

Database Management Systems - MGS 613

PROJECT DELIVERABLES

International Alumni Database

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PROJECT PITCH

International Alumni Database

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In recent developments following the US Government's "Build American, Hire American" approach, international admissions in Masters programs, especially the full-time MBA have taken a hit. Although this is one of the major reasons for the decline in applications in MBA programs, there is more to the decline of full-time MBA than meets the eye. With the rising penetration of online education across the globe, there are now a plethora of options for students to get a specialized master's degree via online programs from top universities. According to the US News, top online MBA programs such as that of Indiana University, University of North Carolina, Carnegie Mellon University, and USC Marshall have witnessed a significant rise in international student enrolment. Online MBA programs are much more convenient and affordable for students across the globe, especially with the rising tuition costs of full-time MBA programs and shrinking post-graduation job opportunities for international graduates. According to the Wall Street Journal, between 2014 and 2018, the number of accredited full-time M.B.A. programs in the U.S. shrank 9% to 1,189, with schools reporting 119 fewer two-year degrees in the most recent survey by the Association to Advance Collegiate Schools of Business. Wake Forest University and Virginia Polytechnic Institute and Virginia Tech, are among the others to recently cut their traditional M.B.A. programs. The UB School of Management is also untouched from this decline in International Student admissions. The UB School of Management reported a 50% decline in full-time international MBA enrolments from 2018-2019.

Following these events, Paul Tesluk, Dean of UB School of Management has come up with an agenda to attract international admissions in the full-time MBA program. Dean Tesluk is a part of the committee of Deans across B-Schools in the US formed by the Graduate Management Admission Council (GMAC), the governing body for GMAT. The committee plans on approaching the Federal Government to work out a solution to the problem. To support these efforts, the UB School of Management is looking out for support from students.

What we suggest as a part of the solution for the UB School of Management is to create a platform for international alumni to stay connected. There's a lot of untapped potential in this regard such that we have a huge alumni base which is heavily scattered. Students who usually end up searching for alumni on platforms such as LinkedIn could benefit out of this as all the information they want would be available to them at a common platform. Most of these alumni would be working on work visas in companies that sponsor internationals. If we have such a database, we can not only track companies but can also bridge the gap between current students and alumni. This is even beneficial to the UB SOM as they can keep a track of their international MBA graduates and open up new opportunities with companies they are working for.

BUSINESS RULES

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The UB School of Management has come up with an agenda to attract international admissions in the full-time MBA program. A part of the solution for the UB School of Management is to create a platform for international alumni to stay connected. The alumni base of UB School of Management is huge but scattered. Current students need to connect with alumni and for that they spend number of hours on platforms such as LinkedIn. Providing them with a common platform for information sharing can not only help students, but also alumni and the school. If we have such a database, we can not only track companies but can also bridge the gap between current students and alumni.

Goal

Our goal is to deliver a database with a user interface where current students can search for their school alumni and get instant access to details like the alumni's current role and contact details. The alumni employment information can also be used by the school to connect with prospective employers that are willing to hire international graduate students. The system will provide students with easy access to the information they spend hours searching on networking platforms. The system will also facilitate the school administration to expand their network and connect with potential recruiters.

Users

Three types of users should be able to use the system: Students, Alumni, and School Administration (Administrator). Students are the users who would sign in the platform to search for alumni with similar interests or career paths. Students can also search for organizations and find alumni who are currently or have been previously employed with the particular organization. Alumni are the users that will login to the system to add or modify their personal, contact, or employment information. Alumni can also search for fellow alumni in other organizations they are interested in working with. The Administrator or School Administration is the super user and has the ultimate control of the system. Administrator can add, change, or delete information about students and alumni.

1. STUDENT

- 1.1. The user must be able to login/logout from a student account
- 1.2. The user must be able to edit contact information
- 1.3. The user must be able to search for alumni names
- 1.4. The user must be able to search for organization names
- 1.5. The user must be able to access alumni first name, middle name, last name, contact details, employment details, and employment history
- 1.6. The user must be able to search for alumni names using based on the location/area
- 1.7. The user must be able to search for organization names based on the location/area
- 1.8. The user must be able to search for organization names using by industry
- 1.9. The user must be able to clear a current search and start a new one
- 1.10. Only users with exclusive rights (Students) can use the "Student" features
- 1.11. A student can only be a current student or alumni but nothing else
- 1.12. A student can either be a current student or alumni but not both at a given point in time
- 1.13. A current student can either be domestic or international but not both at any given point
- 1.14. A current student can either be domestic or international and nothing other than the two
- 1.15. A current domestic student can either be in-state or out-state but not both at the same time
- 1.16. A current domestic student can either be in-state or out-state but nothing other than that

