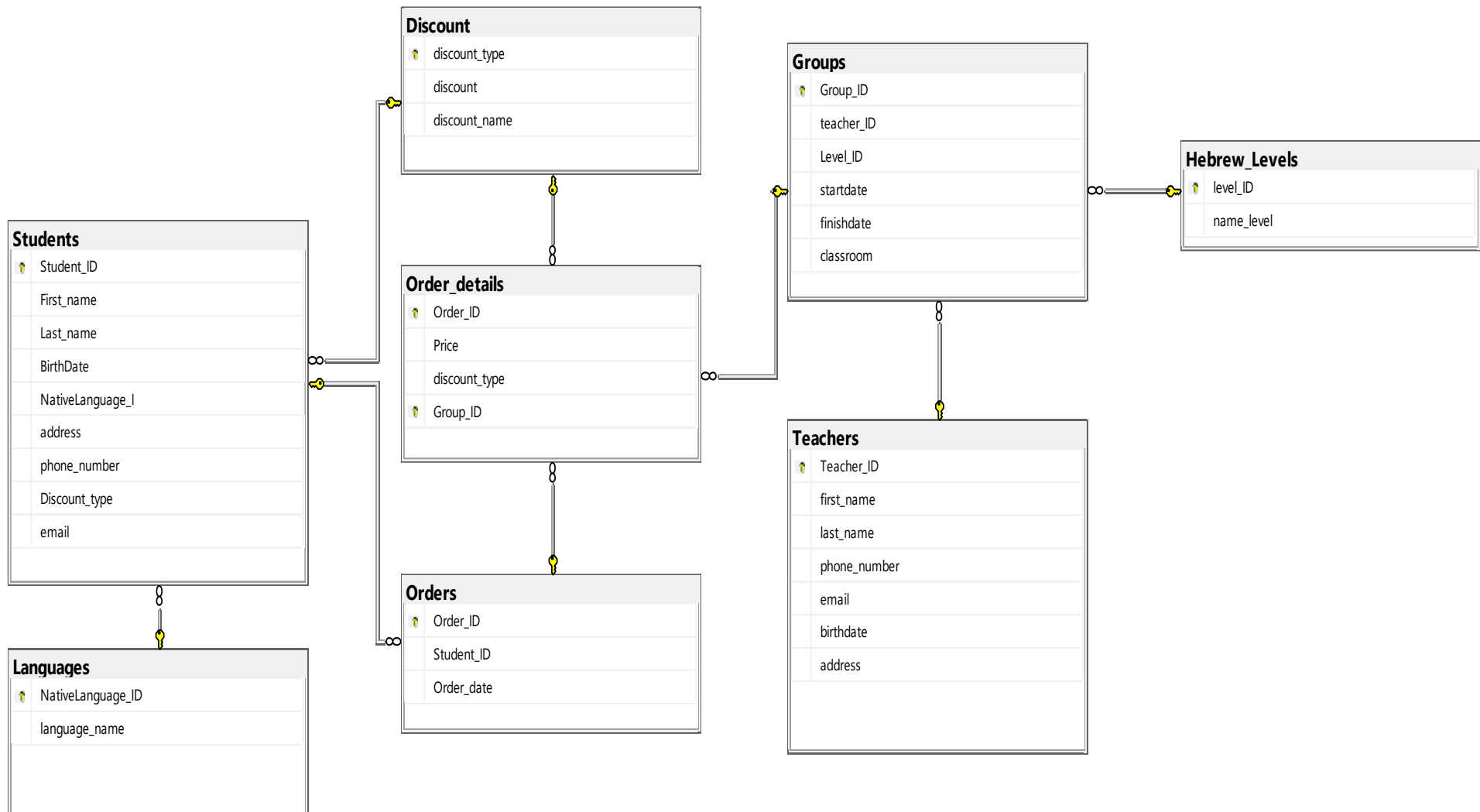# Table Design & Creation

Data Analyst Program - Project 1

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About This Project

This project will reflect a database for an application for managing a company named **"My Ulpan" Hebrew Courses Company Ltd.** A company specializing in providing Hebrew learning courses for new immigrants and other categories of citizens. The data system is Microsoft SQL Server Management Studio 18 based. With the help of the system, the company's staff as well as managers will be able to easily manage the registration of students to groups with different Hebrew language level and specific teacher, to apply discounts according to the student's status.

