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	  ○ Insert two records in it
	  ○ Display the contents of the table		

	Perform all the operations with reference to table 'students' through MySQL-Python connectivity.		

DATA STRUCTURE

1. Write a Python program to implement a stack using a list data-structure.

Code:

```
#PROGRAM FOR STACK OPERATION
#stack implementation
s=[]
while True:
print("1. Push");
print("2. Pop");
print("3. Traversal")
print("4. Exit")
ch=int(input("Enter your choice "))
if(ch==1):
    a=input("Enter any element ")
    s.append(a)
elif(ch==2):
    if(s==[]):
        print("Underflow /  stack is empty")
    else:
        print("poped element is ",s.pop())
elif(ch==3):
    n=len(s)
    for i in range(n-1,-1,-1):
        print(s[i])
elif(ch==4):
    print("End")
    break
else:
    print("Invalid choice")
```

Output:

1. Push

2. Pop

3. Traversal

4. Exit

Enter your choice 1

Enter any element 10

1. Push

2. Pop

3. Traversal

4. Exit

Enter your choice 3

10

1. Push
2. Pop
3. Traversal
4. Exit

Enter your choice 1

Enter any element hello

1. Push

2. Pop

3. Traversal

4. Exit

Enter your choice 3
hello
10
1. Push
2. Pop
3. Traversal
4. Exit

2. **Write a program to implement a stack for the employee details (empno, name).Code:**

```
#stack implementation using functions
#program to create a stack of employee(empno,name,sal).


employee=[]
def push():
    empno=input("Enter empno  ")
    name=input("Enter name ")
    sal=input("Enter sal ")
    emp=(empno,name,sal)
    employee.append(emp)
def pop():
    if(employee==[]):
        print("Underflow / Employee Stack in empty")
    else:
        empno,name,sal=employee.pop()
        print("poped element is ")
        print("empno ",empno," name ",name," salary ",sal)
def traverse():
    if not (employee==[]):
        n=len(employee)
        for i in range(n-1,-1,-1):
            print(employee[i])
    else:
        print("Empty , No employee to display")
while True:
        print("1. Push")
```

```
print("2. Pop")
    print("3. Traversal")
    print("4. Exit")
    ch=int(input("Enter your choice "))
    if(ch==1):
        push()
    elif(ch==2):
        pop()
    elif(ch==3):
        traverse()
    elif(ch==4):
        print("End")
        break
    else:
        print("Invalid choice")
```

OUTPUT:

```
========== RESTART: D:/python/Grade 12/employee pra2.py ==========
1. Push
2. Pop
3. Traversal
4. Exit
Enter your choice 1
Enter empno  12
Enter name jayna
Enter sal 30000
1. Push
2. Pop
3. Traversal
4. Exit
Enter your choice 3
('12', 'jayna', '30000')
1. Push
2. Pop
3. Traversal
4. Exit
```

3. Write a python program to check whether a string is a palindrome or not using stack.

Code:

```
class Stack:
    def __init__(self):
        self.items = []

    def is_empty(self):
        return self.items == []

    def push(self, data):
        self.items.append(data)

    def pop(self):
        return self.items.pop()

s = Stack()
text = input('Please enter the string: ')
for character in text:
    s.push(character)
reversed_text = ''
while not s.is_empty():
    reversed_text = reversed_text + s.pop()
if text == reversed_text:
    print('The string is a palindrome.')
else:
    print('The string is not a palindrome.')
```

Output:

```
========== RESTART: D:/python/123.py ==========
Please enter the string: madam
The string is a palindrome.
>>>
========== RESTART: D:/python/123.py ==========
Please enter the string: pis
The string is not a palindrome.
>>>
```

SQL QUERIES

1. CONSIDER THE FOLLOWING MOVIE TABLE AND WRITE THE SQL QUERIES BASED ON IT.

Movie_ID	MoveName	Type	ReleaseDate	ProductionCost	BusinessCost
M001	The kashmir files	Action	2022/01/26	1245000	1300000
M002	Attack	Action	2022/01/28	1120000	1250000
M003	Looop Lapeta	Thriller	2022/02/01	250000	300000
M004	Badhai Do	Drama	2022/02/04	720000	68000
M005	Shabaash Mithu	Biography	2022/02/04	1000000	800000
M006	Gehraiyaan	Romance	2022/02/11	150000	120000

a) Display all information from movie.

b) Display the type of movies.

c) Display movieid, moviename, total_eraning by showing the business done by the movies. Claculate the business done by movie using the sum of productioncost and businesscost.

d) Display movieid, moviename and productioncost for all movies with productioncost greater thatn 150000 and less than 1000000.

e) Display the movie of type action and romance.

f) DISPLAY THE LIST OF MOVIES WHICH ARE GOING TO RELEASE IN FEBRUARY, 2022.