2. ALUMNI

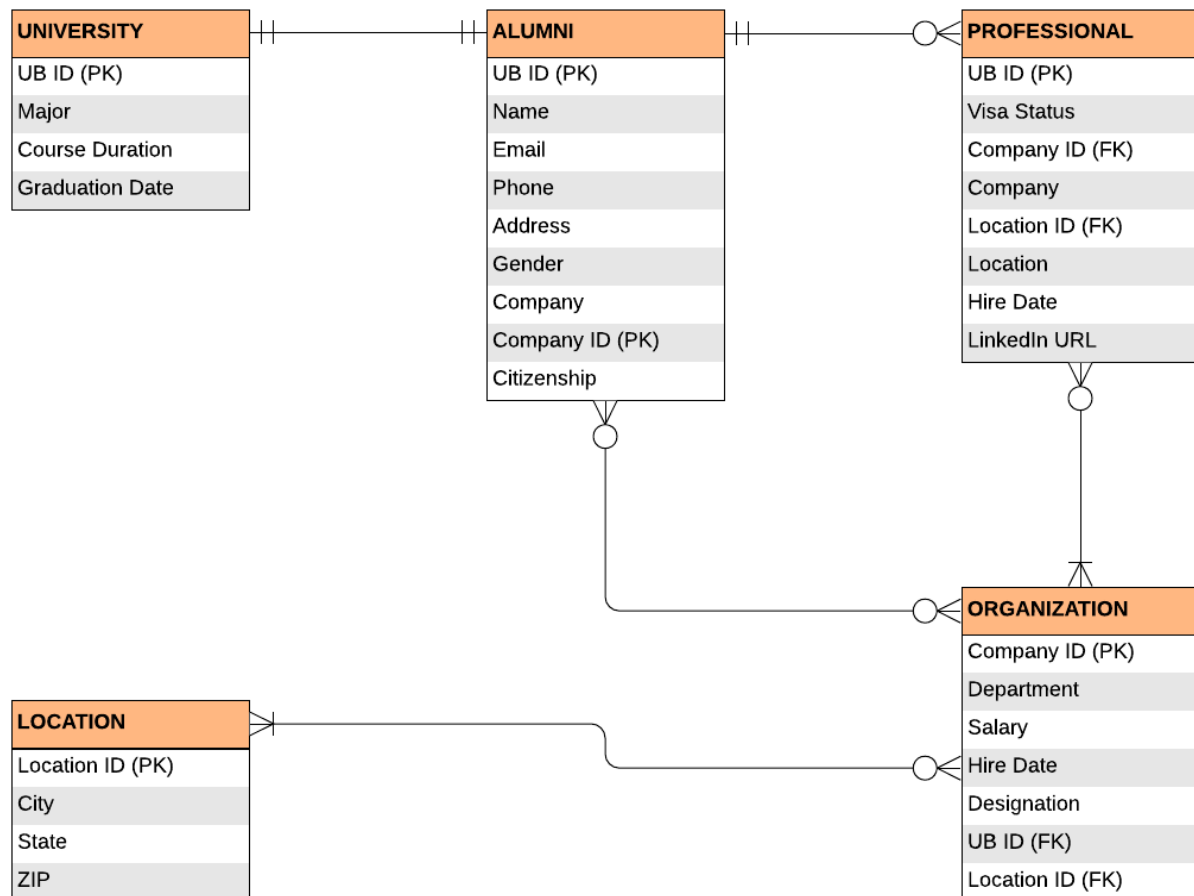
- 2.1. The alum must be able to login/logout from an alumni account
- 2.2. The alum must be able to add/remove/edit personal and contact details
- 2.3. The alum must be able to add/remove/edit employment details
- 2.4. The alum must be able to add their LinkedIn URL
- 2.5. The alum must be able to search for other alumni based on organizations
- 2.6. The alum must be able to search for organizations based on alumni
- 2.7. The alum must be able to clear a current search and start a new one
- 2.8. Only users with exclusive rights (Alumni) will be able to use all "Alumni" features
- 2.9. An alum cannot exist if there is no same instance of the exact same user in the student database
- 2.10. An alum can either be domestic or international but not both at any given point
- 2.11. An alum can either be domestic or international and nothing other than the two
- 2.12. Personal and contact details for alum cannot be null
- 2.13. If an alum is not employed, they may keep the employment information as null
- 2.14. An alum can add multiple employers or none based on current and previous employment

