General Instructions:

1. Eight Exercises from Python and Two from MySQL are practiced in the practical classes.

2. In Practical exams, the question paper will have two questions with internal choice.

3. One question should be chosen from the list of internal choice.

4. Distribution of Marks as follows:

<table>
<thead>
<tr>
<th>Duration of Practical: 2 ½ Hrs</th>
<th>Maximum Marks: 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Internal Assessment:</td>
<td>5 Marks</td>
</tr>
<tr>
<td>Record Book</td>
<td>5 Marks</td>
</tr>
<tr>
<td>II. External Assessment:</td>
<td>15 Marks</td>
</tr>
<tr>
<td>Writing Code</td>
<td>10 Marks</td>
</tr>
<tr>
<td>Execution</td>
<td>5 Marks</td>
</tr>
</tbody>
</table>

Total 20 Marks
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Question Number</th>
<th>Program Name</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PY1</td>
<td>(a) Calculate Factorial</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) Sum of Series</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>PY2</td>
<td>(a) Odd or Even</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) Reverse the String</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>PY3</td>
<td>Generate values and remove odd numbers</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>PY4</td>
<td>Generate Prime numbers and Set Operations</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>PY5</td>
<td>Display a String elements – Using Class</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>DB6</td>
<td>MySQL – Employee Table</td>
<td>9</td>
</tr>
<tr>
<td>7</td>
<td>DB7</td>
<td>MySQL – Student Table</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>PY8</td>
<td>Python with CSV</td>
<td>16</td>
</tr>
<tr>
<td>9</td>
<td>PY9</td>
<td>Python with SQL</td>
<td>18</td>
</tr>
<tr>
<td>10</td>
<td>PY10</td>
<td>Python Graphics with Pip</td>
<td>20</td>
</tr>
</tbody>
</table>
PY1(a) - Calculate Factorial

1(a) Write a program to calculate the factorial of the given number using for loop

Coding

```python
num = int(input("Enter a Number: "))
if (num==0):
    fact = 1
fact = 1
for i in range(1,num+1):
    fact = fact * i
print("Factorial of", num, " is ", fact)
```

Output:

```
Enter a Number: 12
Factorial of 12 is 479001600
```

PY1(b) - Sum of Series

1(b) Write a program to sum the series: 1/1 + 2^2/2 + 3^3/3 + ....... n^n/n

Coding

```python
n = int(input("Enter a value of n: "))
s=0.0
for i in range(1,n+1):
    a=float(i**i)/i
    s=s+a
print("The sum of the series is ", s)
```

Output:

```
Enter a value of n: 4
The sum of the series is  76.0
```
### PY2(a) - Odd or Even

**2(a)** Write a program using functions to check whether a number is even or odd

#### Coding

def odd_even(a):
    if (a % 2 == 0):
        return 1
    else:
        return 0
num = int(input("Enter a number: "))
if (odd_even(num) == 1):
    print("The given number is Even")
elif (odd_even(num) == 0):
    print("The given number is Odd")

#### Output:

Enter a number: 7  
The given number is Odd  
Enter a number: 6  
The given number is Even

### PY2(b) - Reverse the String

**2(b)** Write a program to create a mirror of the given string. For example, "wel" = "lew".

#### Coding

def rev(str1):
    str2="
    i=len(str1)-(1
    while i>=0:
        str2+=str1[i]
        i-=1
    return str2
word = input("Enter a String: ")
print("The Mirror image of the given string is: ", rev(word))

#### Output:

Enter a String: school  
The Mirror image of the given string is: loohcs
Write a program to generate values from 1 to 10 and then remove all the odd numbers from the list

Coding

```python
num1=[]
for i in range(1,11):
    num1.append(i)
print("Numbers from 1 to 10.....\n",num1)

for j, i in enumerate(num1):
    if(i==2):
        del num1[j]

print("The values after removed odd numbers.....\n",num1)
```

Output:

```
Numbers from 1 to 10.....
[10,9,8,7,6,5,4,3,2,1]
The values after removed odd numbers.....
[10,8,6,4,2]
```
Write a Program that generate a set of prime numbers and another set of odd numbers. Display the result of union, intersection, difference and symmetric difference operations.