Answers:

a) select * from movie;

```
mysql> select * from movie;
+----------+------------------+----------+-------------+----------------+--------------+
| Movie_id | moviename        | type     | releasedate | productioncost | businesscost |
+----------+------------------+----------+-------------+----------------+--------------+
| M001     | The Kashmir Files | Action   | 2022-01-26  |        1245000 |      1300000 |
| M002     | Attack           | Action   | 2022-01-28  |        1120000 |      1250000 |
| M003     | Loop Lapeta      | Thriller | 2022-02-01  |         250000 |       300000 |
| M004     | Bdhai Do         | Drama    | 2022-02-04  |         720000 |      4800000 |
| M005     | Shabaash Mothu   | Biography | 2022-02-04 |        1000000 |       800000 |
| M006     | Gehriyaan        | Romance  | 2022-02-11  |         150000 |       120000 |
+----------+------------------+----------+-------------+----------------+--------------+
6 rows in set (0.01 sec)
```

b) select distinct from a movie;

```
mysql> select distinct type from movie;
+-----------+
| type      |
+-----------+
| Action    |
| Thriller  |
| Drama     |
| Biography |
| Romance   |
+-----------+
5 rows in set (0.00 sec)
```

c) select movieid, moviename, productioncost + businesscost"total earning" from movie;

```
mysql> select movie_id, moviename, productioncost + businesscost "total earning" from movie;
+----------+------------------+--------------+
| movie_id | moviename        | total earning |
+----------+------------------+--------------+
| M001     | The Kashmir Files |       2545000 |
| M002     | Attack           |       2370000 |
| M003     | Loop Lapeta      |        550000 |
| M004     | Bdhai Do         |       5520000 |
| M005     | Shabaash Mothu   |       1800000 |
| M006     | Gehriyaan        |        270000 |
+----------+------------------+--------------+
6 rows in set (0.03 sec)
```

d) select movie_id,moviename, productioncost from moviewhere productcost is >150000 and <1000000;

```
mysql> select movie_id,moviename, productioncost from movie where productioncost >150000 and productioncost<1000000;
+----------+------------+---------------+
| movie_id | moviename  | productioncost |
+----------+------------+---------------+
| M003     | Loop Lapeta |        250000 |
| M004     | Bdhai Do   |        720000 |
+----------+------------+---------------+
2 rows in set (0.03 sec)
```

e) select moviename from movie where type ='action' ortype='romance';

```
mysql>  select moviename from movie where type ='action' or type='romance';
+-------------------+
| moviename         |
+-------------------+
| The Kashmir Files |
| Attack            |
| Gehriyaan         |
+-------------------+
3 rows in set (0.00 sec)
```

f) select moviename from movie where month(releasedate)=2;

```
mysql> select moviename from movie where month(releasedate)=2;
+----------------+
| moviename      |
+----------------+
| Loop Lapeta    |
| Bdhai Do       |
| Shabaash Mothu |
| Gehriyaan      |
+----------------+
4 rows in set (0.00 sec)
```

2. WRITE FOLLOWING QUERIES:

a) Write a query to display cube of 5.
b) Write a query to display the number 563.854741 rounding off to the next hnudred.
c) Write a query to display "put" from the word "Computer".
d) Write a query to display today's date into DD.MM.YYYY format.
e) Write a query to display 'DIA' from the word "MEDIA".
f) Write a query to display moviename - type from the table movie.
g) Write a query to display first four digits of productioncost.
h) Write a query to display last four digits of businesscost.
i) Write a query to display weekday of release dates.
j) Write a query to display dayname on which movies are going to be released.

