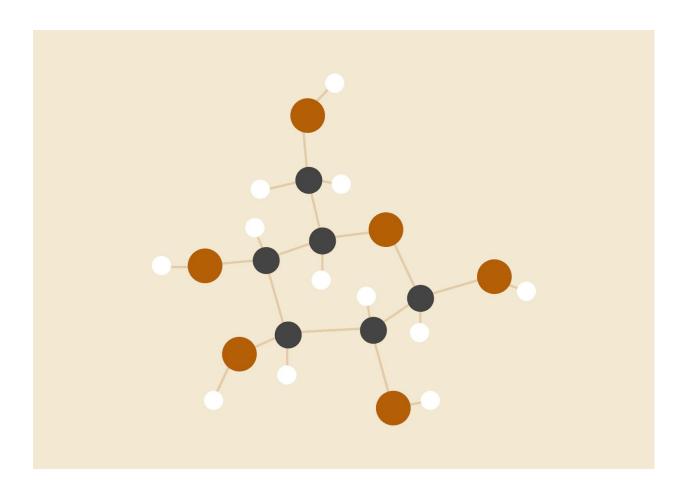# DNA PROJECT REPORT

Phase 4

TRIAMIGOS

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TO RUN THE SCRIPT:

        1.run the sql file in mysql.

        2.run the python file .

        3.when prompted enter your sql username and password.

FUNCTIONAL REQUIREMENTS

INSERT

The insert function is executed by option 1, option 2(partly), and option 3.

In option 1(main screen), the python command line asks for customer details and family details. The following shows the screen option 1 displays to the viewer. The details entered are then inserted into the customer table and family table in the database

```
anandhini@DESKTOP-MB46FF2:/mnt/c/Users/anand/OneDrive/Desktop$ python3 test_python.py
Username:
Password:
Connected
1. Option 1:new customer input
2. Option 2:package update/delete/insert
3. Option 3:add new employee
4. Option 4:selection
5. Option 5:projection
6. Option 6:aggregate
7. Option 7:search
8. Option 8:analysis
9. Press ctrl+c to exit
Enter choice> 1
ENTER THE FOLLOWING DETAILS:
Enter 12 digit aadhar number without spaces: 123456789876
Birth Date (YYYY-MM-DD): 2001-09-12
home city: chennai
email id: diya12@gmail.com
contact number: 9033657451
gender: female
pincode: 600031
Name (Fname Minit Lname): diya C raj
username: diya1234
password: diya2001raj
ENTER THE FAMILY DETAILS:
number of old people: 4
total number of family members: 8
number of females: 4
number of children: 2
do you want to order package? if yes enter 1 else 0:_
```

On selecting option 2(main screen), the command line gives further choice to

enter the details of either travel guide or employee details.

```
1. Option 1:new customer input
2. Option 2:package update/delete/insert
3. Option 3:add new employee
4. Option 4:selection
5. Option 5:projection
6. Option 6:aggregate
7. Option 7:search
8. Option 8:analysis
9. Press ctrl+c to exit
Enter choice> 3
 type of employee :
 press 1 for normal employee
 press 2 for travel guide
```

On choosing option 1(subscreen), the new employee details are to be entered for the information asked and is then inserted into the database.

```
1. Option 1:new customer input
2. Option 2:package update/delete/insert
3. Option 3:add new employee
4. Option 4:selection
5. Option 5:projection
6. Option 6:aggregate
7. Option 7:search
8. Option 8:analysis
9. Press ctrl+c to exit
Enter choice> 3
 type of employee :
 press 1 for normal employee
 press 2 for travel guide
enter : 1
Enter new employee details:
aadhar number: 192837465123
salary: 540000000
name: Rajesh
designation: manager
gender: male
email_id: rajesh_purna123@gmail.com
contact number: 9567253647
username: rajeshpp123
password: raj732yu3
date of birth(YYYY-MM-DD): 1985-03-15
```

