpose of this project, include but not limited to teachers, parents, program organizers, various ministry leaders and the leadership of the church. Leadership of the church (Qodesh Family Church) include the Pastor, the Assistant Pastor, Treasurer etc.

DATA QUESTIONS

It is expected that the project will answer the following data or business questions about the Children Ministry.

- Which ministry recorded the highest number of attendances for any past months.
- What is the total membership and percentage distribution of each of the ministry or group in Qodesh Family Church Germantown?
- What is the gender demographic for the Qodesh Family Church Germantown?
- What is the trend of attendance of both males and females?
- How many people attended programs organized by the various ministries over the past two months (this
 can be any given period).

GLOSSARY

Church refers to other Qodesh Family Church in different locations (cities, towns and states).

Ministry refers to the various church groups that make makeup the Church. Examples of these groups are Men Fellowship, Women's Group, Youth Fellowship

Person refers to people or any individual work attends, fellowship at Qodesh Family church or works for the church. This can also be referred to as members of the church.

Classroom is an assigned room for Bible studies or any other related activities.

Program refers to activities or events that are held by the church at its various locations.

Role an assigned duty for a Person at the church.

ATTRIBUTES

ID – All IDs are system generated and unique attribute to every entity created except for ProgramID.

Church Attributes

Church Name – This refers to actual name assigned or given to the church.

Address1 – This is the physical location of the Church in terms of street address.

Address2 – A continuation of the physical address of the church in terms of street name.

City – The city in which the church is located.

State – State or province the church is located.

Zip Code – Postal Code of the church

Telephone Number – A telephone contact for the church

Minister Name – Spiritual Leader of a church

Branch Name – A computed column describing the church as a branch

Ministry Attributes

Ministry Name – This refers to the name of the various ministries in the church.

Ministry Description – A detailed description and purpose of a ministry.

Program Attributes

Program Name – The name of the activity being held or performed by the church itself, and or the various ministries of the church.

Start Date Time – The date and time the program/activity commences

End Date Time - The date and time the program/activity commences

Description - A detailed description and purpose of a Program.

Classroom Attributes

Class Name – A name assigned to the to a Classroom.

Room Number – An alphanumeric number assigned to a Classroom.

Start Date Time - The start date and time a particular classroom is occupied for an activity/program.

End Date Time - The end date and time a particular classroom is occupied for an activity/program.

Lead Teacher – A Person with the role of a Teacher for a particular class.

Role Attributes

Role Name – An assigned name to a Person for duties he or she performs at the church.

Role Description – A full clarification of the assigned Role.

Person Attributes

First Name – The given name of a person or an individual in the church.

Last Name – The family name of a Person or an individual in the church.

Middle Initial – Middle Initial of any Person with a middle name.

Gender – Gender description of every Person.

Date of Birth – Birth date of a Person.

Email Address – An electronic mail address of a Person.

DATA MODEL

ENTITY TYPES

Church (ChurchID, Name, Location, Minister)

Person (PersonID, Name, Gender, Age, DOB)

Ministry (MinistryID, Name)

Program (ProgramID, Name, Location, Description, Attendance)

Classroom (ClassroomID, RoomNumber, AgeGroup, Teacher)

Role (RoleID, RoleDescription)

ENTITY RELATIONSHIP

A Church is attended by one-to-many Persons however, a Person can only belong to a Church.

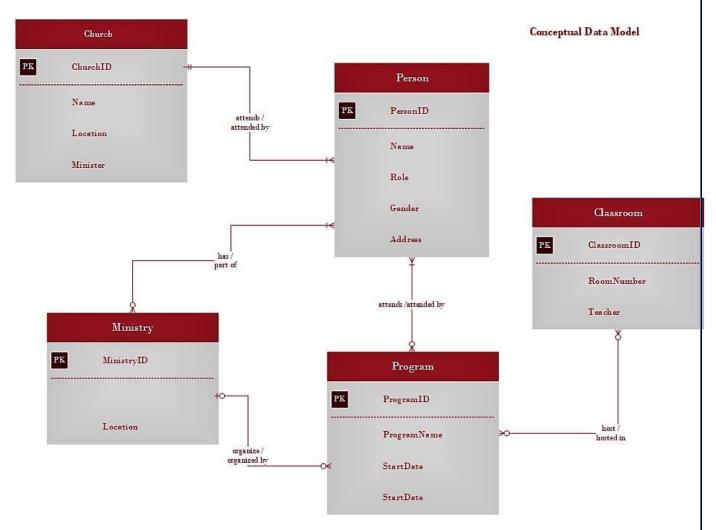
A **Person** can be part of **zero-one-to-many Ministries** and a **Ministry** can have **one-to-many** members

A Program can be organized by zero-to-one Ministry and a Ministry can organize zero-one-to-many Programs

A Program can be attended by one-to-many Persons and a Person can attended zero-one-to-many Programs.

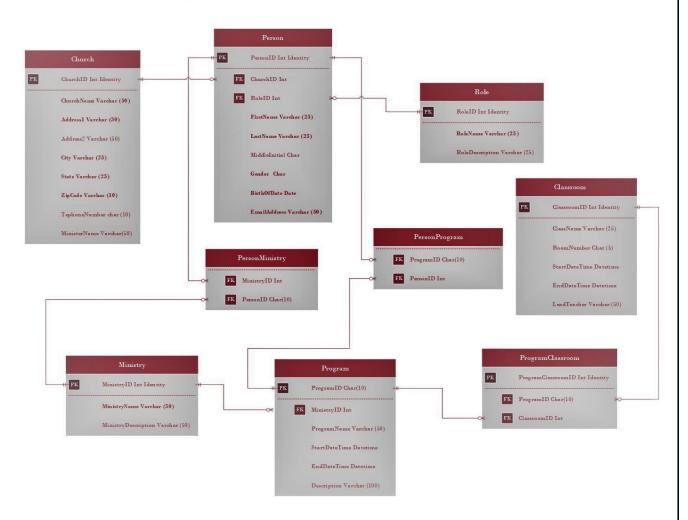
A **Program** can be hosted in **zero-one-to-many Classrooms** and a **Classroom** host **one-to-many Programs**.