**Coding**

odd=set([x*1+2 for x in range(0,5)])
primes=set()
for i in range(2,10):
    j=2
    f=0
    while j<i/2:
        if i%j==0:
            f=1
        j+=1
    if f==0:
        primes.add(i)
print("Odd Numbers: ", odd)
print("Prime Numbers: ", primes)
print("Union: ", odd.union(primes))
print("Intersection: ", odd.intersection(primes))
print("Difference: ", odd.difference(primes))
print("Symmetric Difference: ", odd.symmetric_difference(primes))

**Output:**

Odd Numbers: {9,7,5,3,1}
Prime Numbers: {7,5,4,3,2}
Union: {9,7,5,4,3,2,1}
Intersection: {7,5,3}
Difference: {9,1}
Symmetric Difference: {9,4,2,1}
Write a program to accept a string and print the number of uppercase, lowercase, vowels, consonants and spaces in the given string using Class

class String:
    def __init__(self):
        self.uppercase=0
        self.lowercase=0
        self.vowels=0
        self.consonants=0
        self.spaces=0
        self.string=""
    def getstr(self):
        self.string=str(input("Enter a String: "))
    def count_upper(self):
        for ch in self.string:
            if (ch.isupper()):
                self.uppercase+=1
    def count_lower(self):
        for ch in self.string:
            if (ch.islower()):
                self.lowercase+=1
    def count_vowels(self):
        for ch in self.string:
            if (ch in ('A', 'a', 'e', 'E', 'i', 'I', 'o', 'O', 'l', 'L')):
                self.vowels+=1
    def count_consonants(self):
        for ch in self.string:
            if (ch not in ('A', 'a', 'e', 'E', 'i', 'I', 'o', 'O', 'l', 'L')):
                self.consonants+=1
    def count_space(self):
        for ch in self.string:
            if (ch==" "):
def execute(self):
    self.count_upper()
    self.count_lower()
    self.count_vowels()
    self.count_consonants()
    self.count_space()

def display(self):
    print("The given string contains...")
    print("%d Uppercase letters"%self.uppercase)
    print("%d Lowercase letters"%self.lowercase)
    print("%d Vowels"%self.vowels)
    print("%d Consonants"%self.consonants)
    print("%d Spaces"%self.spaces)

S = String()
S.getstr()
S.execute()
S.display()

--- Output: ---

Enter a String: Welcome to Computer Science
The given string contains...
3 Uppercase letters
21 Lowercase letters
10 Vowels
17 Consonants
3 Spaces
Create an Employee Table with the fields Empno, Empname, Desig, Dept, Age and Place. Enter five records into the table.

- Add two more records to the table.
- Modify the table structure by adding one more field namely date of joining.
- Check for Null value in doj of any record.
- List the employees who joined after 2018/01/01.

SQL Queries and Output:

(i) Creating Table Employee

```sql
mysql> Create table Employee (Empno integer(4) primary key, Empname varchar(20), Desig varchar(10), Dept varchar(10), Age integer(2), Place varchar(10));
```

(ii) View Table Structure:

```sql
mysql> Desc Employee;
```

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Null</th>
<th>Key</th>
<th>Default</th>
<th>Extra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empno</td>
<td>int(4)</td>
<td>NO</td>
<td>PRI</td>
<td>NULL</td>
<td>NULL</td>
</tr>
<tr>
<td>Empname</td>
<td>varchar(20)</td>
<td>YES</td>
<td>NULL</td>
<td>NULL</td>
<td>NULL</td>
</tr>
<tr>
<td>Desig</td>
<td>varchar(10)</td>
<td>YES</td>
<td>NULL</td>
<td>NULL</td>
<td>NULL</td>
</tr>
<tr>
<td>Dept</td>
<td>varchar(10)</td>
<td>YES</td>
<td>NULL</td>
<td>NULL</td>
<td>NULL</td>
</tr>
<tr>
<td>Age</td>
<td>int(2)</td>
<td>YES</td>
<td>NULL</td>
<td>NULL</td>
<td>NULL</td>
</tr>
<tr>
<td>Place</td>
<td>varchar(10)</td>
<td>YES</td>
<td>NULL</td>
<td>NULL</td>
<td>NULL</td>
</tr>
</tbody>
</table>

6 rows in set (0.00 sec)

(iii) Inserting Data into Table:

```sql
mysql> Insert into employee values(1221, 'Sidharth', 'Officer', 'Accounts', 45, 'Salem');
mysql> Insert into employee values(1222, 'Naveen', 'Manager', 'Admin', 32, 'Erode');
mysql> Insert into employee values(1223, 'Ramesh', 'Clerk', 'Accounts', 33, 'Ambathur');
mysql> Insert into employee values(1224, 'Abinaya', 'Manager', 'Admin', 28, 'Anna Nagar');
mysql> Insert into employee values(1225, 'Rahul', 'Officer', 'Accounts', 31, 'Anna Nagar');
```
(iv) Select all the record:

mysql> select * from Employee;