3. SCHOOL ADMINISTRATION (ADMIN)

- 3.1. The administrator must be able to login/logout from the admin account
- 3.2. The administrator must be able to add/remove/modify any student details
- 3.3. The administrator must be able to add/remove/modify any alumni details
- 3.4. The administrator must be able to view employer details through alumni
- 3.5. The administrator must be able to view all the activity on the portal
- 3.6. The administrator must be able to change the status of a user from student to alumni
- 3.7. Only users with exclusive administrator rights must be able to use all these "Admin" features

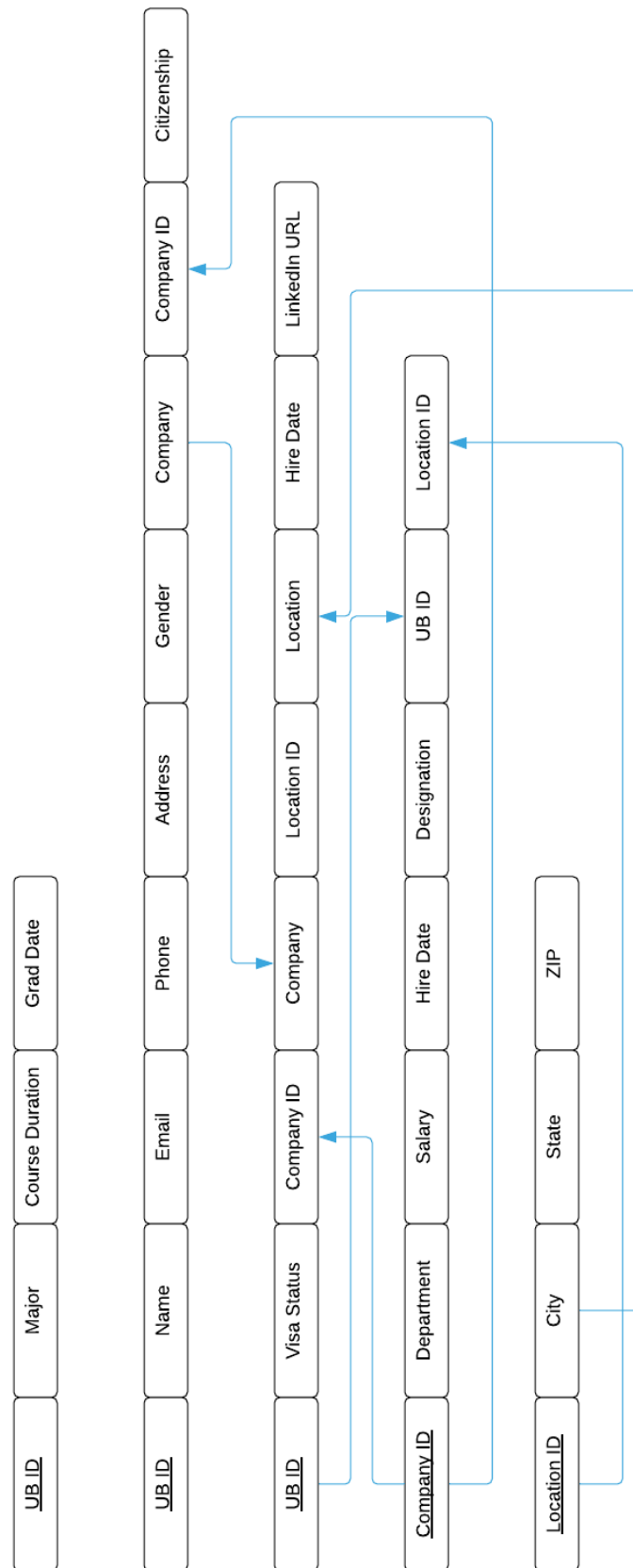
ER DIAGRAM and ATTRIBUTE RELATIONSHIP MODEL

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- The scope of the database is to provide information about UB Alumni, their current job profiles and their educational background.
- Database consists of 6 tables which includes Alumni details, Professional details, University, Organization, Education history and Location.
- Database is made exclusively for University of Buffalo graduates and undergraduates.
- UB ID of an individual will serve as Primary key for Alumni details, University, Professional details and Education history.
- UB ID will be foreign key for Organization table.