Conceptual Data Model



Normalized Logical Data Model

Normalized Logical Data Model



PHYSICAL DATABASE DESIGN

DDL CODES: TABLES CREATION

```
USE IST659CLASS; -- This specifies the database we want to use for our project.
CREATE SCHEMA Project -- Created a Schema for the Project instead of using DEFAULT
schema dbo
GO.
-- Church Table
USE IST659CLASS; -- This specifies the database we want to use for our project objects.
-- check if table exists in INFORMATION SCHEMA
IF NOT EXISTS (SELECT * FROM INFORMATION SCHEMA.TABLES WHERE TABLE NAME =
'Project.Church')
BEGIN
      DROP TABLE Project.Church; -- If table exists, the table is DROPPED
END
G0
CREATE TABLE Project.Church(
       ChurchID Int Identity,
       ChurchName Varchar (50) NOT NULL,
       Address1 Varchar(50) NOT NULL,
       Address2 Varchar(50),
       City Varchar (25) NOT NULL,
       State Varchar (25) NOT NULL,
       ZipCode Varchar (10) NOT NULL,
       TelephoneNumber Varchar (25) NOT NULL,
      MinisterName Varchar (50) NOT NULL,
       BranchName AS (ChurchName +'-') + City, -- added a computed column
       CONSTRAINT UQ_City UNIQUE (City),
       CONSTRAINT PK_ChurchID PRIMARY KEY (ChurchID))
-- Role Table
IF OBJECT_ID (N'Project.Role', N'U') IS NOT NULL -- Another approach of checking if table
exists
       DROP TABLE Project.Role;
G0
CREATE TABLE Project.Role(
       RoleID Int Identity,
       RoleName Varchar (25) NOT NULL,
       RoleDescription Varchar (50),
       CONSTRAINT UQ Role UNIQUE(RoleName),
       CONSTRAINT PK RoleID PRIMARY KEY (RoleID))
-- Person Table
IF OBJECT ID (N'Project.Person', N'U') IS NOT NULL -- Another approach of checking if
table exists
      DROP TABLE Project.Person;
GO.
CREATE TABLE Project.Person(
       PersonID Int Identity,
       ChurchID Int.
       RoleID Int,
       FirstName Varchar (25) NOT NULL,
```

```
LastName Varchar (25) NOT NULL,
      MiddleInitial Char,
      Gender Char NOT NULL,
      DateOfBirth Date NOT NULL,
       EmailAddress Varchar (50) NOT NULL,
      CONSTRAINT PK PersonID PRIMARY KEY (PersonID),
      CONSTRAINT FK_Person_ChurchID FOREIGN KEY(ChurchID) REFERENCES
Project.Church(ChurchID),
      CONSTRAINT FK Person RoleID FOREIGN KEY(RoleID) REFERENCES Project.Role(RoleID),
      CONSTRAINT UQ_Person_EmailID UNIQUE (EmailAddress))
I noticed the Project. Person table need a Column to take Telephone numbers so I created a
column for the Person table by ATERING the Project.Person Table
ALTER Table Project.Person
ADD PhoneNumber Char (25) NULL; -- null allows for those without telephone numbers or
prefer not to give out their numbers.
-- added Default Constraint to Person table after noticing I omitted it
ALTER TABLE Project.Person
ADD CONSTRAINT DF PhoneNumber --Default Name as DF PhoneNumber
DEFAULT 'xxx-xxx' FOR PhoneNumber; -- xxx-xxx being our default phone number
-- Ministry Table
IF OBJECT ID (N'Project.Ministry', N'U') IS NOT NULL -- Another approach of checking if
table exists
      DROP TABLE Project.Ministry;
GO
CREATE TABLE Project.Ministry(
      MinistryID Int Identity,
      MinistryName Varchar (50) NOT NULL,
      MinistryDescription Varchar (100),
      CONSTRAINT PK_MinistryID PRIMARY KEY (MinistryID))
-- Program Table
IF OBJECT ID (N'Project.Program', N'U') IS NOT NULL
      DROP TABLE Project.Program;
G0
CREATE TABLE Project.Program(
       ProgramID Char (100), -- changed datatype to varchar
      MinistryID Int,
      ProgramName Varchar (50) NOT NULL,
      StartDateTime Datetime NOT NULL,
       EndDateTime Datetime NOT NULL,
      Description Varchar (100) NULL,
      CONSTRAINT PK_ProgramID PRIMARY KEY (ProgramID),
      CONSTRAINT FK Program MinistryID FOREIGN KEY(MinistryID) REFERENCES
Project.Ministry(MinistryID))
-- Classroom Table
IF OBJECT_ID (N'Project.Classroom', N'U') IS NOT NULL
      DROP TABLE Project.Classroom;
CREATE TABLE Project.Classroom(
      ClassroomID Int Identity,
```

```
ClassName Varchar (50) NOT NULL,
      RoomNumber Char (5) NOT NULL,
      StartDateTime Datetime NOT NULL,
      EndDateTime Datetime NOT NULL,
      LeadTeacher Varchar (50) NOT NULL,
      CONSTRAINT PK_ClassroomID PRIMARY KEY (ClassroomID))
-- Creating Bridge Tables (PersonMinistry, PersonProgram and ProgramClassroom)
--PersonMinistry Table
/*
In creating the bridge table, I came to the realization that
PersonMinistryID, PersonProgramID columns weren't necessary since they won't create
any unique identifier for the records. so, I removed it from the
table creation
IF OBJECT ID (N'Project.PersonMinistry', N'U') IS NOT NULL
      DROP TABLE Project PersonMinistry;
CREATE TABLE Project.PersonMinistry(
      PersonID Int NOT NULL,
      MinistryID Int NOT NULL,
      CONSTRAINT FK PersonMin PersonID FOREIGN KEY(PersonID) REFERENCES
Project.Person(PersonID),
      CONSTRAINT FK_PersonMin_MinistryID FOREIGN KEY(MinistryID) REFERENCES
Project.Ministry(MinistryID))
--PersonProgram Table
IF OBJECT_ID (N'Project.PersonProgram', N'U') IS NOT NULL
      DROP TABLE Project.PersonProgram;
G0
CREATE TABLE Project.PersonProgram(
      ProgramID Char (10) NOT NULL,
      PersonID Int NOT NULL,
      CONSTRAINT FK_PersonProg_ProgramID FOREIGN KEY(ProgramID) REFERENCES
Project.Program(ProgramID),
      CONSTRAINT FK_PersonProg_PersonID FOREIGN KEY(PersonID) REFERENCES Project. Person
(PersonID))
-- ProgramClassroom Table
IF OBJECT_ID (N'Project.ProgramClassroom', N'U') IS NOT NULL
      DROP TABLE Project.ProgramClassroom;
G0
CREATE TABLE Project.ProgramClassroom(
      ProgramClassroomID Int Identity,
      ProgramID Char NOT NULL,
      ClassroomID Int NOT NULL,
      CONSTRAINT FK_ProgramClass_ProgramID FOREIGN KEY(ProgramID) REFERENCES
Project.Program(ProgramID),
      CONSTRAINT FK ProgramClass ClassroomID FOREIGN KEY(ClassroomID) REFERENCES
Project.Classroom(ClassroomID))
/**********************************/
```

```
/*
I decided to create a view for the Outreach Team for them to be able to follow up on
visitors
*/
CREATE VIEW Project.vw VisitorsDetails
AS
      SELECT
             R.RoleName,
             P.FirstName,
             P.LastName,
             P. Gender,
             P.EmailAddress,
             P.PhoneNumber
       FROM Project.Church AS C
       INNER JOIN Project.Person AS P
      ON P.ChurchID = C.ChurchID
      INNER JOIN Project.Role AS R
      ON P.RoleID = R.RoleID
      WHERE R.RoleID = 6;
-- the view
SELECT * FROM Project.vw VisitorsDetails;
Drop View Project.vw_VisitorsDetails; -- Drop view anytime I want from the system
STORED PROCEDURES
/*The Sproc will fetch Attendance for every Ministry
this will help answer business question related to attendance and demand for larger space
and facilities or supplies for programs
*/
CREATE PROCEDURE Project.SP ProgramAttendance @Month Char(3)
AS
      REGTN
      SELECT
             P.MinistryID,
             M.MinistryName,
             P. ProgramName,
             COUNT(P.ProgramID) AS CountOfProgramAttendance, /*gives the count of
attendance
       by program*/
              CONVERT(Varchar(3), StartDateTime, 100) AS Period /* this pulls the month
             from the date. this line of code will ensure we limit the count to defined
             period say month*/
       FROM Project.Program AS P
             INNER JOIN Project.PersonProgram AS PP
             ON P.ProgramID = PP.ProgramID
             INNER JOIN Project.Person AS C
             ON PP.PersonID = C.PersonID
             INNER JOIN Project.Ministry AS M
             ON M.MinistryID = P.MinistryID
      WHERE CONVERT(Varchar(3), StartDateTime, 100) = @Month /*-- filters the our search
      to a particular period which is the parameter and in this case months*/
```

```
GROUP BY P.MinistryID, M.MinistryName, P.ProgramName, CONVERT(Varchar(3), StartDateTime, 100)
ORDER BY MinistryID ASC
END;

DROP PROCEDURE Project.SP_ProgramAttendance -- I could have just ALTER the PROCEDURE but decide to drop and recreate.

EXECUTE Project.SP_ProgramAttendance 'Feb'
```

