# Individual Deliverables

## Create Statements

```
-- CREATE STATEMENTS

      CREATE TABLE Schedule (
    ScheduleID int NOT NULL PRIMARY KEY,
    StartTime datetime NOT NULL,
    EndTime datetime NOT NULL,
      LastUpdated datetime NOT NULL,
      LastUpdatedBy varchar(50) NOT NULL
);

      CREATE TABLE Department (
    DepartmentID int NOT NULL PRIMARY KEY,
    DepartmentName varchar(50) NOT NULL,
      LastUpdated datetime NOT NULL,
      LastUpdatedBy varchar(50) NOT NULL
);

      --Table name changed to SLocation
      --Coloumn name State changed to SState
      CREATE TABLE SLocation (
    LocationID int NOT NULL PRIMARY KEY,
    City varchar(50) NOT NULL,
      SState varchar(2) NOT NULL,
      Zip int NOT NULL,
      LastUpdated datetime NOT NULL,
      LastUpdatedBy varchar(50) NOT NULL
);

      --Name is a composite attribute
      --Age is not derived via select statement
      --Adress is a compostite attribute
      CREATE TABLE Employee (
    EmployeeID int IDENTITY(1,1) NOT NULL PRIMARY KEY,
    FName varchar(25) NOT NULL,
      LName varchar(30) NOT NULL,
      Gender char(2),
      BirthDate date NOT NULL,
      Age int NOT NULL,
      Street varchar(50) NOT NULL,
      City varchar(50) NOT NULL,
      EmpState varchar(2) NOT NULL,
      Phone varchar(10) NOT NULL,
      Email varchar(50) NOT NULL,
      EmpRank varchar(50) NOT NULL,
      Employee_Type varchar(10) NOT NULL,
      ManagerID int NULL FOREIGN KEY REFERENCES Employee(EmployeeID),
      LastUpdated datetime NOT NULL,
      LastUpdatedBy varchar(50) NOT NULL,
      LocationID int FOREIGN KEY REFERENCES SLocation(LocationID),
      ScheduleID int FOREIGN KEY REFERENCES Schedule(ScheduleID),
      DepartmentID int FOREIGN KEY REFERENCES Department(DepartmentID)
);
```

```
        --Created Unique PK called SEmployeeID
        CREATE TABLE Salary (
        SEmployeeID int NOT NULL PRIMARY KEY,
        SalaryAmount money NOT NULL,
        EmployeeID int NOT NULL FOREIGN KEY REFERENCES Employee(EmployeeID)
);

        --Created Unique PK called HEmployeeID
        CREATE TABLE Hourly (
        HEmployeeID int NOT NULL PRIMARY KEY,
        HourlyRate money NOT NULL,
        EmployeeID int NOT NULL FOREIGN KEY REFERENCES Employee(EmployeeID)
);

        --Removed IncludedBenefits
        --Removed PTO
        --Removed WFH
        CREATE TABLE Benefit (
        PlanID int NOT NULL PRIMARY KEY,
        LastUpdated datetime NOT NULL,
        LastUpdatedBy varchar(50) NOT NULL,
        SEmployeeID int NOT NULL FOREIGN KEY REFERENCES Salary(SEmployeeID)
);

        CREATE TABLE Certification (
        CertificationID int NOT NULL PRIMARY KEY,
        FName varchar(50) NOT NULL,
        LName varchar(50) NOT NULL,
        DateEarned date NOT NULL,
        LastUpdated datetime NOT NULL,
        LastUpdatedBy varchar(50) NOT NULL,
);

        CREATE TABLE Customer (
        CustomerID int NOT NULL PRIMARY KEY,
        City varchar(50) NOT NULL,
        CustState varchar(2) NOT NULL,
        Phone varchar(10) NOT NULL,
        FName varchar(50) NOT NULL,
        LName varchar(50) NOT NULL,
        LastUpdated datetime NOT NULL,
        LastUpdatedBy varchar(50) NOT NULL
);

        CREATE TABLE Account (
        EmployeeID int NOT NULL FOREIGN KEY REFERENCES Employee(EmployeeID),
        CustomerID int NOT NULL FOREIGN KEY REFERENCES Customer(CustomerID)
);

        CREATE TABLE Certified (
        EmployeeID int NOT NULL FOREIGN KEY REFERENCES Employee(EmployeeID),
        CertificationID int NOT NULL FOREIGN KEY REFERENCES Certification(CertificationID)
);
```