- Organization ID will be primary key for Organization table and Foreign key for Professional details.
- Location ID will serve as Primary key for Location table and Foreign key for professional details table.
- All the primary keys along with Name, Email (Alumni table) and LinkedIn URL (Professional table) of an individual cannot be null.
- One UB ID (or respective person) can have multiple Company Id's since a person could have worked in one or more than one organization before. A person can have no company ID if he/she has no prior work experience.
- One company ID will belong to one and exactly one UB alumni.
- One UB ID will have exactly one LinkedIn ID and one LinkedIn ID will belong to exactly one person.
- One UB ID can have one or more location ID, a location ID may also have one or more UB ID's.
- A person can have one or multiple degrees.
- One person can have worked in one or more departments or may not have worked in any department at all.
- A department will have at least one or many peoples working in it.
- It is important for a person to have a UB ID before having Department ID (Alumni of UB).
- Student should specify the most recent education level.
- Every student should have a valid major specified in university table.
- An individual cannot have designation or salary entries without having a department or organization ID.



3rd NORMAL FORM with ENTITY RELATIONSHIPS

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UNIVERSITY

<u>UB ID</u>	Major	Graduation Date	Course Duration
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ALUMNI

<u>UB ID</u>	Name	Email	Phone	Address	Gender	Company	Citizenship
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PROFESSIONAL

<u>UB ID</u>	Visa Status	Hire Date	LinkedIn URL
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ORGANIZATION

<u>Company ID</u>	Department	Salary	Hire Date	Designation
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LOCATION

<u>Location ID</u>	City	State	ZIP
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CREATE and INSERT Statements

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Creating ALUMNI

```
CREATE TABLE Alumni
(UB_ID int NOT NULL PRIMARY KEY,
Name char(50) NOT NULL,
Email char(100) NOT NULL,
Phone varchar(12) NOT NULL,
Address varchar(100) NOT NULL,
Gender char(7) NOT NULL,
Company varchar(100) NOT NULL,
Citizenship varchar(50) NOT NULL);
```

Desc Alumni;

Creating PROFESSIONAL

```
CREATE TABLE Professional
( UB_ID INT,
Visa_Status varchar(50) NOT NULL,
Company varchar(100) NOT NULL,
Hire_Date date NOT NULL,
Linkedin_Profile_URL varchar(50) NOT NULL,
FOREIGN KEY (UB_ID) REFERENCES ALUMNI(UB_ID));
```

Creating UNIVERSITY

```
CREATE TABLE University
(UB_ID INT,
Major varchar(25) NOT NULL,
```

Graduation_Date date NOT NULL,
Course_Duration int NOT NULL,
FOREIGN KEY (UB_ID) REFERENCES Alumni(UB_ID));

Creating ORGANIZATION

```
CREATE TABLE Organization
(Company_id varchar(25) NOT NULL,
Salary int NOT NULL,
Department varchar(50) NOT NULL,
Hire_Date date NOT NULL,
Designation varchar(50) NOT NULL);
```

Creating LOCATION

```
CREATE TABLE Location_New
(Location_ID int NOT NULL PRIMARY KEY,
City char(50) NOT NULL,
State char(50) NOT NULL,
Zip char(50) NOT NULL);
```

Inserting entries in ALUMNI

Insert into Alumni (UB_ID, Name, Email, Phone, Address, Gender, Company, Marital_Status, citizenship) values (50308641, 'Jarrod Branigan', 'jbranigan0@buffalo.edu', '281-236-8662', '61 Farmco Trail', 'Male', 'Devshare', 'Single', 'American');

Insert into Alumni (UB_ID, Name, Email, Phone, Address, Gender, Company, Marital_Status, citizenship) values (50308642, 'Hetty Tiler', 'htiler1@buffalo.edu', '734-471-0429', '7 Nelson Drive', 'Female', 'Abata', 'Single', 'American');

Insert into Alumni (UB_ID, Name, Email, Phone, Address, Gender, Company, Marital_Status, citizenship) values (50308643, 'Caron Scopyn', 'cscopyn2@buffalo.edu', '390-331-0955', '39 Lillian Terrace', 'Female', 'Geba', 'Married', 'Chinese');