DATA CREATION

```
INSERT STATEMENTS
```

```
/******
                                                                  BEGIN INSERT STATEMENTS
--The following scripts are sample scripts used to insert records or data into the
various tables created.
--Project.Church Table
INSERT INTO Project.Church(ChurchName, Address1, Address2, City, State, ZipCode,
TelephoneNumber, MinisterName)
VALUES ('Visitor', 'Visitor', 'Visitor', 'Visitor', 'Visitor', 'Visitor', 'Visitor',
'Visitor'), ('Qodesh Family Church', '14801 Physicians Lane', NULL, 'Germantown', 'Maryland', '20874', '240-410-8457', 'Pastor Happy Kumah'), ('Qodesh Family Church',
'9104 Bakerhill Court', NULL, 'Gaithersburg', 'Maryland', '20886', '240-358-7953',
'Reverand David Forson'), ('Qodesh Family Church', '5440 Old Tucker Row', NULL, 'Columbia', 'Maryland', '21044', '443-561-9904', 'Pastor Angel Kumah'), ('First Love Church', '5200 Perring Parkway', 'Morgan State University', 'Baltimore City', 'Maryland',
'21214', '347-621-9159', 'Reverand Greggory Block'), ('First Love Church', '2094 North
Warwick Avenue', 'Copping State University', 'Baltimore', 'Maryland', '21214', '410-568-
2152', 'Lady Pastor Sarah Woods'), ('Qodesh Family Church', '7954A Twist Lane', NULL,
'Springfield', 'Virginia', '22153', '703-652-2015', 'Pastor Darlene Singar'),
--Project.Role Table
INSERT INTO Project.Role(RoleName, RoleDescription)
VALUES('Minister', 'Spiritual Leader of the Church'), ('Worker', 'Employee of the
Church'), ('Pastor', 'Trained Spiritual Leader Associated to the Church'), ('Shepherd',
'Leader of a Ministry'), ('Member', 'Person affiliated to the Church'), ('Visitor',
'Person Looking for a Place of Worship')
--Project.Person Table
INSERT INTO Project.Person(ChurchID, RoleID, FirstName, LastName, MiddleInitial, Gender,
DateOfBirth, EmailAddress)
VALUES (2, 1, 'Happy', 'Kumah', NULL, 'M', '10-29-1971', 'happy.kumah@qgc.org'),
(2, 5, 'Justin', 'King', NULL, 'M', '03-14-1990', 'justin.king@gmail.com'), (2, 5, 'Lily', 'Robertson', NULL, 'F', '12-28-1965', 'lily.robertson@gmail.com'), (2, 4, 'Nathan', 'Mackay', 'D', 'M', '02-12-1990', 'nathan.mackay@hotmail.com'),
(2, 5, 'Amanda', 'Rutherford', 'L', 'F', '05-15-1981', 'amanda.rutherford@yahoo.com'), (2, 4, 'Alison', 'Wilkins', NULL, 'F', '09-21-1977', 'alison.wilkins@gmail.com'), (5, 5, 'Joseph', 'Lambert', 'T', 'M', '03-01-1989', 'joseph.lambert@gmail.com'),
(2, 5, 'Carl', 'Cornish', NULL, 'M', '07-24-2000', 'carl.cornish@gmail.com'),
```

```
--Project.Ministry Table
INSERT INTO Project.Ministry(MinistryName, MinistryDescription)
VALUES('Youth Development', 'Ministry for youth Developing. Age Group 13-17'), ('Mens',
'Ministry for Solely Men and is focused on Men Related Issues'), ('Womens', 'Ministry for
Solely Women and focused on Women Related Issues'), ('Marriage & Family', 'Ministry for
Developing and Supporting Good Marraiges'), ('Outreach', 'Ministry for reaching out to
others'), ('Prayer Support', 'Prayer works Ministry. Pray and Support Others with
Prayer'), ('Senior Adults', 'Ministry for Senior Citizens'), ('Young Adults', 'Ministry
for Individuals in their 20s or Singles'), ('Divorce Care', 'Ministry for Supporting
People going through Divorce'), ('Music & Worship', 'Ministry for Praise and Worship')
-- Project. Program Table
INSERT INTO Project.Program(MinistryID, ProgramName, StartDateTime, EndDateTime)
VALUES ('1-YD-0001', 1, 'Elevate Night', '01-12-2019 18:45:00', '01-12-2019 20:30:00'),
('2-MM-0001', 2, 'Iron Sharpening Iron', '01/27/2018 21:00:00', '01/27/2018 22:45:00'), ('3-WW-0001', 3, 'Every Woman"s Grace', '01/30/2018 18:30:00', '01/30/2018 20:00:00'),
('4-MF-0001', 4, 'The Healthy Blended Family', '01/14/2018 14:45:00', '01/14/2018
14:15:00'), ('5-00-0001', 5, 'Frederick Rescue Mission', '01/05/2018 09:00:00',
'01/05/2018 18:30:00'), ('6-PS-0001', 6, 'Prayer Support', '01/12/2018 06:00:00', '01/12/2018 07:30:00'), ('7-SA-0001', 7, 'Serious Fitness', '01/19/2018 09:00:00', '01/19/2018 10:45:00'), ('8-YA-0001', 8, 'Young Adults Worship Night', '01/20/2018
21:15:00', '01/14/2018 22:45:00'), ('9-DC-0001', 9, 'Divorce Care', '01/26/2018
19:00:00', '01/26/2018 20:15:00'),
--Project.Classroom Table
INSERT INTO Project.Classroom(ClassName, RoomNumber, StartDateTime, EndDateTime,
LeadTeacher) -- ClassName reps the name of the ProgramName for that moment
VALUES ('Elevate Night', 'Z056', '01-12-2019 18:45:00', '01-12-2019 20:30:00', 'Nathan Mackay'), ('Iron Sharpening Iron', 'T858', '01/27/2018 21:00:00', '01/27/2018 22:45:00',
'Nathan Dowd'), ('Every Woman"s Grace', 'E746', '01/30/2018 18:30:00', '01/30/2018
20:00:00', 'Cara Raymonds'), ('The Healthy Blended Family', 'Q813', '01/14/2018
14:45:00', '01/14/2018 14:15:00', 'Venus Curabitur'), ('Frederick Rescue Mission',
'C813', '01/05/2018 09:00:00', '01/05/2018 18:30:00', 'Samantha Burgess'), ('Prayer
Support', 'E746', '01/12/2018 06:00:00', '01/12/2018 07:30:00', 'Cara Raymonds'),
('Serious Fitness', 'Z056', '01/19/2018 09:00:00', '01/19/2018 10:45:00', 'Zoe Nolan'),
('Young Adults Worship Night', 'K159', '01/20/2018 21:15:00', '01/14/2018 22:45:00',
'Nathan Mackay'), ('Divorce Care', 'T858', '01/26/2018 19:00:00', '01/26/2018 20:15:00',
'Alison Wilkins')
-- Inserting into Bridge Tables
-- Project.PersonMinistry
INSERT INTO Project.PersonMinistry(MinistryID, PersonID)
VALUES (2, 1), (2, 2), (2, 4), (2, 7), (2, 10), (2, 11), (2, 12), (2, 16), (2, 19), (2,
35), (2, 35), (2, 48), (2, 54), (2, 89), (2, 98), (2, 93), (2, 103), (2, 107), (2, 108),
(2, 109), (2, 110), (2, 124), (3, 5), (3, 6), (3, 9), (3, 13), (3, 18), (3, 21), (3, 25),
(3, 26), (3, 27), (3, 31), (3, 32), (3, 38), (3, 40), (3, 43), (3, 44), (3, 47), (3, 51)
-- Project.PersonProgram
INSERT INTO Project.PersonProgram (ProgramID, PersonID)
```