ERD

Please see below the ERD of "My Ulpan" Hebrew Courses Company Ltd database:

Discount
- 🔑 discount_type
- discount
- discount_name

Groups
- 🔑 Group_ID
- teacher_ID
- Level_ID
- startdate
- finishdate
- classroom

Hebrew_Levels
- 🔑 level_ID
- name_level

Students
- 🔑 Student_ID
- First_name
- Last_name
- BirthDate
- NativeLanguage_I
- address
- phone_number
- Discount_type
- email

Order_details
- 🔑 Order_ID
- Price
- discount_type
- 🔑 Group_ID

Teachers
- 🔑 Teacher_ID
- first_name
- last_name
- phone_number
- email
- birthdate
- address

Orders
- 🔑 Order_ID
- Student_ID
- Order_date

Languages
- 🔑 NativeLanguage_ID
- language_name

Tables Description

1. Students - contains information about the app's students

Column name	Column type	Constraint	Comments
Student_ID	varchar(15)	PK	
First_name	varchar(30)	NOT NULL	
Last_name	varchar(30)	NOT NULL	
BirthDate	DATE		
NativeLanguage_ID	int	FK from Languages(NativeLanguage_ID)	
Country_ID	int	FK from Countries(Country_ID)	
address	varchar(300)		
phone_number	varchar(20)	UNIQUE	
Discount_type	int	FK from Discount(discount_type)	
email	VARCHAR(40)	UNIQUE, CHECK(Email like '%@%.%'))	

2. Teachers - contains information about teachers

Column name	Column type	Constraint	Comments
Teacher_ID	int	PK	indentity(1,1)
First_name	varchar(30)	NOT NULL	
Last_name	varchar(30)	NOT NULL	
Email	VARCHAR(40)	UNIQUE, CHECK (Email like '%@%.%')	
PhoneNumber	varchar(20)	UNIQUE	
BirthDate	DATE		
address	varchar(300)		

3. Hebrew_levels – contains a list of Hebrew levels

Column name	Column type	Constraint	Comments
Level_ID	INT	PK	indentity(1,1)
name_level	varchar(10)	UNIQUE	

4. Languages – contains a list of native languages of students

Column name	Column type	Constraint	Comments
NativeLanguage_ID	INT	PK	indentity(1,1)
language_name	varchar(30)	UNIQUE	

5. Groups – contains information about groups: start and finish dates, Hebrew level, teacher's ID and classroom number

Column name	Column type	Constraint	Comments
Group_ID	varchar(10)	PK	
Teacher_ID	INT	FK from Teachers(Teacher_ID)	
Start_date	DATE		
Finish_date	DATE		
Level_ID	INT	FK from Hebrew_levels(Level_ID)	
Classroom_number	SMALLINT		

6. Discount - the types of discounts may be given to different categories of students

Column name	Column type	Constraint	Comments
discount_type	INT	PK	indentity(1,1)
discount	REAL	CHECK(discount beetween 0 and 0.5)	default(0)
Discount_name	varchar(30)	NOT NULL	

7. Orders – information about orders and registration of students to courses

Column name	Column type	Constraint	Comments
Order_ID	INT	PK	indentity(1,1)
Student_ID	varchar(15)	FK from Students(Student_ID)	
Order_date	DATE	NOT NULL	default(getdate())