Option 2(subscreen) directs the viewer into travel guide details and the information inputted is inserted into the travel guide table in the database.

```
1. Option 1:new customer input
2. Option 2:package update/delete/insert
3. Option 3:add new employee
4. Option 4:selection
5. Option 5:projection
6. Option 6:aggregate
7. Option 7:search
8. Option 8:analysis
9. Press ctrl+c to exit
Enter choice> 3
 type of employee :
 press 1 for normal employee
 press 2 for travel guide
enter : 2
Enter travel guide details:
aadhaar number: 777888567123
contact number: 9875678430
chose citycode from below options
{'city_code': 'CHE', 'state': 'Tamil Nadu', 'city_name': 'Chennai'}
{'city_code': 'HYD', 'state': 'Telangana', 'city_name': 'Hyderabad'}
{'city_code': 'VIJ', 'state': 'Andhra Pradesh', 'city_name': 'Vijayawada'}
citycode :VIJ
door_no: 7
streetno: 091
locality: raji bhavan
service_cost: 3498
username: ravi345
password: ravi_banu43
number of languages known: 2
enter the languuage: english
enter the languuage: telugu
```

Choosing any other option shows an error. If any of the details entered do not match the required datatype or satisfy the necessary constraints, an error is displayed.

Choosing option 2 on the main screen takes u to package. And the option 1 in the package refers to inserting new package details in the customer travel history. The details thus entered are added into the package table and related tables in the database. Any errors on the side of the viewer in entering the details are displayed with a small description of the error.

```
1. Option 1:new customer input
2. Option 2:package update/delete/insert
3. Option 3:add new employee
4. Option 4:selection
5. Option 5:projection
6. Option 6:aggregate
7. Option 7:search
8. Option 8:analysis
9. Press ctrl+c to exit
Enter choice> 2
please provide your aadhar number:123456789876
1.add package
2.update package
3.delete package
plese provide option:1
the available options are:
you shouldn't book same type of package(same city and no of days) if you have aldready booked
{'city_name': 'Chennai'}
TYPE 1 : 1 day cost: 1000 Rs
TYPE 3 : 3 day cost: 2500 Rs
TYPE 5 : 5 day cost: 4500 Rs
{'city_name': 'Hyderabad'}
TYPE 1 : 1 day cost: 1000 Rs
TYPE 3 : 3 day cost: 2500 Rs
TYPE 5 : 5 day cost: 4500 Rs
{'city_name': 'Vijayawada'}
TYPE 1 : 1 day cost: 1000 Rs
TYPE 3 : 3 day cost: 2500 Rs
TYPE 5 : 5 day cost: 4500 Rs
please enter city first letter in capsV
please give the type number3
enter start date2020-11-01
end date?2020-11-04
```

UPDATE

On selecting option 2 in the main screen, and choosing option 2 in the sub-screen, the viewer gets to update the package details. Hereupon entering the type of package there is a chance to update the type to any other preferred type. It is to be noted that the start date cannot be changed and to change the date of travel, the customer needs to delete his or her package and insert it again.

```
1. Option 1:new customer input
2. Option 2:package update/delete/insert
3. Option 3:add new employee
4. Option 4:selection
5. Option 5:projection
6. Option 6:aggregate
7. Option 7:search
8. Option 8:analysis
9. Press ctrl+c to exit
Enter choice> 2
please provide your aadhar number:123456789876
1.add package
2.update package
3.delete package
plese provide option:2
please enter the package type(no of days and first name of city without spaces) you want to update?3V
{'city_name': 'Chennai'}
TYPE 1 : 1 day cost: 1000 Rs
TYPE 3 : 3 day cost: 2500 Rs
TYPE 5 : 5 day cost: 4500 Rs
{'city_name': 'Hyderabad'}
TYPE 1 : 1 day cost: 1000 Rs
TYPE 3 : 3 day cost: 2500 Rs
TYPE 5 : 5 day cost: 4500 Rs
{'city_name': 'Vijayawada'}
TYPE 1 : 1 day cost: 1000 Rs
TYPE 3 : 3 day cost: 2500 Rs
TYPE 5 : 5 day cost: 4500 Rs
please enter city first letter in capsH
please give the type number5
```