VALUES ('1-YD-0001', 34), ('1-YD-0001', 50), ('1-YD-0001', 49), ('1-YD-0001', 36), ('1-YD-0001', 53), ('1-YD-0001', 24), ('1-YD-0001', 42), ('1-YD-0001', 17), ('2-MM-0001', 108), ('2-MM-0001', 124), ('2-MM-0001', 2), ('3-WW-0001', 122), ('3-WW-0001', 121), ('3-WW-0001', 124), ('3-WW-00

```
WW-0001', 69), ('3-WW-0001', 69), ('4-MF-0001', 47), ('4-MF-0001', 91), ('4-MF-0001', 95), ('4-MF-0001', 32), ('5-00-0001', 1), ('5-00-0001', 59), ('5-00-0001', 110)
--Project.ProgramClassroom
INSERT INTO Project.ProgramClassroom(ProgramID, ClassroomID)
VALUES('1-YD-0001', 1), ('2-MM-0001', 2), ('3-WW-0001', 3), ('4-MF-0001', 4), ('5-00-0001', 5), ('6-PS-0001', 6), ('7-SA-0001', 7), ('8-YA-0001', 8), ('9-DC-0001', 9), ('1-YD-0002', 10), ('2-MM-0002', 11), ('3-WW-0002', 12), ('4-MF-0002', 13), ('5-00-0002', 14), ('6-PS-0002', 15), ('7-SA-7002', 16), ('8-YA-0002', 17), ('9-DC-0002', 18)
```