Insert into Alumni (UB_ID, Name, Email, Phone, Address, Gender, Company, Marital_Status, citizenship) values (50308644, 'Maure Toal', 'mtoal6@buffalo.edu', '548-162-1044', '44 Service Point', 'Female', 'Realfire', 'Married', 'Canadian');

Insert into Alumni (UB_ID, Name, Email, Phone, Address, Gender, Company, Marital_Status, citizenship) values (50308645, 'Brennen McLeman', 'bmcleman5@buffao.edu', '947-427-8127', '032 Moland Place', 'Male', 'Google', 'Single', 'Iranians');

Insert into Alumni (UB_ID, Name, Email, Phone, Address, Gender, Company, Marital_Status, citizenship) values (50308646, 'Nadean Slad', 'nslad7@buffalo.edu', '708-104-6632', '1463 Arkansas Circle', 'Female', 'Buzzster', 'Single', 'American');

Insert into Alumni (UB_ID, Name, Email, Phone, Address, Gender, Company, Marital_Status, citizenship) values (50308647, 'Bartlet Sandry', 'bsandryj@buffalo.edu', '566-332-8117', '05 Bobwhite Alley', 'Male', 'Google', 'Married', 'Canadian');

Insert into Alumni (UB_ID, Name, Email, Phone, Address, Gender, Company, Marital_Status, citizenship) values (50308648, 'Nerta Dadds', 'ndaddsi@buffalo.edu', '444-394-1183', '50 Carpenter Alley', 'Female', 'Cognizant', 'Single', 'American');

Insert into Alumni (UB_ID, Name, Email, Phone, Address, Gender, Company, Marital_Status, citizenship) values (50308649, 'Neha Rai', 'Rneha@buffalo.edu', '716-440-4356', '45 Merrimac', 'Female', 'Axtria', 'Married', 'Indian');

Insert into Alumni (UB_ID, Name, Email, Phone, Address, Gender, Company, Marital_Status, citizenship) values (50308650, 'Abdel Onele', 'aonelef@buffalo.edu', '310-287-0195', '40712 Mayer Circle', 'Male', 'Blogtags', 'Single', 'American');

Inserting entries in PROFESSIONAL

Insert into Professional (UB_ID, Visa_Status, Company, Hire_date, LinkedIn_profile_URL) values (50308641, 'Immigrant', 'Devshare', '24/aug/2019', 'https://www.linkedin.com/in/jarrodd/');

Insert into Professional (UB_ID, Visa_Status, Company, Hire_date, LinkedIn_profile_URL) values (50308642, 'Immigrant', 'Abata', '23/oct/2019', 'https://www.linkedin.com/in/hetty/');

Insert into Professional (UB_ID, Visa_Status, Company, Hire_date, LinkedIn_profile_URL) values (50308643, 'Applied', 'GEBA', '23/apr/2019', 'https://www.linkedin.com/in/Caron/');

Insert into Professional (UB_ID, Visa_Status, Company, Hire_date, LinkedIn_profile_URL) values (50308644, 'Approved', 'Realfire', '3/dec/2018', 'https://www.linkedin.com/in/Maure/');

Insert into Professional (UB_ID, Visa_Status, Company, Hire_date, LinkedIn_profile_URL) values (50308645, 'Applied', 'Google', '13/jul/2019', 'https://www.linkedin.com/in/Brennen/');

Insert into Professional (UB_ID, Visa_Status, Company, Hire_date, LinkedIn_profile_URL) values (50308646, 'Immigrant', 'Buzzster', '6/dec/2016', 'https://www.linkedin.com/in/Nadean/');

Insert into Professional (UB_ID, Visa_Status, Company, Hire_date, LinkedIn_profile_URL) values (50308647, 'Approved', 'Google', '29/nov/2018', 'https://www.linkedin.com/in/bartlet/');

Insert into Professional (UB_ID, Visa_Status, Company, Hire_date, LinkedIn_profile_URL) values (50308648, 'Immigrant', 'Cognizant', '17/sep/2019', 'https://www.linkedin.com/in/Nerta/');

Insert into Professional (UB_ID, Visa_Status, Company, Hire_date, LinkedIn_profile_URL) values (50308649, 'Approved', 'Axtria', '12/feb/2017', 'https://www.linkedin.com/in/Neha/');