DELETE

In option 2 (main screen) and further option 3 in subscreen, selecting the package type and customer id to be deleted, the package details of the customer would be deleted from the database. If the entered information doesn't exist in the database, or any other errors occur, the screen shows an explicit error message.

```
1. Option 1:new customer input
2. Option 2:package update/delete/insert
3. Option 3:add new employee
4. Option 4:selection
5. Option 5:projection
6. Option 6:aggregate
7. Option 7:search
8. Option 8:analysis
9. Press ctrl+c to exit
Enter choice> 2
please provide your aadhar number:123456789876
1.add package
2.update package
3.delete package
plese provide option:3
please enter the package type(no of days and first name of city without spaces) you want to delete?5H
```

```
mysql> SELECT * FROM PACKAGE;
+----------------+--------------+------+------+------------+--------------------+
| transaction_id | cust_id      | type | cost | start_date | transaction_status |
+----------------+--------------+------+------+------------+--------------------+
|              1 | 506848581234 | 3H   | 2500 | 2020-05-08 | enrolled           |
|              2 | 573939361234 | 3V   | 2500 | 2020-09-09 | enrolled           |
|              3 | 573939361234 | 3C   | 2500 | 2020-08-10 | enrolled           |
|              4 | 506848581234 | 5H   | 4500 | 2020-06-08 | cancelled          |
|              8 | 123456789123 | 1V   | 1000 | 2020-11-02 | enrolled           |
|              9 | 123456789123 | 5V   | 4500 | 2020-01-12 | enrolled           |
|             10 | 123456789123 | 5C   | 4500 | 2001-03-12 | enrolled           |
|             16 | 123456789123 | 5C   | 4500 | 2120-03-05 | enrolled           |
|             17 | 123456789123 | 3C   | 2500 | 2200-05-04 | enrolled           |
|             19 | 123456789876 | 5H   | 4500 | 2020-11-01 | enrolled           |
+----------------+--------------+------+------+------------+--------------------+
10 rows in set (0.02 sec)

mysql> SELECT * FROM PACKAGE;
+----------------+--------------+------+------+------------+--------------------+
| transaction_id | cust_id      | type | cost | start_date | transaction_status |
+----------------+--------------+------+------+------------+--------------------+
|              1 | 506848581234 | 3H   | 2500 | 2020-05-08 | enrolled           |
|              2 | 573939361234 | 3V   | 2500 | 2020-09-09 | enrolled           |
|              3 | 573939361234 | 3C   | 2500 | 2020-08-10 | enrolled           |
|              4 | 506848581234 | 5H   | 4500 | 2020-06-08 | cancelled          |
|              8 | 123456789123 | 1V   | 1000 | 2020-11-02 | enrolled           |
|              9 | 123456789123 | 5V   | 4500 | 2020-01-12 | enrolled           |
|             10 | 123456789123 | 5C   | 4500 | 2001-03-12 | enrolled           |
|             16 | 123456789123 | 5C   | 4500 | 2120-03-05 | enrolled           |
|             17 | 123456789123 | 3C   | 2500 | 2200-05-04 | enrolled           |
+----------------+--------------+------+------+------------+--------------------+
9 rows in set (0.00 sec)
```

SELECTION

The selection query obtained by option 4 on the main screen can give all customers in the city Hyderabad. choosing this option gives information on customer id, name, and package details in Hyderabad.

```
1. Option 1:new customer input
2. Option 2:package update/delete/insert
3. Option 3:add new employee
4. Option 4:selection
5. Option 5:projection
6. Option 6:aggregate
7. Option 7:search
8. Option 8:analysis
9. Press ctrl+c to exit
Enter choice> 4
Displays all customers travelled in Hyderabad
{'cust_id': 506848581234, 'fname': 'fakaruddin', 'mname': 'rao', 'lname': 'gaur'}
1. Option 1:new customer input
2. Option 2:package update/delete/insert
3. Option 3:add new employee
4. Option 4:selection
5. Option 5:projection
6. Option 6:aggregate
7. Option 7:search
8. Option 8:analysis
9. Press ctrl+c to exit
Enter choice>
```