8. Order_details – information about order details: prices, applied discounts and chosen groups

Column name	Column type	Constraint	Comments
Order_ID	INT	FK PK	
Price	money	NOT NULL	
discount_type	INT	FK from Discount(discount_type)	
Group_ID	varchar(10)	FK PK	

```sql
USE master
GO
IF EXISTS(SELECT * FROM SYS.DATABASES WHERE NAME = 'Ulpan')
    DROP DATABASE Ulpan
GO
CREATE DATABASE Ulpan;
GO
---------------------------------Work with Data Base Ulpan----------
USE Ulpan;
GO


-----------------------------------Create table Languages-----------------

CREATE TABLE Languages
(NativeLanguage_ID INT IDENTITY(1, 1) PRIMARY KEY,
 language_name VARCHAR(30) CONSTRAINT lang_name_unq UNIQUE
);
GO


-----------------------------------Create table Hebrew_Levels---------------

CREATE TABLE Hebrew_Levels
(level_ID INT IDENTITY(1, 1) PRIMARY KEY,
 name_level VARCHAR(10) CONSTRAINT heb_namelv_unq UNIQUE
);
GO


-------------------------------------Create table Teachers------------------

CREATE TABLE Teachers
(Teacher_ID   INT IDENTITY(1, 1) PRIMARY KEY,
 first_name   VARCHAR(30) NOT NULL,
 last_name    VARCHAR(30) NOT NULL,
 phone_number VARCHAR(20) CONSTRAINT teache_phon_unq UNIQUE,
 email        VARCHAR(40) CONSTRAINT teach_em_check CHECK(Email LIKE '%@%.%')
                          CONSTRAINT teach_unq UNIQUE,
 birthdate    DATE,
 [address]      VARCHAR(300)
);
GO
-------------------------------------Create table groups--------------------

CREATE TABLE Groups
(Group_ID   VARCHAR(10)
 PRIMARY KEY,
 teacher_ID INT FOREIGN KEY REFERENCES Teachers(Teacher_ID),
 Level_ID   INT FOREIGN KEY REFERENCES Hebrew_levels(level_ID),
 startdate  DATE,
 finishdate DATE,
 classroom  SMALLINT
);
GO
-----------------------------------Create table discount--------------------
```

```sql
CREATE TABLE Discount
(discount_type INT IDENTITY(1, 1) PRIMARY KEY,
 discount        REAL CONSTRAINT disc_level CHECK(discount BETWEEN 0 AND 0.5)
                 DEFAULT(0),
 discount_name VARCHAR(30) NOT NULL
);
GO
----------------------------------Create table Students--------------------

CREATE TABLE Students
(Student_ID       VARCHAR(15) CONSTRAINT stud_pk PRIMARY KEY,
 First_name       VARCHAR(30) NOT NULL,
 Last_name        VARCHAR(30) NOT NULL,
 BirthDate        DATE,
 NativeLanguage_I INT FOREIGN KEY REFERENCES Languages(NativeLanguage_ID),
 [address]        VARCHAR(300),
 phone_number     VARCHAR(20) CONSTRAINT stud_phon_unq UNIQUE,
 Discount_type    INT FOREIGN KEY REFERENCES Discount(discount_type),
 email            VARCHAR(40) CONSTRAINT stud_@_check CHECK(Email LIKE '%@%.%')
                             CONSTRAINT stud_unq UNIQUE
);
GO

----------------------------------Create table Orders--------------------
CREATE TABLE Orders
(Order_ID   INT IDENTITY(1, 1) PRIMARY KEY,
 Student_ID VARCHAR(15) FOREIGN KEY REFERENCES Students(Student_ID),
 Order_date DATE NOT NULL
             DEFAULT(GETDATE())
);
GO
----------------------------------Create table
  Order_Details-----------------------
CREATE TABLE Order_details
(Order_ID       INT FOREIGN KEY REFERENCES Orders(Order_ID),
 Price          MONEY NOT NULL,
 discount_type INT FOREIGN KEY REFERENCES Discount(discount_type),
 Group_ID       VARCHAR(10) FOREIGN KEY REFERENCES Groups(Group_ID),
 CONSTRAINT od_ordId_grID__pk PRIMARY KEY(Order_ID, Group_ID)
);
GO

------------------------------------------INSERT LANGUAGES-----------------