Answers:

a) select pow(5,3);

```
mysql> select pow(5,3);
+----------+
| pow(5,3) |
+----------+
|      125 |
+----------+
1 row in set (0.01 sec)
```

b) select round(563.854741,-2);

```
mysql> select round(563.854741,-2);
+----------------------+
| round(563.854741,-2) |
+----------------------+
|                  600 |
+----------------------+
1 row in set (0.00 sec)
```

c) SELECT MID("COMPUTER",4,3);

```
mysql> select mid("Computer",4,3);
+---------------------+
| mid("Computer",4,3) |
+---------------------+
| put                 |
+---------------------+
1 row in set (0.00 sec)
```

d) select concat(day(now()), concat('.',month(now()),concat('.',year(now())))) "Date";

```
mysql> select concat(day(now()),concat('.',month(now()),concat('.',year(now())))) "Date";
+----------+
| Date     |
+----------+
| 9.1.2022 |
+----------+
1 row in set (0.00 sec)
```

e)select right("Media",3);

```
mysql> select right("Media",3);
+--------------------+
| right("Media",3)   |
+--------------------+
| dia                |
+--------------------+
1 row in set (0.00 sec)
```

f)select concat(moviename,concat(' - ',type)) from movie;

```
mysql> select concat(moviename,concat(' - ',type)) from movie;
+--------------------------------------+
| concat(moviename,concat(' - ',type)) |
+--------------------------------------+
| The Kashmir Files - Action           |
| Attack - Action                      |
| Loop Lapeta - Thriller               |
| Bdhai Do - Drama                     |
| Shabaash Mothu - Biography           |
| Gehriyaan - Romance                  |
+--------------------------------------+
6 rows in set (0.00 sec)
```

g)select left(productioncost,4) from movie;

```
mysql> select left(productioncost,4) from movie;
+-------------------------+
| left(productioncost,4)  |
+-------------------------+
| 1245                    |
| 1120                    |
| 2500                    |
| 7200                    |
| 1000                    |
| 1500                    |
+-------------------------+
6 rows in set (0.00 sec)
```

h)select right (businesscost,4)from movie;

```
mysql> select right(businesscost,4) from movie;
+-------------------------+
| right(businesscost,4)   |
+-------------------------+
| 0000                    |
| 0000                    |
| 0000                    |
| 0000                    |
| 0000                    |
| 0000                    |
+-------------------------+
6 rows in set (0.00 sec)
```

i)select weekday(releasedate) from movie;

```
mysql> select weekday(releasedate) from movie;
+-----------------------+
| weekday(releasedate) |
+-----------------------+
|                     2 |
|                     4 |
|                     1 |
|                     4 |
|                     4 |
|                     4 |
+-----------------------+
6 rows in set (0.00 sec)
```

j)select dayname(releasedate) from movie;

```
mysql> select dayname(releasedate) from movie;
+-----------------------+
| dayname(releasedate) |
+-----------------------+
| Wednesday             |
| Friday                |
| Tuesday               |
| Friday                |
| Friday                |
| Friday                |
+-----------------------+
6 rows in set (0.01 sec)
```

3. SUPPOSE YOUR SCHOOL MANAGEMENT HAS DECIDED TO CONDUCT CRICKET MATCHES BETWEENSTUDENTS OF CLASS XI AND CLASS XII. STUDENTS OF EACH CLASS ARE ASKED TO JOIN ANY ONEOF THE FOUR TEAMS – TEAM TITAN, TEAM ROCKERS, TEAM MAGNET AND TEAM HURRICANE. DURING SUMMER VACATIONS, VARIOUS MATCHES WILL BE CONDUCTED BETWEEN THESE TEAMS. HELP YOUR SPORTS TEACHER TO DO THE FOLLOWING:

a) Create a database “Sports”.
b) Create a table “TEAM” with following considerations:
   a. It should have a column TeamID for storing an integer value between 1 to 9,which refers to unique identification of a team.
   b. Each TeamID should have its associated name (TeamName), which should be a string of length not less than 10 characters.
   c. Using table level constraint, make TeamID as the primary key.
c) Show the structure of the table TEAM using a SQL statement.
d) As per the preferences of the students four teams were formed as given below. Insertthese four rows in TEAM table:
   a. Row 1: (1, Tehlka)
   b. Row 2: (2, Toofan)
   c. Row 3: (3, Aandhi)
   d. Row 3: (4, Shailab)
e) Show the contents of the table TEAM using a DML statement.
f) Now create another table MATCH_DETAILS and insert data as shown below. Choose appropriate data types and constraints for each attribute.