<table>
<thead>
<tr>
<th>Empno</th>
<th>Empname</th>
<th>Desig</th>
<th>Dept</th>
<th>Age</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>1221</td>
<td>Sidharth</td>
<td>Officer</td>
<td>Accounts</td>
<td>45</td>
<td>Salem</td>
</tr>
<tr>
<td>1222</td>
<td>Naveen</td>
<td>Manager</td>
<td>Admin</td>
<td>32</td>
<td>Erode</td>
</tr>
<tr>
<td>1223</td>
<td>Ramesh</td>
<td>Clerk</td>
<td>Accounts</td>
<td>33</td>
<td>Ambathur</td>
</tr>
<tr>
<td>1224</td>
<td>Abinaya</td>
<td>Manager</td>
<td>Admin</td>
<td>28</td>
<td>Anna Nagar</td>
</tr>
<tr>
<td>1225</td>
<td>Rahul</td>
<td>Officer</td>
<td>Accounts</td>
<td>31</td>
<td>Anna Nagar</td>
</tr>
</tbody>
</table>

5 rows in set (0.00 sec)

(v) Adding two more records:

mysql> Insert into employee values(3226, 'Sona', 'Manager', 'Accounts', 42, 'Erode');
mysql> Insert into employee values(3227, 'Rekha', 'Officer', 'Admin', 34, 'Salem');

mysql> select * from Employee;

<table>
<thead>
<tr>
<th>Empno</th>
<th>Empname</th>
<th>Desig</th>
<th>Dept</th>
<th>Age</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>1221</td>
<td>Sidharth</td>
<td>Officer</td>
<td>Accounts</td>
<td>45</td>
<td>Salem</td>
</tr>
<tr>
<td>1222</td>
<td>Naveen</td>
<td>Manager</td>
<td>Admin</td>
<td>32</td>
<td>Erode</td>
</tr>
<tr>
<td>1223</td>
<td>Ramesh</td>
<td>Clerk</td>
<td>Accounts</td>
<td>33</td>
<td>Ambathur</td>
</tr>
<tr>
<td>1224</td>
<td>Abinaya</td>
<td>Manager</td>
<td>Admin</td>
<td>28</td>
<td>Anna Nagar</td>
</tr>
<tr>
<td>1225</td>
<td>Rahul</td>
<td>Officer</td>
<td>Accounts</td>
<td>31</td>
<td>Anna Nagar</td>
</tr>
<tr>
<td>3226</td>
<td>Sona</td>
<td>Manager</td>
<td>Accounts</td>
<td>42</td>
<td>Erode</td>
</tr>
<tr>
<td>3227</td>
<td>Rekha</td>
<td>Officer</td>
<td>Admin</td>
<td>34</td>
<td>Salem</td>
</tr>
</tbody>
</table>

7 rows in set (0.00 sec)

(vi) Adding one more Field:

mysql> Alter table employee add(doj date);

desc employee;

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Null</th>
<th>Key</th>
<th>Default</th>
<th>Extra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empno</td>
<td>int(4)</td>
<td>NO</td>
<td>PRI</td>
<td>NULL</td>
<td></td>
</tr>
<tr>
<td>Empname</td>
<td>varchar(20)</td>
<td>YES</td>
<td></td>
<td>NULL</td>
<td></td>
</tr>
<tr>
<td>Desig</td>
<td>varchar(10)</td>
<td>YES</td>
<td></td>
<td>NULL</td>
<td></td>
</tr>
<tr>
<td>Dept</td>
<td>varchar(10)</td>
<td>YES</td>
<td></td>
<td>NULL</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>int(2)</td>
<td>YES</td>
<td></td>
<td>NULL</td>
<td></td>
</tr>
</tbody>
</table>
(vii) Inserting date of joining to each employee:

mysql> update employee set doj = '21-03-2010' where empno=1221;  
mysql> update employee set doj = '13-05-2012' where empno=1222;  
mysql> update employee set doj = '25-10-2017' where empno=1223;  
mysql> update employee set doj = '17-06-2018' where empno=1224;  
mysql> update employee set doj = '02-01-2018' where empno=1225;  
mysql> update employee set doj = '31-12-2017' where empno=3226;  
mysql> update employee set doj = '16-08-2015' where empno=3227;  

mysql> select * from Employee;