INSERT INTO Languages(language_name)
VALUES('Aymara');
INSERT INTO Languages(language_name)
VALUES('Indonesian');
INSERT INTO Languages(language_name)
VALUES('Fijian');
INSERT INTO Languages(language_name)
VALUES('Swati');
INSERT INTO Languages(language_name)
```

```sql
VALUES('Dhivehi');
INSERT INTO Languages(language_name)
VALUES('Burmese');
INSERT INTO Languages(language_name)
VALUES('Azeri');
INSERT INTO Languages(language_name)
VALUES('Telugu');
INSERT INTO Languages(language_name)
VALUES('Tswana');
INSERT INTO Languages(language_name)
VALUES('Moldovan');

GO
--Insert Hebrew_Levels------
INSERT INTO Hebrew_Levels(name_level)
VALUES
('Alef'),
 ('Beit'),
 ('Guimel'),
 ('Dalet'),
 ('Hey'),
 ('Vav');

GO
 ----------------------------------------- INSERT
   TEACHERS-----------------------
INSERT INTO Teachers
(first_name,
 last_name,
 phone_number,
 email,
 birthdate,
 [address]
)
VALUES
('Ephrem',
 'Oganesian',
 '9735444751',
 'eoganesian0@facebook.com',
 '2002-03-05 16:02:05',
 '0 Scott Parkway'
);
INSERT INTO Teachers
(first_name,
 last_name,
 phone_number,
 email,
 birthdate,
 [address]
)
VALUES
('Ive',
 'Montgomery',
```

```sql
  '8262025936',
  'imontgomery1@pinterest.com',
  '1971-05-09 07:05:01',
  '758 Fieldstone Center'
);
INSERT INTO Teachers
(first_name,
 last_name,
 phone_number,
 email,
 birthdate,
 [address]
)
VALUES
('Roman',
 'Attwoull',
 '1031605167',
 'rattwoull2@europa.eu',
 '1981-01-05 11:45:04',
 '3 Declaration Terrace'
);
INSERT INTO Teachers
(first_name,
 last_name,
 phone_number,
 email,
 birthdate,
 [address]
)
VALUES
('Daven',
 'Lawlance',
 '1962784149',
 'dlawlance3@shutterfly.com',
 '1923-11-19 02:35:30',
 '1 Monica Parkway'
);
INSERT INTO Teachers
(first_name,
 last_name,
 phone_number,
 email,
 birthdate,
 [address]
)
VALUES
('Emmett',
 'Lionel',
 '2285188826',
 'elionel4@biglobe.ne.jp',
 '1970-02-08 23:52:46',
 '1 Red Cloud Junction'
);
```

```sql
INSERT INTO Teachers
(first_name,
 last_name,
 phone_number,
 email,
 birthdate,
 [address]
)
VALUES
('Robinet',
 'Willett',
 '7713568847',
 'rwillett5@nasa.gov',
 '1997-12-28 00:25:23',
 '4817 Pine View Drive'
);
INSERT INTO Teachers
(first_name,
 last_name,
 phone_number,
 email,
 birthdate,
 [address]
)
VALUES
('Derron',
 'Daviot',
 '7338809333',
 'ddaviot6@liveinternet.ru',
 '1924-11-17 10:35:41',
 '62 Bultman Drive'
);
INSERT INTO Teachers
(first_name,
 last_name,
 phone_number,
 email,
 birthdate,
 [address]
)
VALUES
('Nigel',
 'Greydon',
 '9995886771',
 'ngreydon7@abc.net.au',
 '1966-04-19 00:13:39',
 '55 Pennsylvania Way'
);
INSERT INTO Teachers
(first_name,
 last_name,
 phone_number,
 email,
```

```sql
 birthdate,
 [address]
)
VALUES
('Portie',
 'MacDougal',
 '2892288948',
 'pmacdougal8@dailymail.co.uk',
 '1956-06-23 03:56:15',
 '58 Autumn Leaf Drive'
);
INSERT INTO Teachers
(first_name,
 last_name,
 phone_number,
 email,
 birthdate,
 [address]
)
VALUES
('Davidson',
 'Joiris',
 '3399717490',
 'djoiris9@artisteer.com',
 '1984-06-06 18:27:18',
 '831 Randy Trail'
);
GO
-------------------------------------------------- INSERT
  GROUPS-------------------

INSERT INTO Groups
(Group_ID,
 teacher_ID,
 Level_ID,
 startdate,
 finishdate,
 classroom
)
VALUES
(1,
 1,
 1,
 '2020-05-03 17:08:04',
 '2020-01-17 02:57:52',
 11
);
INSERT INTO Groups
(Group_ID,
 teacher_ID,
 Level_ID,
 startdate,
 finishdate,
```

```sql
 classroom
)
VALUES
(2,
 2,
 1,