### Create Indexes

```
--CREATE INDEXES

	CREATE INDEX idx_EmpName
	ON Employee (LName, FName);

	CREATE INDEX idx_Updated
	ON Schedule (LastUpdated, LastUpdatedBy);
```

### Insert Data

```
--INSERT STATEMENTS

	--Schedule Date
	INSERT INTO Schedule VALUES (1, '2020-08-01 8:00:00', '2020-08-01 16:00:00',
'2020-07-25 14:58:16', 'Yassine Elmellouki');
	INSERT INTO Schedule VALUES (2, '2020-08-01 9:00:00', '2020-08-01 17:00:00',
'2020-07-25 15:01:21', 'Yassine Elmellouki');
	INSERT INTO Schedule VALUES (3, '2020-08-01 10:00:00', '2020-08-01 18:00:00',
'2020-07-25 15:04:33', 'Yassine Elmellouki');
	INSERT INTO Schedule VALUES (4, '2020-08-01 11:00:00', '2020-08-01 19:00:00',
'2020-07-25 15:07:42', 'Yassine Elmellouki');
	INSERT INTO Schedule VALUES (5, '2020-08-01 12:00:00', '2020-08-01 20:00:00',
'2020-07-25 15:11:02', 'Yassine Elmellouki');

	--Department Data
	INSERT INTO Department VALUES (1, 'Audit', '2020-06-10 17:58:16', 'Yassine
Elmellouki');
	INSERT INTO Department VALUES (2, 'Finance', '2020-06-10 18:03:21', 'Yassine
Elmellouki');
	INSERT INTO Department VALUES (3, 'Business', '2020-06-10 18:31:03', 'Yassine
Elmellouki');
	INSERT INTO Department VALUES (4, 'Human Resources', '2020-06-10 18:42:51',
'Yassine Elmellouki');
	INSERT INTO Department VALUES (5, 'Procurement', '2020-06-10 18:58:01', 'Yassine
Elmellouki');

	--SLocation Data
	INSERT INTO SLocation VALUES (1, 'Harrisonburg', 'VA', 22801, '2020-06-10
13:05:00', 'Yassine Elmellouki');
	INSERT INTO SLocation VALUES (2, 'Charolette', 'NC', 28105, '2020-06-10 13:21:07',
'Yassine Elmellouki');
	INSERT INTO SLocation VALUES (3, 'New York City', 'NY', 10010, '2020-06-10
14:30:17', 'Yassine Elmellouki');
	INSERT INTO SLocation VALUES (4, 'Leesburg', 'VA', 20175, '2020-06-10 14:46:20',
'Yassine Elmellouki');
	INSERT INTO SLocation VALUES (5, 'Los Angles', 'CA', 90210, '2020-06-10 14:56:31',
'Yassine Elmellouki');

	--Employee Data
	INSERT INTO Employee
(FName,LName,Gender,BirthDate,Age,Street,City,EmpState,Phone,Email,EmpRank,Employee_Type,
ManagerID,LastUpdated,LastUpdatedBy,LocationID,ScheduleID,DepartmentID)
```

```
	VALUES ('Sarah', 'Henderson', 'F', '1999-03-18', 21, 'Village Lane',
'Harrisonburg', 'VA', '5405555555', 'SarahHenderson@gmail.com', 'Manager', 'S', NULL,
'2020-06-10 15:26:11', 'Yassine Elmellouki', 1, 1, 1);
	INSERT INTO Employee
(FName,LName,Gender,BirthDate,Age,Street,City,EmpState,Phone,Email,EmpRank,Employee_Type,
ManagerID,LastUpdated,LastUpdatedBy,LocationID,ScheduleID,DepartmentID)
	VALUES ('Daneil', 'Mcleary', 'M', '1974-06-02', 46, 'Ginkgo Ter', 'Charolette',
'NC', '7045555555', 'DaneilMcleary@gmail.com', 'IT', 'H', 1, '2020-06-10 15:26:11',
'Yassine Elmellouki', 2, 2, 2);
	INSERT INTO Employee
(FName,LName,Gender,BirthDate,Age,Street,City,EmpState,Phone,Email,EmpRank,Employee_Type,
ManagerID,LastUpdated,LastUpdatedBy,LocationID,ScheduleID,DepartmentID)
	VALUES ('Henry', 'Jackson', 'M', '1986-11-12', 34, '5th Ave', 'New York City',
'NY', '2125555555', 'HenryJackson@gmail.com', 'Specialist', 'S', 1, '2020-06-10
15:26:11', 'Yassine Elmellouki', 3, 3, 3);
	INSERT INTO Employee