DATA MANIPULATION

ALTER TABLE, UPDATE AND DELETE STATEMENTS

```
-- added Default Constraint to Person table after noticing I omitted it
ALTER TABLE Project Person
ADD CONSTRAINT DF_PhoneNumber --Default Name as DF_PhoneNumber
DEFAULT 'xxx-xxxx' FOR PhoneNumber; -- xxx-xxxx being our default phone number
-- I noted a spelling error for the CITY Fairfax. Originally as Faifax
UPDATE Project.Church
SET CITY = 'Fairfax' -- correct CITY name
WHERE ChurchID = 8
-- The following UPDATES were also made to correct the spelling of REVERAND in the
MinistryName Column
--Reverand David Forson
UPDATE Project.Church
SET MinisterName = 'Reverend David Forson' -- correct Minister's title
WHERE ChurchID = 3
-- Reverand Greggory Block
UPDATE Project.Church
SET MinisterName = 'Reverend Greggory Block' -- correct Minister's title
WHERE ChurchID = 5
-- Reverand Anthony Kobi
UPDATE Project.Church
SET MinisterName = 'Reverend Anthony Kobi' -- correct Minister's title
WHERE ChurchID = 8
--Reverand Edem Ameko
UPDATE Project.Church
SET MinisterName = 'Reverend Edem Ameko' -- correct Minister's title
WHERE ChurchID = 9
--Reverand Richard Tori
UPDATE Project.Church
SET MinisterName = 'Reverend Richard Tori' -- correct Minister's title
WHERE ChurchID = 16
```

```
-- UPDATE to correct spelling of 'Marriages'
-- I also did not like the description --supporting good marraiges-- so made changes to the effect.

-- Ministry for Developing and Supporting Good 'Marraiges'

UPDATE Project.Ministry

SET MinistryDescription = 'Ministry for Developing Good Marriages' -- re-defined the ministry

WHERE MinistryID = 4

-- Update statement to fix spelling mistake

UPDATE Project.Program

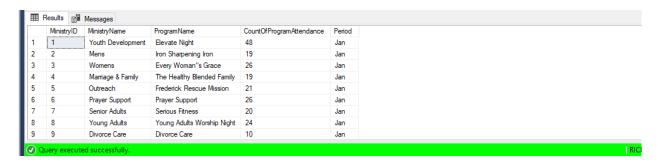
SET ProgramName = 'Weekend Youth Services' -- corrected ProgramName

WHERE ProgramName = 'Weeked Youth Services' -- typo error in 'weeked'
```

BUSINESS QUESTIONS ANSWERED

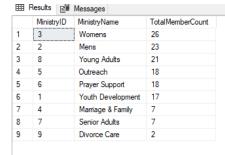
Which ministry recorded the highest number of program attendances for a particular month.

```
SELECT
      P.MinistryID,
      M.MinistryName,
      P.ProgramName,
      COUNT(P.ProgramID) AS CountOfProgramAttendance, /*gives the count of attendance
      by program*/
      CONVERT(Varchar(3), StartDateTime, 100) AS Period /* this pulls the month
      from the date. this line of code will ensure we limit the count to defined
      period say month*/
FROM
Project.Program AS P
INNER JOIN Project.PersonProgram AS PP
ON P.ProgramID = PP.ProgramID
INNER JOIN Project.Person AS C
ON PP.PersonID = C.PersonID
INNER JOIN Project.Ministry AS M
ON M.MinistryID = P.MinistryID
WHERE CONVERT(Varchar(3), StartDateTime, 100) = 'Jan' /*-- filters the our search
                                                              to a particular period. in
this case months*/
GROUP BY P.MinistryID, M.MinistryName, P.ProgramName, CONVERT(Varchar(3), StartDateTime,
ORDER BY MinistryID ASC
```



What is the total membership and percentage distribution of each of the ministry or group in Qodesh Family Church - Germantown?

```
----- Business Ouestions ------
/*What is the total membership and percentage distribution of each of
the ministry or group in Qodesh Family Church - Germantown? */
GO;
/*
There are four tables involved in this query. The focus is to come out with the
membership
count for each ministry. I therefore need Project.Person Table and Ministry table.
this table has many to many relationship so I used Project.PersonMinistry as a bridge
table which basically contains membership of all the ministries.
*/
SELECT
       X.MinistryID,
      X.MinistryName,
       COUNT(Y.MinistryID) AS TotalMemberCount -- takes a count of each ministry in
PersonMinistry
FROM Project Ministry AS X
INNER JOIN Project.PersonMinistry AS Y
ON X.MinistryID = Y.MinistryID
INNER JOIN Project. Person AS Z
ON Y.PersonID = Z.PersonID
INNER JOIN Project. Church AS C
ON C.ChurchID = Z.ChurchID
WHERE BranchName = 'Qodesh Family Church-Germantown' -- the filter is for Germantown
GROUP BY X.MinistryID, X.MinistryName
ORDER BY TotalMemberCount DESC
```



What is the gender demographic for the Qodesh Family church - Germantown

/*
First determine the total number of members in Qodesh Family Church - Germantown
Then write a query to show distribution of men and women in the church.
*/
SELECT COUNT(*) AS TotalMembership_Germantown -- users the filter to take count of all
members in Germantown Branch
FROM Project.Person a
INNER JOIN Project.Church b
ON a.ChurchID = b.ChurchID
WHERE BranchName = 'Qodesh Family Church-Germantown' -- this filters the Branch of Church
to Germantown



Now to answer the business question

- -- What is the gender demographic for the Qodesh Family church Germantown -- all Persons in the Germantown church and not limited to only those in Ministries. /*This query will provide a count for MALES and FEMALES in the Qodesh Family Church-
- Germantown Branch*/

SELECT

Z.Gender, -- Gender being the focus of our query

 ${\tt COUNT}({\tt Z.Gender})$ AS ${\tt CountOfGender_Germantown}$ -- uses the filter to take count of all members in Germantown Branch

FROM Project Church AS X

INNER JOIN Project.Person AS Z

ON X.ChurchID = Z.ChurchID

WHERE X.BranchName = 'Qodesh Family Church-Germantown' -- this filters the Branch of Church to Germantown

GROUP BY Z.Gender



What is the trend of attendance of both males and females?