 '2020-09-15 02:20:54',
 '2020-10-08 14:47:46',
 23
);
INSERT INTO Groups
(Group_ID,
 teacher_ID,
 Level_ID,
 startdate,
 finishdate,
 classroom
)
VALUES
(3,
 3,
 2,
 '2020-04-17 21:50:23',
 '2020-11-12 20:52:46',
 34
);
INSERT INTO Groups
(Group_ID,
 teacher_ID,
 Level_ID,
 startdate,
 finishdate,
 classroom
)
VALUES
(4,
 4,
 2,
 '2020-09-14 05:48:02',
 '2020-05-29 01:05:52',
 43
);
INSERT INTO Groups
(Group_ID,
 teacher_ID,
 Level_ID,
 startdate,
 finishdate,
 classroom
)
VALUES
(5,
 5,
```

```sql
    3,
    '2020-09-22 14:59:31',
    '2020-02-13 17:01:49',
    54
);
INSERT INTO Groups
(Group_ID,
 teacher_ID,
 Level_ID,
 startdate,
 finishdate,
 classroom
)
VALUES
(6,
 6,
 3,
 '2020-07-31 02:25:37',
 '2020-11-10 17:01:01',
 65
);
INSERT INTO Groups
(Group_ID,
 teacher_ID,
 Level_ID,
 startdate,
 finishdate,
 classroom
)
VALUES
(7,
 7,
 4,
 '2020-02-16 17:14:37',
 '2020-11-18 22:24:27',
 74
);
INSERT INTO Groups
(Group_ID,
 teacher_ID,
 Level_ID,
 startdate,
 finishdate,
 classroom
)
VALUES
(8,
 8,
 3,
 '2020-11-14 15:43:08',
 '2020-02-10 19:15:20',
 82
);
```

```sql
INSERT INTO Groups
(Group_ID,
 teacher_ID,
 Level_ID,
 startdate,
 finishdate,
 classroom
)
VALUES
(9,
 9,
 5,
 '2020-08-18 19:04:19',
 '2019-12-16 09:19:19',
 93
);
INSERT INTO Groups
(Group_ID,
 teacher_ID,
 Level_ID,
 startdate,
 finishdate,
 classroom
)
VALUES
(10,
 10,
 6,
 '2020-03-10 16:37:51',
 '2020-04-06 02:52:34',
 10
);

--------------------------------------- INSERT
  DISCOUNT----------------------------
INSERT INTO Discount
(discount,
 discount_name
)
VALUES
(0,
 'Public'
),
(0.5,
 'New Immigrant'
),
(0.25,
 'Premium'
);
INSERT INTO Students
(Student_ID,
 First_name,
 Last_name,
```

```sql
  BirthDate,
  NativeLanguage_I,
  [address],
  phone_number,
  Discount_type,
  email
)
VALUES
('374288219',
 'Carie',
 'Libbie',
 '2020-09-21 04:25:43',
 1,
 '04 Victoria Parkway',
 '3723841122',
 1,
 'clibbie0@bloglines.com'
);
INSERT INTO Students
(Student_ID,
 First_name,
 Last_name,
 BirthDate,
 NativeLanguage_I,
 [address],
 phone_number,
 Discount_type,
 email
)
VALUES
('676339591',
 'Townsend',
 'Rhodef',
 '2020-05-27 22:25:31',
 2,
 '75 Columbus Street',
 '9726217078',
 2,
 'trhodef1@washingtonpost.com'
);
INSERT INTO Students
(Student_ID,
 First_name,
 Last_name,
 BirthDate,
 NativeLanguage_I,
 [address],
 phone_number,
 Discount_type,
 email
)
VALUES
('491720949',
```

```sql
 'Prinz',
 'Boichat',
 '2020-03-12 02:38:19',
 3,
 '1303 Towne Alley',
 '9213473948',
 2,
 'pboichat2@accuweather.com'
);
INSERT INTO Students
(Student_ID,
 First_name,
 Last_name,
 BirthDate,
 NativeLanguage_I,
 [address],
 phone_number,
 Discount_type,
 email
)
VALUES
('353884417',
 'Moise',
 'Allflatt',
 '2020-09-27 02:46:33',
 3,
 '27281 Michigan Way',
 '5163167687',
 2,
 'mallflatt3@paypal.com'
);
INSERT INTO Students
(Student_ID,
 First_name,
 Last_name,
 BirthDate,
 NativeLanguage_I,
 [address],
 phone_number,
 Discount_type,
 email
)
VALUES
('503879254',
 'Morissa',
 'Brave',
 '2020-03-23 11:34:12',
 4,
 '1 Northridge Parkway',
 '9909904521',
 2,
 'mbrave4@ibm.com'
);
```

```sql
INSERT INTO Students
(Student_ID,
 First_name,
 Last_name,
 BirthDate,
 NativeLanguage_I,
 [address],
 phone_number,
 Discount_type,
 email
)
VALUES
('561003945',
 'Rikki',
 'Beach',
 '2020-02-29 16:17:51',
 4,
 '06196 Cherokee Plaza',
 '8878097987',
 1,
 'rbeach5@wordpress.org'
);
INSERT INTO Students