(FName,LName,Gender,BirthDate,Age,Street,City,EmpState,Phone,Email,EmpRank,Employee_Type,
ManagerID,LastUpdated,LastUpdatedBy,LocationID,ScheduleID,DepartmentID)
	VALUES ('John', 'Jameson', 'M', '1971-05-04', 49, 'Dry Mill Rd', 'Leesburg', 'VA',
'7035555555', 'JohnJameson@gmail.com', 'Account Supervisor', 'H', 1, '2020-06-10
15:26:11', 'Yassine Elmellouki', 4, 4, 4);
	INSERT INTO Employee
(FName,LName,Gender,BirthDate,Age,Street,City,EmpState,Phone,Email,EmpRank,Employee_Type,
ManagerID,LastUpdated,LastUpdatedBy,LocationID,ScheduleID,DepartmentID)
	VALUES ('Jessie', 'Juavin', 'F', '1993-08-20', 49, 'Dry Mill Rd', 'Los Angles',
'CA', '2135555555', 'JessieJuavin@gmail.com', 'Specialist', 'S', 1, '2020-06-10
15:26:11', 'Yassine Elmellouki', 5, 5, 5);

	--Salary Data
	INSERT INTO Salary VALUES (1, 90000, 1);
	INSERT INTO Salary VALUES (2, 75000, 3);
	INSERT INTO Salary VALUES (3, 65000, 5);

	--Hourly Data
	INSERT INTO Hourly VALUES (1, 15.50, 2);
	INSERT INTO Hourly VALUES (2, 14.75, 4);

	--Benefit Data
	INSERT INTO Benefit VALUES (1, '2020-06-10 13:05:00', 'Yassine Elmellouki', 1);
	INSERT INTO Benefit VALUES (2, '2020-06-10 13:05:00', 'Yassine Elmellouki', 2);
	INSERT INTO Benefit VALUES (3, '2020-06-10 13:05:00', 'Yassine Elmellouki', 3);

	--Certification Data
	INSERT INTO Certification VALUES (1, 'Sarah', 'Henderson', '2014-04-16', '2020-06-
10 13:05:00', 'Yassine Elmellouki');
	INSERT INTO Certification VALUES (2, 'Sarah', 'Henderson', '2018-05-12', '2020-06-
10 13:05:00', 'Yassine Elmellouki');
	INSERT INTO Certification VALUES (3, 'Daneil', 'Mcleary', '2017-02-14', '2020-06-
10 13:05:00', 'Yassine Elmellouki');
	INSERT INTO Certification VALUES (4, 'Henry', 'Jackson', '2016-04-16', '2020-06-10
13:05:00', 'Yassine Elmellouki');
	INSERT INTO Certification VALUES (5, 'John', 'Doe', '2017-08-15', '2020-06-10
13:05:00', 'Yassine Elmellouki');
	INSERT INTO Certification VALUES (6, 'Jessie', 'Juavin', '2018-08-15', '2020-06-10
13:05:00', 'Yassine Elmellouki');

	--Customer Data
```

```
	INSERT INTO Customer VALUES (1, 'Kernersville', 'NC', '7045555555','Jimbo',
'Jones', '2020-06-10 13:05:00', 'Yassine Elmellouki');
	INSERT INTO Customer VALUES (2, 'Tampa', 'FL', '7275555555', 'Jonnhy', 'Jakari',
'2020-06-10 13:05:00', 'Yassine Elmellouki');
	INSERT INTO Customer VALUES (3, 'Amsterdam', 'NY', '2125555555', 'Duke', 'Hazard',
'2020-06-10 13:05:00', 'Yassine Elmellouki');
	INSERT INTO Customer VALUES (4, 'Muncie', 'IN', '2175555555', 'Barthamalaeu',
'Mancehlla', '2020-06-10 13:05:00', 'Yassine Elmellouki');
	INSERT INTO Customer VALUES (5, 'Des Plaines', 'IL', '8155555555', 'Ted',
'Duncan', '2020-06-10 13:05:00', 'Yassine Elmellouki');

	--Account Data
	INSERT INTO Account VALUES (1,1);
	INSERT INTO Account VALUES (2,2);
	INSERT INTO Account VALUES (3,3);
	INSERT INTO Account VALUES (4,4);
	INSERT INTO Account VALUES (5,5);

	--Certified Data
	INSERT INTO Certified VALUES (1,1);
	INSERT INTO Certified VALUES (1,2);
	INSERT INTO Certified VALUES (2,3);
	INSERT INTO Certified VALUES (3,4);
	INSERT INTO Certified VALUES (4,5);
	INSERT INTO Certified VALUES (5,6);
```