<table>
<thead>
<tr>
<th>Empno</th>
<th>Empname</th>
<th>Desig</th>
<th>Dept</th>
<th>Age</th>
<th>Place</th>
<th>doj</th>
</tr>
</thead>
<tbody>
<tr>
<td>1221</td>
<td>Sidharth</td>
<td>Officer</td>
<td>Accounts</td>
<td>45</td>
<td>Salem</td>
<td>2010-03-21</td>
</tr>
<tr>
<td>1222</td>
<td>Naveen</td>
<td>Manager</td>
<td>Admin</td>
<td>32</td>
<td>Erode</td>
<td>2012-05-13</td>
</tr>
<tr>
<td>1223</td>
<td>Ramesh</td>
<td>Clerk</td>
<td>Accounts</td>
<td>33</td>
<td>Ambathur</td>
<td>2017-10-25</td>
</tr>
<tr>
<td>1224</td>
<td>Abinaya</td>
<td>Manager</td>
<td>Admin</td>
<td>28</td>
<td>Anna Nagar</td>
<td>2018-06-17</td>
</tr>
<tr>
<td>1225</td>
<td>Rahul</td>
<td>Officer</td>
<td>Accounts</td>
<td>31</td>
<td>Anna Nagar</td>
<td>2018-01-02</td>
</tr>
<tr>
<td>3226</td>
<td>Sona</td>
<td>Manager</td>
<td>Accounts</td>
<td>42</td>
<td>Erode</td>
<td>2017-12-31</td>
</tr>
<tr>
<td>3227</td>
<td>Rekha</td>
<td>Officer</td>
<td>Admin</td>
<td>34</td>
<td>Salem</td>
<td>2015-08-16</td>
</tr>
</tbody>
</table>

7 rows in set (0.00 sec)

(viii) Checking null value in doj

mysql> select * from emp where empno is null;

Empty set (0.00 sec)

(ix) List the employees who joined after 2018/01/01.

mysql> Select * from emp where doj > '01-01-2018';

<table>
<thead>
<tr>
<th>Empno</th>
<th>Empname</th>
<th>Desig</th>
<th>Dept</th>
<th>Age</th>
<th>Place</th>
<th>doj</th>
</tr>
</thead>
<tbody>
<tr>
<td>1224</td>
<td>Abinaya</td>
<td>Manager</td>
<td>Admin</td>
<td>28</td>
<td>Anna Nagar</td>
<td>2018-06-17</td>
</tr>
<tr>
<td>1225</td>
<td>Rahul</td>
<td>Officer</td>
<td>Accounts</td>
<td>31</td>
<td>Anna Nagar</td>
<td>2018-01-02</td>
</tr>
</tbody>
</table>

2 rows in set (0.00 sec)
Create Student table with following fields and enter data as given in the table below

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reg_No</td>
<td>char</td>
<td>5</td>
</tr>
<tr>
<td>Sname</td>
<td>varchar</td>
<td>15</td>
</tr>
<tr>
<td>Age</td>
<td>int</td>
<td>2</td>
</tr>
<tr>
<td>Dept</td>
<td>varchar</td>
<td>10</td>
</tr>
<tr>
<td>Class</td>
<td>char</td>
<td>3</td>
</tr>
</tbody>
</table>

Data to be entered

<table>
<thead>
<tr>
<th>Reg_No</th>
<th>Sname</th>
<th>Age</th>
<th>Dept</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1001</td>
<td>Harish</td>
<td>19</td>
<td>ME</td>
<td>ME1</td>
</tr>
<tr>
<td>M1002</td>
<td>Akash</td>
<td>20</td>
<td>ME</td>
<td>ME2</td>
</tr>
<tr>
<td>C1001</td>
<td>Sneha</td>
<td>20</td>
<td>CSE</td>
<td>CS1</td>
</tr>
<tr>
<td>C1002</td>
<td>Lithya</td>
<td>19</td>
<td>CSE</td>
<td>CS2</td>
</tr>
<tr>
<td>E1001</td>
<td>Ravi</td>
<td>20</td>
<td>ECE</td>
<td>EC1</td>
</tr>
<tr>
<td>E1002</td>
<td>Leena</td>
<td>21</td>
<td>EEE</td>
<td>EE1</td>
</tr>
<tr>
<td>E1003</td>
<td>Rose</td>
<td>20</td>
<td>ECE</td>
<td>EC2</td>
</tr>
</tbody>
</table>

Then, query the followings:

(i) List the students whose department is “CSE”.
(ii) List all the students of age 20 and more in ME department.
(iii) List the students department wise.
(iv) Modify the class M2 to M1.
(v) Check for the uniqueness of Register no.
SQL Queries and Output:

(1) Creating Table - Student

mysql> Create table Student(Reg_No char(5), Sname varchar(20), Age integer(2), Dept varchar(10), Class char(3));
    
Query OK, 0 rows affected (0.51 sec)

View table structure:

mysql> desc Student;

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Null</th>
<th>Key</th>
<th>Default</th>
<th>Extra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reg_No</td>
<td>char(5)</td>
<td>YES</td>
<td>NULL</td>
<td>NULL</td>
<td>NULL</td>
</tr>
<tr>
<td>Sname</td>
<td>varchar(20)</td>
<td>YES</td>
<td>NULL</td>
<td>NULL</td>
<td>NULL</td>
</tr>
<tr>
<td>Age</td>
<td>int(2)</td>
<td>YES</td>
<td>NULL</td>
<td>NULL</td>
<td>NULL</td>
</tr>
<tr>
<td>Dept</td>
<td>varchar(10)</td>
<td>YES</td>
<td>NULL</td>
<td>NULL</td>
<td>NULL</td>
</tr>
<tr>
<td>Class</td>
<td>char(3)</td>
<td>YES</td>
<td>NULL</td>
<td>NULL</td>
<td>NULL</td>
</tr>
</tbody>
</table>

5 rows in set (0.02 sec)

(2) Inserting Data into table:

mysql> Insert into Student values ('M1001', 'Harish', 19, 'ME', 'ME1');
mysql> Insert into Student values ('M1002', 'Akash', 20, 'ME', 'ME2');
mysql> Insert into Student values ('C1001', 'Sneha', 20, 'CSE', 'CS1');
mysql> Insert into Student values ('C1002', 'Lithya', 19, 'CSE', 'CS2');
mysql> Insert into Student values ('E1001', 'Ravi', 20, 'ECE', 'EC1');
mysql> Insert into Student values ('E1002', 'Leena', 21, 'EEE', 'EE1');
mysql> Insert into Student values ('E1003', 'Rose', 20, 'ECE', 'EC2');

View all records:

mysql> select * from Student;

<table>
<thead>
<tr>
<th>Reg_No</th>
<th>Sname</th>
<th>Age</th>
<th>Dept</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1001</td>
<td>Harish</td>
<td>19</td>
<td>ME</td>
<td>ME1</td>
</tr>
<tr>
<td>M1002</td>
<td>Akash</td>
<td>20</td>
<td>ME</td>
<td>ME2</td>
</tr>
<tr>
<td>C1001</td>
<td>Sneha</td>
<td>20</td>
<td>CSE</td>
<td>CS1</td>
</tr>
<tr>
<td>C1002</td>
<td>Lithya</td>
<td>19</td>
<td>CSE</td>
<td>CS2</td>
</tr>
</tbody>
</table>
(3) Other Queries:

(i) **List the students whose department is “CSE”:**

```sql
mysql> Select * from Student where Dept='CSE';
```

<table>
<thead>
<tr>
<th>Reg_No</th>
<th>Sname</th>
<th>Age</th>
<th>Dept</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1001</td>
<td>Sneha</td>
<td>20</td>
<td>CSE</td>
<td>CS1</td>
</tr>
<tr>
<td>C1002</td>
<td>Lithya</td>
<td>19</td>
<td>CSE</td>
<td>CS2</td>
</tr>
</tbody>
</table>

2 rows in set (0.03 sec)

(ii) **List all the students of age 20 and more in ME department:**

```sql
mysql> Select * from Student where Age >=20 and Dept='ME';
```

<table>
<thead>
<tr>
<th>Reg_No</th>
<th>Sname</th>
<th>Age</th>
<th>Dept</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1002</td>
<td>Akash</td>
<td>20</td>
<td>ME</td>
<td>ME2</td>
</tr>
</tbody>
</table>

1 row in set (0.02 sec)

(iii) **List the students department wise:**

```sql
mysql> Select * from Student Group by Dept Order by Sname;
```

<table>
<thead>
<tr>
<th>Reg_No</th>
<th>Sname</th>
<th>Age</th>
<th>Dept</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1001</td>
<td>Harish</td>
<td>19</td>
<td>ME</td>
<td>ME1</td>
</tr>
<tr>
<td>E1002</td>
<td>Leena</td>
<td>21</td>
<td>CSE</td>
<td>EE1</td>
</tr>
<tr>
<td>E1001</td>
<td>Ravi</td>
<td>20</td>
<td>ECE</td>
<td>EC1</td>
</tr>
<tr>
<td>C1001</td>
<td>Sneha</td>
<td>20</td>
<td>EEE</td>
<td>CS1</td>
</tr>
</tbody>
</table>