(Student_ID,
 First_name,
 Last_name,
 BirthDate,
 NativeLanguage_I,
 [address],
 phone_number,
 Discount_type,
 email
)
VALUES
('357526353',
 'Scottie',
 'Hyslop',
 '2020-02-29 00:01:42',
 6,
 '87 Jenifer Park',
 '2122635117',
 3,
 'shyslop6@51.la'
);
INSERT INTO Students
(Student_ID,
 First_name,
 Last_name,
 BirthDate,
 NativeLanguage_I,
 [address],
 phone_number,
 Discount_type,
```

```sql
  email
)
VALUES
('300964903',
 'Aimee',
 'Trigwell',
 '2020-05-27 00:23:35',
 8,
 '41 Sutteridge Junction',
 '7821227241',
 1,
 'atrigwell7@spotify.com'
);
INSERT INTO Students
(Student_ID,
 First_name,
 Last_name,
 BirthDate,
 NativeLanguage_I,
 [address],
 phone_number,
 Discount_type,
 email
)
VALUES
('510017793',
 'Pam',
 'Andrez',
 '2020-08-15 08:29:32',
 9,
 '14915 Lindbergh Center',
 '9436709192',
 2,
 'pandrez8@cdbaby.com'
);
INSERT INTO Students
(Student_ID,
 First_name,
 Last_name,
 BirthDate,
 NativeLanguage_I,
 [address],
 phone_number,
 Discount_type,
 email
)
VALUES
('357397118',
 'Connie',
 'Gainsburgh',
 '2020-04-09 23:39:59',
 10,
 '27093 Scoville Circle',
```

```sql
'9952037943',
2,
'cgainsburgh9@opensource.org'
);


-------------------------------------------- INSERT
  ORDERS--------------------------
INSERT INTO Orders
(Student_ID,
 Order_date
)
VALUES
('374288219',
 '2020-07-08 07:47:09'
);
INSERT INTO Orders
(Student_ID,
 Order_date
)
VALUES
('676339591',
 '2020-11-22 17:07:23'
);
INSERT INTO Orders
(Student_ID,
 Order_date
)
VALUES
('491720949',
 '2020-02-20 13:23:26'
);
INSERT INTO Orders
(Student_ID,
 Order_date
)
VALUES
('353884417',
 '2019-12-07 07:08:23'
);
INSERT INTO Orders
(Student_ID,
 Order_date
)
VALUES
('503879254',
 '2020-01-22 17:44:37'
);
INSERT INTO Orders
(Student_ID,
 Order_date
)
VALUES
('561003945',
```

```sql
  '2020-05-17 08:46:03'
);
INSERT INTO Orders
(Student_ID,
 Order_date
)
VALUES
('357526353',
 '2020-09-11 03:48:36'
);
INSERT INTO Orders
(Student_ID,
 Order_date
)
VALUES
('300964903',
 '2020-09-28 23:01:12'
);
INSERT INTO Orders
(Student_ID,
 Order_date
)
VALUES
('510017793',
 '2019-12-22 06:40:45'
);
INSERT INTO Orders
(Student_ID,
 Order_date
)
VALUES
('357397118',
 '2020-11-02 03:41:38'
);


------------------------------------------- INSERT                                ↩
  ORDER_DETAILS---------------------------------

INSERT INTO Order_details
(Order_ID,
 Price,
 discount_type,
 Group_ID
)
VALUES
(1,
 '7500.00',
 1,
 1
);
INSERT INTO Order_details
(Order_ID,
 Price,
```

```sql
 discount_type,
 Group_ID
)
VALUES
(2,
 '7500.00',
 2,
 1
);
INSERT INTO Order_details
(Order_ID,
 Price,
 discount_type,
 Group_ID
)
VALUES
(3,
 '7500.00',
 2,
 1
);
INSERT INTO Order_details
(Order_ID,
 Price,
 discount_type,
 Group_ID
)
VALUES
(4,
 '7500.00',
 2,
 2
);
INSERT INTO Order_details
(Order_ID,
 Price,
 discount_type,
 Group_ID
)
VALUES
(5,
 '7500.00',
 2,
 2
);
INSERT INTO Order_details
(Order_ID,
 Price,
 discount_type,
 Group_ID
)
VALUES
(6,
```

```sql
 '7500.00',
 1,
 2
);
INSERT INTO Order_details
(Order_ID,
 Price,
 discount_type,
 Group_ID
)
VALUES
(7,
 '7500.00',
 3,
 3
);
INSERT INTO Order_details
(Order_ID,
 Price,
 discount_type,
 Group_ID
)
VALUES
(8,
 '7500.00',
 1,
 3
);
INSERT INTO Order_details
(Order_ID,
 Price,
 discount_type,
 Group_ID
)
VALUES
(9,
 '7500.00',
 2,
 3
);
INSERT INTO Order_details
(Order_ID,
 Price,
 discount_type,
 Group_ID
)
VALUES
(10,
 '7500.00',
 2,
 4
);
```