## Transactions

```
--TRANSACTIONS

	--John changes his email from JohnJameson@gmail.com to JohnJames1@hotmail.com
(Update)
	UPDATE Employee
	SET Email = 'JohnJameson1@hotmail.com'
	WHERE EmployeeID = 4;

	--Henrys certification expires (Delete)
	DELETE FROM Certified
	WHERE CertificationID = 5;

	DELETE FROM Certification
	WHERE CertificationID = 5;

	--Favorite color column is added to employee (Alter to Add)
	ALTER TABLE Employee
	ADD FavoriteColor varchar(25);
	Select * from employee

	--Gender column is changed to 1 char (Modify)
	ALTER TABLE Employee
	ALTER COLUMN Gender char(1);

	--Drop the column favorite color from employee (Removal of Column)
	ALTER TABLE Employee
	DROP COLUMN FavoriteColor;
```

## Queries

```
--QUERIES

	--Show employee name and address for John Jameson. (Where)
	SELECT FName, LName, Street, City, EmpState FROM Employee
	WHERE EmployeeID = 4;

	--List the sum of all salaries. (Sum)
	SELECT SUM(SalaryAmount) AS 'Total Salaries'
	FROM Salary;

	--Group Location_ID by State from the Location Table(Group by and having)
	--Changed to showing SalaryAmount grouped by Employee ID, because you need to use
a aggregate functions for GROUP BY
	SELECT EmployeeID, SUM(SalaryAmount) AS 'Salaries'
	FROM Salary
	GROUP BY EmployeeID;

	--List all Employees that have at least one certification (Inner)

	SELECT EmployeeID AS 'Certified Employee''s'
	FROM Employee
	INNER JOIN Certification
	ON Employee.EmployeeID = Certification.CertificationID;

	--List all Employees that have or do not have certification (Outer)

	SELECT CertificationID, EmployeeID
	FROM Certification
	FULL OUTER JOIN Employee ON Certification.CertificationID=Employee.EmployeeID
	ORDER BY Employee.EmployeeID;

	--Show Employee Names when the letter J is in it

	SELECT * FROM Employee
	WHERE Employee.FName LIKE '%j%';

	--Show Employee Names with corresponding Schedule, and Location_ID (3 inner)
	--Removed Certification

	SELECT Employee.FName, Schedule.ScheduleID, SLocation.LocationID
	FROM ((Employee
	INNER JOIN Schedule ON Employee.ScheduleID = Schedule.ScheduleID)
	INNER JOIN SLocation ON Employee.LocationID = SLocation.LocationID);

	--Select all Employee Names and Salaries that are at least $80,000 (union)
	--Changed to Selecting all Employee and Customer cities
	Select City FROM Employee
	UNION
	Select City FROM Customer
	ORDER BY City;
```

```
	--Count the number of customers.
	SELECT COUNT(CustomerID) AS 'Number of Customers'
	FROM Customer;

	--Select the specialist employees.
	SELECT FName, LName FROM Employee
	WHERE EmpRank LIKE '%Specialist%';
```

### Stored Procedure & Trigger

```
--Stored Procedure

	CREATE PROCEDURE SelectAllEmployees
	AS
	BEGIN
		SELECT * FROM Employee
	END;

	EXEC SelectAllEmployees;

--Trigger

	CREATE TRIGGER DepartmentInsert ON Department
	FOR INSERT
	AS
	BEGIN
		SELECT * FROM inserted
	END

--Start Trigger
	INSERT INTO Department VALUES (6, 'Trigger', '2020-06-10 18:58:01', 'Yassine
Elmellouki');
	Select * from Department
	DELETE FROM Department
	WHERE DepartmentID = 6;
```

### Drop Tables

```
--DROP TABLES
	DROP TABLE Schedule;
	DROP TABLE Department;
	DROP TABLE SLocation;
	DROP TABLE Employee;
	DROP TABLE Salary;
	DROP TABLE Hourly;
	DROP TABLE Benefit;
	DROP TABLE Certification;
	DROP TABLE Customer;
	DROP TABLE Account;
	DROP TABLE Certified;
```