- -- In answering this business question. I created a SPROC that takes two parameters
- -- Month and Gender. This will answer the question male/female attendance.

CREATE PROCEDURE Project.SP_GenderAttendanceDistribution @Month char(3), @Gender Char AS

BEGIN

SELECT

P.MinistryID,

M.MinistryName,

P.ProgramName,

```
COUNT(P.ProgramID) AS CountOfProgramAttendance, /*gives the count of
attendance
         by program*/
                 CONVERT(Varchar(3), StartDateTime, 100) AS Period /* this pulls the month
                 from the date. this line of code will ensure we limit the count to defined
                 period say month*/
         FROM
         Project.Program AS P
        INNER JOIN Project.PersonProgram AS PP
        ON P.ProgramID = PP.ProgramID
         INNER JOIN Project.Person AS C
        ON PP.PersonID = C.PersonID
         INNER JOIN Project. Ministry AS M
        ON M.MinistryID = P.MinistryID
        WHERE CONVERT(Varchar(3), StartDateTime, 100) = @Month AND GENDER = @Gender --
where the parameters will be applied
        GROUP BY P.MinistryID, M.MinistryName, P.ProgramName, CONVERT(Varchar(3),
StartDateTime, 100)
        ORDER BY MinistryID ASC, Period
END;
EXEC Project.SP_GenderAttendanceDistribution 'Jan', 'M' -- This fetches MALES for January
EXEC Project.SP GenderAttendanceDistribution 'Jan', 'F' -- This fetches FEMALES for
February period
-- Repeat for Feb.
EXEC Project.SP_GenderAttendanceDistribution 'Feb', 'M' -- This fetches MALES for January
EXEC Project.SP GenderAttendanceDistribution 'Feb', 'F' -- This fetches FEMALES for
February period
       EXEC Project.SP_GenderAttendanceDistribution 'Jan', 'M' -- This fetches MALES for January period 
EXEC Project.SP_GenderAttendanceDistribution 'Jan', 'F' -- This fecthes FEMALES for February period
   150
 MinistryID MinistryName
                     ProgramName
                                    CountOfProgramAttendance Period
          Youth Development Elevate Night
                                    22
           Mens
                     Iron Sharpening Iron
                                                   Jan
          Outreach
                     Frederick Rescue Mission
                                                   Jan
           Prayer Support
                     Prayer Support
                                                   Jan
           Senior Adults
                     Serious Fitness
                                                   Jan
           Young Adults
                      Young Adults Worship Night 9
    MinistryID
                     ProgramName
          MinistryName
          Youth Development Elevate Night
    1
           Womens
                     Every Woman's Grace
                      The Healthy Blended Family 19
           Marriage & Family
```

How many (trend) people attended programs organized by the various ministries over the past two months (this can be any given period).

Jan

The focus here is the trend of membership attendance for the period.

Frederick Rescue Mission

Outreach

In order to answer this question, I used the month of January and February to determine the Ministry with the highest or lowest number of attendance. This could have expanded if I had the time.

```
-- This script is similar to a previous business question code
-- the difference, this code uses the 'IN' operator in the WHERE to include the periods
SELECT
      P.MinistryID,
      M.MinistryName,
      P.ProgramName,
      COUNT(P.ProgramID) AS CountOfProgramAttendance, /*gives the count of attendance
      by program*/
      CONVERT(Varchar(3), StartDateTime, 100) AS Period /* this pulls the month
      from the date. this line of code will ensure we limit the count to defined
       period say month*/
FROM
Project.Program AS P
INNER JOIN Project.PersonProgram AS PP
ON P.ProgramID = PP.ProgramID
INNER JOIN Project. Person AS C
ON PP.PersonID = C.PersonID
INNER JOIN Project.Ministry AS M
ON M.MinistryID = P.MinistryID
WHERE CONVERT(Varchar(3), StartDateTime, 100) IN ('Jan', 'Feb') /*-- filters the our
search with the IN operator*/
GROUP BY P.MinistryID, M.MinistryName, P.ProgramName, CONVERT(Varchar(3), StartDateTime,
ORDER BY MinistryID ASC, Period
```

	MinistryID	MinistryName	ProgramName	CountOfProgramAttendance	Period
1	1	Youth Development	Weekend Youth Services	44	Feb
2	1	Youth Development	Elevate Night	48	Jan
3	2	Mens	Iron Sharpening Iron	15	Feb
4	2	Mens	Iron Sharpening Iron	19	Jan
5	3	Womens	Every Woman"s Grace	31	Feb
6	3	Womens	Every Woman's Grace	26	Jan
7	4	Mamage & Family	Making the Most of your Mamage	25	Feb
8	4	Mamage & Family	The Healthy Blended Family	19	Jan
9	5	Outreach	Frederick Rescue Mission	19	Feb

RAW DATA SAMPLES

In most cases, records for my database for the purpose of this project was generated using a dummy data generator from the internet. Most fields have to be refined in order to meet the expectations and answer all business questions. However, in real life raw data begins with a **Welcome Card** from the Outreach team as below and records will be populated in the sample of excel file shown .

Visitors and First Timers Welcome Card



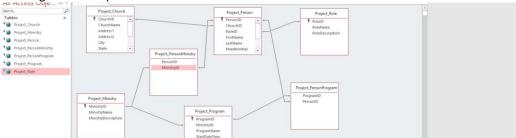
Sample records sheet



IMPLEMENTATION

Microsoft Access User Interface

Creating relationship between tables

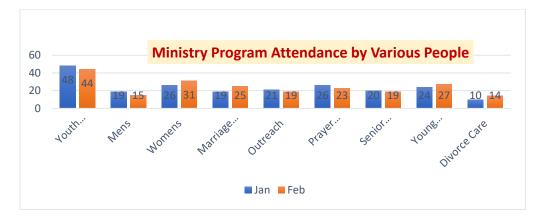


Person Form



Which ministry recorded the highest number of program attendances for the past months.