Insert into Professional (UB_ID, Visa_Status, Company, Hire_date, LinkedIn_profile_URL) values (50308650, 'Immigrant', 'Blogtags', '28/jul/2019', 'https://www.linkedin.com/in/Abdel/');

Inserting entries in UNIVERSITY

Insert into university (UB_ID, Major, Graduation_Date, Course_duration) values (50308641, 'Data Analytics', '6/feb/2019', '1');

Insert into university (UB_ID, Major, Graduation_Date, Course_duration) values (50308642, 'Finance', '9/feb/2019', '2');

Insert into university (UB_ID, Major, Graduation_Date, Course_duration) values (50308643, 'Marketing', '10/dec/2018', '2');

Insert into university (UB_ID, Major, Graduation_Date, Course_duration) values (50308644, 'Information systems', '9/jan/2018', '1');

Insert into university (UB_ID, Major, Graduation_Date, Course_duration) values (50308645, 'Finance', '6/sep/2019', '2');

Insert into university (UB_ID, Major, Graduation_Date, Course_duration) values (50308646, 'Data Analytics', '9/feb/2016', '2');

Insert into university (UB_ID, Major, Graduation_Date, Course_duration) values (50308647, 'MIS', '9/feb/2018', '1');

Insert into university (UB_ID, Major, Graduation_Date, Course_duration) values (50308648, 'Finance', '6/feb/2019', '2');

Insert into university (UB_ID, Major, Graduation_Date, Course_duration) values (50308649, 'Data Analytics', '12/feb/2016', '2');

Insert into university (UB_ID, Major, Graduation_Date, Course_duration) values (50308650, 'Product Management', '6/feb/2019', '1');

Inserting entries in ORGANIZATION

Insert into organization (Company_id, Salary, Department, Hire_Date, Designation) values ('100', '70000', 'Business Development', '24/aug/2019', 'Data Analyst');

Insert into organization (Company_id, Salary, Department, Hire_Date, Designation) values ('200', '85000', 'Finance', '23/oct/2019', 'CPA');

Insert into organization (Company_id, Salary, Department, Hire_Date, Designation) values ('300', '90000', 'Research and Development', '23/apr/2019', 'Associate');

Insert into organization (Company_id, Salary, Department, Hire_Date, Designation) values ('400','75000', 'Audit','3/dec/2018', 'Internal Auditor');

Insert into organization (Company_id, Salary, Department, Hire_Date, Designation) values ('500','90000', 'Finance', '13/jul/2019', 'CFP');

Insert into organization (Company_id, Salary, Department, Hire_Date, Designation) values ('600','100,000','Retail', '6/Dec/2016', 'Full-Stack developer');

Insert into organization (Company_id, Salary, Department, Hire_Date, Designation) values ('700','80000', 'Product management', '29/nov/2018', 'Associate');

Insert into organization (Company_id, Salary, Department, Hire_Date, Designation) values ('800','90000', 'Marketing', '17/sep/2019', 'Analyst');

Insert into organization (Company_id, Salary, Department, Hire_Date, Designation) values ('900','100000', 'Finance','12/feb/2017', 'Developer');

Insert into organization (Company_id, Salary, Department, Hire_Date, Designation) values ('110','90000', 'Business Development', '28/jul/2019', 'Sr. Consultant');

Inserting entries in LOCATION

Insert into location_new (Location_id, City, State, ZIP) values (27,'Boston', 'MA', '13215');

Insert into location_new (Location_id, City, State, ZIP) values (1,'Buffalo', 'NY', '14214');

Insert into location_new (Location_id, City, State, ZIP) values (3,'Williamsville', 'NY', '14221');

Insert into location_new (Location_id, City, State, ZIP) values (1,'Buffalo', 'NY', '14214');

Insert into location_new (Location_id, City, State, ZIP) values (127,'Seattle', 'WA', '51242');

Insert into location_new (Location_id, City, State, ZIP) values (234,'Sunnyvale', 'CA', '42012');

Insert into location_new (Location_id, City, State, ZIP) values (316,'Bellevue', 'WA', '21456');

Insert into location_new (Location_id, City, State, ZIP) values (77,'Chicago', 'IL', '12347');

Insert into location_new (Location_id, City, State, ZIP) values (85,'Atlanta', 'GA', '48048');

Insert into location_new (Location_id, City, State, ZIP) values (12,'Manhattan', 'NY', '12141');

Insert into location_new (Location_id, City, State, ZIP) values (31,'Philadelphia', 'PA', '16623');

commit;