MatchID	MatchDate	FirstTeamID	SecondTeamID	FirstTeamScore	SecondTeamScore
M1	2021/12/20		2	107	93
M2	2021/12/21		4	156	158
M3	2021/12/22		3	86	81
M4	2021/12/23		4	65	67
M5	2021/12/24		4	52	88
M6	2021/12/25		3	97	68

ANSWERS:

a) create database sports;

```
mysql> create database sports
    -> ;
Query OK, 1 row affected (0.01 sec)

mysql> use sports;
Database changed
mysql>
```

b) Creating table with the given specification

create table team -> (teamid int(1), -> teamnamevarchar(10), primary key(teamid));

c) desc team;

```
mysql> desc team;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| teamid   | int         | NO   | PRI | NULL    |       |
| teamname | varchar(10) | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
2 rows in set (0.01 sec)
```

- INSERTING DATA:

mqsql> insert into team -> values(1,'Tehlka');

```
mysql> insert into team
    -> values(1,'Tehlka');
Query OK, 1 row affected (0.01 sec)

mysql> insert into team
    -> values(2,'Toofan');
Query OK, 1 row affected (0.01 sec)

mysql> insert into team
    -> values(3,'Aandhi');
Query OK, 1 row affected (0.03 sec)

mysql> insert into team
    -> values(4,'Shailab');
Query OK, 1 row affected (0.03 sec)
```

- SHOW THE CONTENT OF TABLE - TEAM:

SELECT * FROM TEAM;

```
mysql> select * from team;
+--------+----------+
| teamid | teamname |
+--------+----------+
|      1 | Tehlka   |
|      2 | Toofan   |
|      3 | Aandhi   |
|      4 | Shailab  |
+--------+----------+
4 rows in set (0.00 sec)
```

- CREATING ANOTHER TABLE:

create table match_details

-> (matchid varchar(2) primary key,

-> matchdate date,

-> firstteamid int(1) references team(teamid),

-> secondteamid int(1) references team(teamid),

-> firstteamscore int(3),

-> secondteamscore int(3));

```
mysql> create table match_details
    -> (matchid varchar(2) primary key,
    -> matchdate date,
    -> firstteamid int(1) references team(teamid),
    -> secondteamid int(1) references team(teamid),
    -> firstteamscore int(3),
    -> secondteamscore int(3));
Query OK, 0 rows affected, 4 warnings (0.03 sec)
```

```
mysql> select * from match_details;
+---------+------------+-------------+--------------+---------------+----------------+
| matchid | matchdate  | firstteamid | secondteamid | firstteamscore | secondteamscore |
+---------+------------+-------------+--------------+---------------+----------------+
| M1      | 2021-12-20 |           1 |            2 |           107 |             93 |
| M2      | 2021-12-21 |           3 |            4 |           156 |            158 |
| M3      | 2021-12-22 |           1 |            3 |            86 |             81 |
| M4      | 2021-12-23 |           2 |            4 |            65 |             67 |
| M5      | 2021-12-24 |           1 |            4 |            52 |             88 |
| M6      | 2021-12-25 |           2 |            3 |            97 |             68 |
+---------+------------+-------------+--------------+---------------+----------------+
6 rows in set (0.01 sec)
```

4. Write following queries:

a) Display the matchid, teamid, teamscore whoscored more than 70 in first ining along with team name.

b) Display matchid, teamname and secondteamscore between 100 to 160.

c) Display matchid, teamnames along with matchdates.

d) Display unique team names

e) Display matchid and matchdate played by Anadhi and Shailab.

ANSWERS:

a) select match_details.matchid, match_details.firstteamid, team.teamname,match_details.firstteamscore from match_details, team where match_details.firstteamid = team.teamid and match_details.first

```
mysql> select * from match_details;
+---------+------------+-------------+--------------+---------------+----------------+
| matchid | matchdate  | firstteamid | secondteamid | firstteamscore | secondteamscore |
+---------+------------+-------------+--------------+---------------+----------------+
| M1      | 2021-12-20 |           1 |            2 |           107 |             93 |
| M2      | 2021-12-21 |           3 |            4 |           156 |            158 |
| M3      | 2021-12-22 |           1 |            3 |            86 |             81 |
| M4      | 2021-12-23 |           2 |            4 |            65 |             67 |
| M5      | 2021-12-24 |           1 |            4 |            52 |             88 |
| M6      | 2021-12-25 |           2 |            3 |            97 |             68 |
+---------+------------+-------------+--------------+---------------+----------------+
6 rows in set (0.01 sec)
```