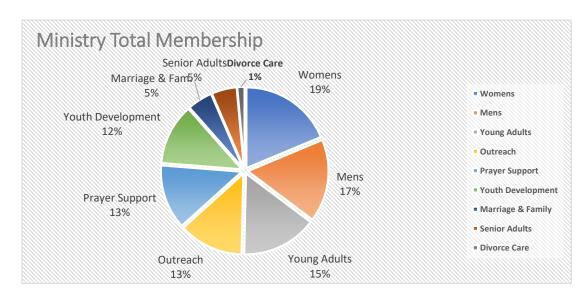
7	Program Att	tendance for the period of January 2018	8 - February 2018	3
48	Ministry	Program	Attendance	Month
49	Youth Development	Weekend Youth Services	44	Feb
50	Youth Development	Elevate Night	48	Jan
51	Mens	Iron Sharpening Iron	15	Feb
52	Mens	Iron Sharpening Iron	19	Jan
53	Womens	Every Woman"s Grace	31	Feb
54	Womens	Every Woman"s Grace	26	Jan
55	Marriage & Family	Making the Most of your Marriage	25	Feb
56	Marriage & Family	The Healthy Blended Family	19	Jan
57	Outreach	Frederick Rescue Mission	19	Feb
58	Outreach	Frederick Rescue Mission	21	Jan
59	Prayer Support	Prayer Support	23	Feb
50	Prayer Support	Prayer Support	26	Jan
51	Senior Adults	Jesus-Sight & Sound Theatres Trip	19	Feb
52	Senior Adults	Serious Fitness	20	Jan
53	Young Adults	Young Adults Worship Night	27	Feb
54	Young Adults	Young Adults Worship Night	24	Jan
55 56	Divorce Care	Divorce Care	14	Feb
56	Divorce Care	Divorce Care	10	Jan



What is the total membership and percentage distribution of each of the ministry or group in Qodesh Family Church - Germantown?

Report

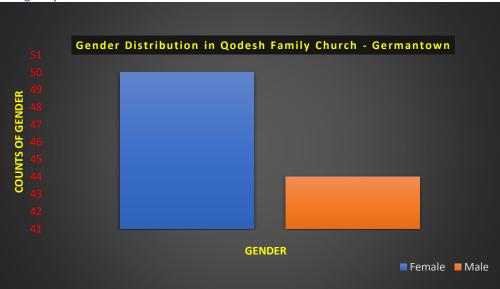
2	Total Ministry Membership for Qo	desh Family Church-G	Germantown			
3		Tatal Barrahambir				-
•	Ministry	Total Membership				
5	Womens	26				
5	Mens	23				
7	Young Adults	21				
3	Outreach	18				
•	Prayer Support	18				
0	Youth Development	17				
1	Marriage & Family	7				
2	Senior Adults	7				
3	Divorce Care	2				



What is the gender demographic for the Qodesh Family church - Germantown Report

23						
26	Gender demograph	ic for the Qodesh Family chur	ch - Germ	antown		
27						
28	Gender	CountOfGender-Germantown				
29	Female	50				
30	Male	44				
31						
32						
33						

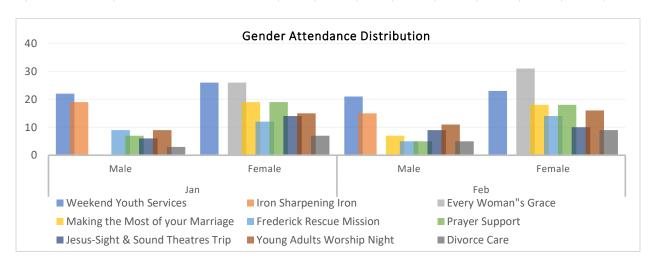
Using Graph



What is the trend of attendance of both males and females?

Report

	Gender Distribution for the Jan and	Feb 2018 P	eriod		
		J	an	F	eb
Ministry	Program	Male	Female	Male	Female
Youth Development	Weekend Youth Services	22	26	21	23
Mens	Iron Sharpening Iron	19	0	15	0
Womens	Every Woman"s Grace	0	26	0	31
Marriage & Family	Making the Most of your Marriage	0	19	7	18
Outreach	Frederick Rescue Mission	9	12	5	14
Prayer Support	Prayer Support	7	19	5	18
Senior Adults	Jesus-Sight & Sound Theatres Trip	6	14	9	10
Young Adults	Young Adults Worship Night	9	15	11	16
Divorce Care	Divorce Care	3	7	5	9
This report basically i	men are not commited to certain progra	ams or issu	es		

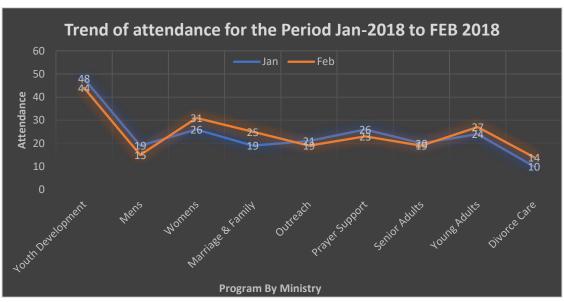


How many (trend) people attended programs organized by the various ministries over the past two months.

Report

46 47 48 49	Program Att	tendance for the period of January 2018	3 - February 2018	3
47		_	1	
48	Ministry	Program	Attendance	
49	Youth Development	Weekend Youth Services	44	Feb
50	Youth Development	Elevate Night	48	Jan
51	Mens	Iron Sharpening Iron	15	Feb
52 53	Mens	Iron Sharpening Iron	19	Jan
53	Womens	Every Woman"s Grace	31	Feb
54	Womens	Every Woman"s Grace	26	Jan
55	Marriage & Family	Making the Most of your Marriage	25	Feb
56	Marriage & Family	The Healthy Blended Family	19	Jan
57	Outreach	Frederick Rescue Mission	19	Feb
58	Outreach	Frederick Rescue Mission	21	Jan
59	Prayer Support	Prayer Support	23	Feb
50	Prayer Support	Prayer Support	26	Jan
51	Senior Adults	Jesus-Sight & Sound Theatres Trip	19	Feb
52	Senior Adults	Serious Fitness	20	Jan
53	Young Adults	Young Adults Worship Night	27	Feb
54	Young Adults	Young Adults Worship Night	24	Jan
55	Divorce Care	Divorce Care	14	Feb
56	Divorce Care	Divorce Care	10	Jan

Graph



REFLECTION

The project, overall, is an eye opener. I have acquired quite a number of skills, knowledge and approaches to developing a database. Looking at the nature and number of tables for this project, a much better job could have been done however, time was the biggest constraint or factor which affected the overall project work. A lot of other areas could have been explored and implemented in the project but as stated earlier, time would not allow.