PROJECTION

The projection query upon selecting option 5 on the main screen gives travel packages with type >=3 is done using this option. Here the screen gives the output of this special projecting query.

```
1. Option 1:new customer input
2. Option 2:package update/delete/insert
3. Option 3:add new employee
4. Option 4:selection
5. Option 5:projection
6. Option 6:aggregate
7. Option 7:search
8. Option 8:analysis
9. Press ctrl+c to exit
Enter choice> 5
selects all travel packages with type >=3 days
{'type': '3H', 'cost': 2500.0, 'transaction_id': 1, 'cust_id': 506848581234, 'start_date': '2020-05-08', 'transaction_status': 'enrolled'}
{'type': '3C', 'cost': 2500.0, 'transaction_id': 3, 'cust_id': 573939361234, 'start_date': '2020-08-10', 'transaction_status': 'enrolled'}
{'type': '5H', 'cost': 4500.0, 'transaction_id': 4, 'cust_id': 506848581234, 'start_date': '2020-06-08', 'transaction_status': 'cancelled'}
```

AGGREGATE

Option 6 on the main screen gives an aggregate function and this function gives four special outputs.

1. The average cost to visit each city is given by the first part of the function.

2. The sum function gives the number of customers who have traveled alone i.e, no. of family members is 1 and is given by the second part of the function.

3. The min function gives the minimum package cost for a customer on a one day trip to Hyderabad and is the third part of this function

4. The max function gives the city and package costs which are maximum compared to others and this is the fourth part of the function.

```
1) AVG : avg cost to visit and view each city (excluding package)

{'avg(avgcost_person)': 240.0, 'city_code': 'HYD', 'city_name': 'Hyderabad', 'state': 'Telangana'}
{'avg(avgcost_person)': 225.0, 'city_code': 'VIJ', 'city_name': 'Vijayawada', 'state': 'Andhra Pradesh'}
{'avg(avgcost_person)': 270.0, 'city_code': 'CHE', 'city_name': 'Chennai', 'state': 'Tamil Nadu'}


 2) SUM : No. of customers who travelled alone

{'NO_OF_CUSTOMERS_TRAVELLED_ALONE': 0}


3)MIN: minimum package cost for a customer on a oneday trip to hyderabad.

{'min_cost': 1000.0}


 4)MAX:which city and package costs the maximum

{'max_cost': 4500.0, 'type': '1C'}
```

SEARCH

When we select option 7 on the main screen, a search query is initiated, where the viewer is supposed to enter the first few letters of the city. This search gives a result that consists of the cities with the given first letters and the restaurants & places of visit in that city.

```
1. Option 1:new customer input
2. Option 2:package update/delete/insert
3. Option 3:add new employee
4. Option 4:selection
5. Option 5:projection
6. Option 6:aggregate
7. Option 7:search
8. Option 8:analysis
9. Press ctrl+c to exit
Enter choice> 7
enter first few characters of city to search : vijaya
RESTAURANTS :
---------------------------------------------------------------------
|restaurant_name | avgrate_person | restaurant_type | rating | streetaddress |
---------------------------------------------------------------------
| barbeque nation | 400.0 | AC | 4 | NRP road |
| bamboo and biryani | 200.0 | non-AC | 3 | prakasam rd |
---------------------------------------------------------------------


PLACES TO VISIT :
-----------------------------------------------------------------
| streetname | locality | pause_time | rating | avgcost_person |
-----------------------------------------------------------------
| charminar road | ghanzi bazar | 25 | 4 | 230.0 |
| salar jung road | darul shifa | 25 | 3 | 250.0 |
-----------------------------------------------------------------
```

ANALYSIS

By choosing option 8, we get the analysis functions. Here we have given the functions for three specific queries. The functions are the number of buses that ran in Hyderabad in 202, cities with at least 3 places of visit, and popularity rating more than 4 and most visited city .

```
1. Option 1:new customer input
2. Option 2:package update/delete/insert
3. Option 3:add new employee
4. Option 4:selection
5. Option 5:projection
6. Option 6:aggregate
7. Option 7:search
8. Option 8:analysis
9. Press ctrl+c to exit
Enter choice> 8
1)Number of buses that ran in hyderbad in year 2020

no.of buses are :  2



2)cities which have at least 3 places_to _visit with a popularity rating >4

Vijaywada



3) cities which are most visited

Hyderabad
```

CONCLUSION

This concluded our project on database creation on a particular topic: Tourism. Thanks to Kamal sir and all the TA's for helping us on this wonderful journey.