b) selectmatch_details.matchid,match_details.firstteamid,team.teamname,match_details.firstteamscore from match_details, team where match_details.firstteamid= team.teamid and match_details.firstteamscore>70;

```
mysql> select matchid, teamname, secondteamscore from match_details, team where match_details.secondteamid=team.teamid
 and match_details.secondteamscore between 100 and 160;
+---------+----------+----------------+
| matchid | teamname | secondteamscore |
+---------+----------+----------------+
| M2      | Shailab  |             158 |
+---------+----------+----------------+
1 row in set (0.00 sec)
```

c) mselect matchid, teamname, firstteamid, secondteamid,matchdate from match_details, team where match_details.firstteamid = team.teamid;

```
mysql> select matchid,teamname,firstteamid,secondteamid,matchdate from match_details, team where match_details.firstte
amid=team.teamid;
+---------+----------+------------+-------------+-----------+
| matchid | teamname | firstteamid | secondteamid | matchdate  |
+---------+----------+------------+-------------+-----------+
| M1      | Tehlka   |          1 |           2 | 2021-12-20 |
| M2      | Aandhi   |          3 |           4 | 2021-12-21 |
| M3      | Tehlka   |          1 |           3 | 2021-12-22 |
| M4      | Toofan   |          2 |           4 | 2021-12-23 |
| M5      | Tehlka   |          1 |           4 | 2021-12-24 |
| M6      | Toofan   |          2 |           3 | 2021-12-25 |
+---------+----------+------------+-------------+-----------+
6 rows in set (0.00 sec)
```

d) select distinct(teamname) from match_details, team where match_details.firstteamid = team.teamid;

```
mysql> select distinct(teamname) from match_details, team where match_details.firstteamid=team.teamid;
+----------+
| teamname |
+----------+
| Tehlka   |
| Aandhi   |
| Shailab  |
| Toofan   |
+----------+
4 rows in set (0.03 sec)
```

e)select matchid,matchdate from match_details, team wherematch_details.firstteamid = team.teamid and team.teamname in ('Aandhi','Shailab');

```
mysql> select matchid,matchdate from match_details, team where match_details.firstteamid=team.teamid and team.teamname
 in ('Aandhi','Shailab');
+---------+-----------+
| matchid | matchdate  |
+---------+-----------+
| M2      | 2021-12-21 |
| M4      | 2021-12-23 |
+---------+-----------+
2 rows in set (0.00 sec)
```

5. Consider the following table and write the queries:

itemno	item	dcode	qty	unitprice	stockdate
S005	Ballpen	102	100	10	2018/04/22
S003	Gel Pen	101	150	15	2018/03/18
S002	Pencil	102	125		2018/02/25
S006	Eraser	101	200		2018/01/12
S001	Sharpner	103	210		2018/06/11
S004	Compass	102	60	35	2018/05/10
S009	A4 Papers	102	160		2018/07/17

a) Display all the items in the ascending order of stockdate.
b) Display maximum price of items for each dealer individually as per dcode from stock.
c) Display all the items in descending orders of itemnames.
d) Display average price of items for each dealer individually as per doce from stock which avergae price is more than 5.
e) Diisplay the sum of quantity for each dcode.

ANSWERS:

a) select * from stock order by stockdate;

```
mysql> select * from stock order by stockdate;
+--------+-----------+-------+------+-----------+------------+
| itemno | item      | dcode | qty  | unitprice | stockdate  |
+--------+-----------+-------+------+-----------+------------+
| S006   | Eraser    |   101 |  200 |         3 | 2018-01-12 |
| S002   | Pencil    |   102 |  125 |         5 | 2018-02-25 |
| S003   | Gel Pen   |   101 |  150 |        15 | 2018-03-18 |
| S005   | BallPen   |   102 |  100 |        10 | 2018-04-22 |
| S004   | Compass   |   102 |   60 |        35 | 2018-05-10 |
| S009   | A4 Papers |   102 |  160 |         5 | 2018-07-17 |
| S001   | Sharpner  |   103 |  210 |         5 | 2018-11-06 |
+--------+-----------+-------+------+-----------+------------+
7 rows in set (0.00 sec)
```

b) SELECT DCODE, MAX(UNITPRICE) FROM STOCK GROUP BY CODE;

```
mysql> select dcode,max(unitprice) from stock group by dcode;
+-------+----------------+
| dcode | max(unitprice) |
+-------+----------------+
|   103 |              5 |
|   102 |             35 |
|   101 |             15 |
+-------+----------------+
3 rows in set (0.01 sec)
```