Another issue noted was the fact that I under-estimated the building of the database stage of the project. Here, I meant the physical design and data insertion stage of the whole project. In the future, or should this be done all over again, I would start making my trades early in order not to find myself wanting or being consumed by the physical design stage.

In building the project in Milestone 2, few changes were made to the original approach. The Bridge tables, Project.PersonMinistry and Project.PersonProgram, for instance, saw the GUID column removed and datatype for ProgramID column for Project.Program table changed to CHAR(10).

An ALTER statement was also written to add Phone Numbers to the Project.Person table and also altered to add DEFAULT constraint to the column Phone Number.

Again, this IST659 is by far my favorite since as a newbie in the IT field, I have learnt a lot in the area of Stored Procedures and other functions of the SQL Server.

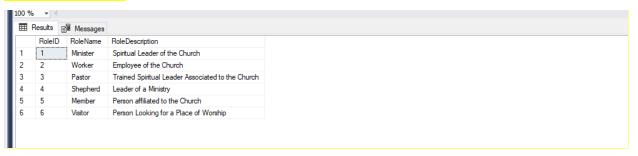
Appendix

Screenshots

Project.Church Table



Project.Role Table



Project.Person Table

	PersonID	ChurchID	RoleID	FirstName	LastName	MiddleInitial	Gender	DateOfBirth	EmailAddress	PhoneNumber
	1	2	1	Нарру	Kumah	NULL	M	1971-10-29	happy.kumah@qgc.org	240-410-8457
2	2	2	5	Justin	King	NULL	M	1990-03-14	justin.king@gmail.com	863-418-1059
3	3	2	5	Lily	Robertson	NULL	F	1965-12-28	lily.robertson@gmail.com	281-834-4253
4	4	2	4	Nathan	Mackay	D	M	1990-02-12	nathan.mackay@hotmail.com	723-146-6258
5	5	2	5	Amanda	Rutherford	L	F	1981-05-15	amanda.rutherford@yahoo.com	112-273-6376
6	6	2	4	Alison	Wilkins	NULL	F	1977-09-21	alison.wilkins@gmail.com	332-402-0396
7	7	5	5	Joseph	Lambert	T	M	1989-03-01	joseph.lambert@gmail.com	713-341-2156
8	8	2	5	Carl	Comish	NULL	M	2000-07-24	carl.comish@gmail.com	206-760-7728
9	9	2	5	Stella	Mollis	Α	F	1973-03-07	non.quam@duis.ca	XXX-XXX-XXXX
10	10	2	5	Frank	Buckland	NULL	M	1956-07-23	frank.buckland@gmail.com	783-832-3774
11	11	2	5	Greg	Black	0	M	1952-04-13	greg.black@hotmail.com	611-328-3519
12	12	2	5	Richard	Dowd	P	M	1952-08-15	richard.dowd@gmail.com	967-997-0499
13	13	2	5	Xaviera	Ferris	Α	F	1979-04-01	ferris@tricessit.org	256-723-9055
14	14	2	5	Raphael	Maphael	R	F	2000-07-27	aenean.massa@mattis.co.uk	XXXX-XXXX-XXXXX
15	15	2	5	Thomas	Terry	NULL	М	1999-05-30	thomas.temy@yahoo.com	667-419-7740

Project.Ministry Table



Project.Program Table

	ProgramID	MinistryID	ProgramName	StartDateTime	EndDateTime	Description
1	1-YD-0001	1	Elevate Night	2019-01-12 18:45:00.000	2019-01-12 20:30:00.000	NULL
2	1-YD-0002	1	Weekend Youth Services	2018-02-04 11:00:00.000	2018-02-04 11:30:00.000	NULL
3	2-MM-0001	2	Iron Sharpening Iron	2018-01-27 21:00:00.000	2018-01-27 22:45:00.000	NULL
4	2-MM-0002	2	Iron Sharpening Iron	2018-02-10 21:00:00.000	2018-02-10 22:45:00.000	NULL
5	3-WW-0001	3	Every Woman's Grace	2018-01-30 18:30:00.000	2018-01-30 20:00:00.000	NULL
6	3-WW-0002	3	Every Woman's Grace	2018-02-14 18:30:00.000	2018-02-14 20:00:00.000	NULL
7	4-MF-0001	4	The Healthy Blended Family	2018-01-14 14:45:00.000	2018-01-14 14:15:00.000	NULL
8	4-MF-0002	4	Making the Most of your Mamage	2018-02-21 10:45:00.000	2018-02-21 12:15:00.000	NULL
9	5-00-0001	5	Frederick Rescue Mission	2018-01-05 09:00:00.000	2018-01-05 18:30:00.000	NULL
10	5-00-0002	5	Frederick Rescue Mission	2018-02-23 09:00:00.000	2018-02-23 18:30:00.000	NULL

Project.Classroom Table



Project.PersonMinistry Table

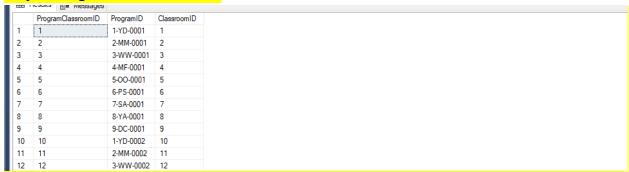


Project.PersonProgram Table



Query executed successfully.

Project.ProgramClassroom Table



Project.wv_VisitorsDetails