c) select * from stock order by item desc;

```
mysql> select * from stock order by item desc;
+--------+-----------+-------+------+-----------+------------+
| itemno | item      | dcode | qty  | unitprice | stockdate  |
+--------+-----------+-------+------+-----------+------------+
| S001   | Sharpner  |   103 |  210 |         5 | 2018-11-06 |
| S002   | Pencil    |   102 |  125 |         5 | 2018-02-25 |
| S003   | Gel Pen   |   101 |  150 |        15 | 2018-03-18 |
| S006   | Eraser    |   101 |  200 |         3 | 2018-01-12 |
| S004   | Compass   |   102 |   60 |        35 | 2018-05-10 |
| S005   | BallPen   |   102 |  100 |        10 | 2018-04-22 |
| S009   | A4 Papers |   102 |  160 |         5 | 2018-07-17 |
+--------+-----------+-------+------+-----------+------------+
7 rows in set (0.01 sec)
```

d) select dcode,avg(unitprice) from stock group by dcodehaving avg(unitprice)>5;

```
mysql> select dcode,avg(unitprice) from stock group by dcode having avg(unitprice)>5;
+-------+---------------+
| dcode | avg(unitprice) |
+-------+---------------+
|   102 |       13.7500 |
|   101 |        9.0000 |
+-------+---------------+
2 rows in set (0.00 sec)
```

e) select dcode,sum(qty) from stock group by dcode;

```
mysql> select dcode,sum(qty) from stock group by dcode;
+-------+-----------+
| dcode | sum(qty)  |
+-------+-----------+
|   103 |       210 |
|   102 |       445 |
|   101 |       350 |
+-------+-----------+
3 rows in set (0.03 sec)
```

PYTHON DATABASE CONNECTIVITY

1. Write a MySQL connectivity program in Python to
   - Create a database school
   - Create a table students with the specifications - ROLLNO integer, STNAME character(10) in MySQL and perform the following operations:
     - Insert two records in it
     - Display the contents of the table
2. Perform all the operations with reference to table 'students' through MySQL-Pythonconnectivity.

ANSWERS:

1. Using pymysql - Code:

```
import pymysql as ms
#Function to create Database as per users choicedef c_database():
    try:
        dn=input("Enter Database Name=") c.execute("create database
        {}".format(dn))c.execute("use {}".format(dn)) print("Database
        created successfully")
    except Exception as a: print("Database
        Error",a)
#Function to Drop Database as per users choicedef d_database():
    try:
        dn=input("Enter Database Name to be dropped=")c.execute("drop database
        {}".format(dn)) print("Database deleted sucessfully")
    except Exception as a: print("Database Drop
        Error",a)


#Function to create Tabledef
c_table():
    try:
        c.execute('''create table students(
        rollno int(3), stname
        varchar(20)
        ); ''')
```

```
        print("Table created successfully")except Exception as
    a:

                PRINT("CREATE TABLE ERROR",A)
        #Function to Insert Data

        def e_data():try:

        while True:
            rno=int(input("Enter student rollno="))name=input("Enter
            student name=") c.execute("use {}".format('school'))

                    c.execute("insert into students
values({},'{}');".format(rno,name)) db.commit()

            choice=input("Do you want to add more record<y/n>=")if choice in "Nn":
                break



    except Exception as a: print("Insert Record Error",a)


#Function to Display Datadef
d_data():
    try:
        c.execute("select * from students")data=c.fetchall()
        for i in data:print(i)
    except Exception as a: print("Display Record
        Error",a)


db=ms.connect(host="localhost",user="root",password="root") c=db.cursor()
while True:
    print("MENU\n1. Create Database\n2. Drop Database \n3.
Create Table\n4. Insert Record \n5. Display Entire Data\n6.Exit")
    choice=int(input("Enter your choice<1-6>="))if choice==1:
```

```
    c_database()elif
choice==2:
    d_database()elif
choice==3:
    c_table() elif
choice==4:
    e_data() elif
choice==5:
    d_data() elif
choice==6:
    break
    else:
    print("Wrong option selected:")
```

```
1. Create Database
2. Drop Database
3. Create Table
4. Insert Record
5. Display Entire Data
6. Exit
Enter your choice<1-6>=4
Enter student rollno=11
Enter student name=Raj
Do you want to add more record<y/n>=n
MENU
1. Create Database
2. Drop Database
3. Create Table
4. Insert Record
5. Display Entire Data
6. Exit
Enter your choice<1-6>=5
(11, 'Raj')
MENU
1. Create Database
2. Drop Database
3. Create Table
4. Insert Record
5. Display Entire Data
6. Exit
Enter your choice<1-6>=6
```

2. using mysqlconnector

```
import mysql.connector as ms db=ms.connect(host="localhost",user="root",passwd="root",datab
ase='school')

cn=db.cursor() def
insert_rec():

    try:

        while True:

            rn=int(input("Enter roll number:"))sname=input("Enter
            name:") marks=float(input("Enter marks:"))
            gr=input("Enter grade:") cn.execute("insert into students

values({},'{}',{},'{}')".format(rn,sname,marks,gr)) db.commit()

            ch=input("Want more records? Press (N/n) to stopentry:")

            if ch in 'Nn':break

    except Exception as e:
        print("Error", e)

                    def
                update_r
                ec():try:

            rn=int(input("Enter rollno to update:"))marks=float(input("Enter new
            marks:")) gr=input("Enter Grade:")

            cn.execute("update students set marks={},grade='{}'where
rno={}".format(marks,gr,rn))

            db.commit() except
    Exception as e:

        print("Error",e)

                    def
                delete_r
                ec():try:

            rn=int(input("Enter rollno to delete:"))cn.execute("delete from students
            where

rno={}".format(rn))

            db.commit() except
    Exception as e:

        print("Error",e)
```

```
                    def view_rec():try:
    cn.execute("select * from students")
except Exception as e:
    print("Error",e)
                    while True:
print("MENU\n1. Insert Record\n2. Update Record \n3. DeleteRecord\n4. Display Record \n5. Exit")
ch=int(input("Enter your choice<1-4>="))if ch==1:
    insert_rec()elif
ch==2:
    update_rec()elif
ch==3:
    delete_rec()elif
ch==4:
    view_rec()elif
ch==5:
    breakelse:
    print("Wrong option selected")
```

OUTPUT:

```
MENU
1. Insert Record
2. Update Record
3. Delete Record
4. Display Record
5. Exit
Enter your choice<1-4>=1
Enter roll number:111
Enter name:Sagar
Enter marks:98
Enter grade:A1
Want more records? Press (N/n) to stop entry:y
Enter roll number:114
Enter name:Vipul
Enter marks:83
Enter grade:A2
Want more records? Press (N/n) to stop entry:n
MENU
1. Insert Record
2. Update Record
3. Delete Record
4. Display Record
5. Exit
Enter your choice<1-4>=4
(1, 'Amrita', Decimal('88.00'), 'A2')
(102, 'Jay', Decimal('98.00'), 'A1')
(111, 'Sagar', Decimal('98.00'), 'A1')
(114, 'Vipul', Decimal('83.00'), 'A2')
MENU
1. Insert Record
2. Update Record
3. Delete Record
4. Display Record
5. Exit
Enter your choice<1-4>=2
Enter rollno to update:1
Enter new marks:98
Enter Grade:A1
MENU
1. Insert Record
2. Update Record
3. Delete Record
4. Display Record
5. Exit
Enter your choice<1-4>=4
(1, 'Amrita', Decimal('98.00'), 'A1')
(102, 'Jay', Decimal('98.00'), 'A1')
```

```
(111, 'Sagar', Decimal('98.00'), 'A1')
(114, 'Vipul', Decimal('83.00'), 'A2')



Enter your choice<1-4>=3
Enter rollno to delete:1
MENU
1. Insert Record
2. Update Record
3. Delete Record
4. Display Record
5. Exit
Enter your choice<1-4>=4
(102, 'Jay', Decimal('98.00'), 'A1')
(111, 'Sagar', Decimal('98.00'), 'A1')
(114, 'Vipul', Decimal('83.00'), 'A2')
MENU
1. Insert Record
2. Update Record
3. Delete Record
4. Display Record
5. Exit
Enter your choice<1-4>=4
(102, 'Jay', Decimal('98.00'), 'A1')
(111, 'Sagar', Decimal('98.00'), 'A1')
(114, 'Vipul', Decimal('83.00'), 'A2')
MENU
1. Insert Record
2. Update Record
3. Delete Record
4. Display Record
5. Exit
```