4 rows in set (0.00 sec)

(iv) **Modify the class M2 to M1:**

```sql
mysql> Update Student set Class='ME1' where Class='ME2';
Query OK, 1 row affected (0.11 sec)
Rows matched: 1  Changed: 1  Warnings: 0
mysql> select * from Student;
```
<table>
<thead>
<tr>
<th>Reg_No</th>
<th>Sname</th>
<th>Age</th>
<th>Dept</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1001</td>
<td>Harish</td>
<td>19</td>
<td>ME</td>
<td>ME1</td>
</tr>
<tr>
<td>M1002</td>
<td>Akash</td>
<td>20</td>
<td>ME</td>
<td>ME2</td>
</tr>
<tr>
<td>C1001</td>
<td>Sneha</td>
<td>20</td>
<td>CSE</td>
<td>CS1</td>
</tr>
<tr>
<td>C1002</td>
<td>Lithya</td>
<td>19</td>
<td>CSE</td>
<td>CS2</td>
</tr>
<tr>
<td>E1001</td>
<td>Ravi</td>
<td>20</td>
<td>ECE</td>
<td>EC1</td>
</tr>
<tr>
<td>E1002</td>
<td>Leena</td>
<td>21</td>
<td>EEE</td>
<td>EE1</td>
</tr>
<tr>
<td>E1003</td>
<td>Rose</td>
<td>20</td>
<td>ECE</td>
<td>EC2</td>
</tr>
</tbody>
</table>

7 rows in set (0.00 sec)

(v) Check for the uniqueness of Register no.

mysql> Select Distinct Reg_No from Student;

<table>
<thead>
<tr>
<th>Reg_No</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1001</td>
</tr>
<tr>
<td>M1002</td>
</tr>
<tr>
<td>C1001</td>
</tr>
<tr>
<td>C1002</td>
</tr>
<tr>
<td>E1001</td>
</tr>
<tr>
<td>E1002</td>
</tr>
<tr>
<td>E1003</td>
</tr>
</tbody>
</table>

7 rows in set (0.02 sec)
Write a program using python to get 10 players name and their score. Write the input in a csv file. Accept a player name using python. Read the csv file to display the name and the score. If the player name is not found give an appropriate message.

Coding

```python
import csv

with open('c:\pyprg\player.csv','w') as f:
    w = csv.writer(f)
    n=1
    while (n<=10):
        name = input("Player Name?:")
        score = int(input("Score: "))
        w.writerow([name,score])
        n+=1

print("Player File created")
f.close()

searchname=input("Enter the name to be searched ")
f=open('c:\pyprg\player.csv','r')
reader =csv.reader(f)
lst=[]
for row in reader:
    lst.append(row)
q=0
for row in lst:
    if searchname in row:
        print(row)
        q+=1
if(q==0):
    print("string not found")
f.close()
```
Player Name?: Rohit Sharma
Score: 264
Player Name?: Virender Sehwag
Score: 219
Player Name?: Sachin Tendulkar
Score: 200
Player Name?: Dhoni
Score: 190
Player Name?: Sachin Tendulkar
Score: 250
Player Name?: Virat Kohli
Score: 148
Player Name?: Ganguly
Score: 158
Player Name?: Kapil Dev
Score: 175
Player Name?: Amarnath
Score: 148
Player Name?: Sunil Gavaskar
Score: 200
Player File created
Enter the name to be searched Sachin Tendulkar
['Sachin Tendulkar', '200']
['Sachin Tendulkar', '250']
Create a sql table using python and accept 10 names and age. Sort in descending order of age and display.

import sqlite3

connection = sqlite3.connect("info.db")
cursor = connection.cursor()
#cursor.execute("DROP Table student")
cursor.execute("create table student(name, age)")
print("Enter 10 students names and their ages respectively:")
for i in range(10):
    who = [input("Enter Name:")]  
age = [int(input("Enter Age:"))]  
n = len(who)
    for i in range(n):
        cursor.execute("insert into student values (?, ?)", (who[i], age[i]))
cursor.execute("select * from student order by age desc")
print("Displaying All the Records From student Table in Descending order of age")
print ("cursor.fetchall(),sep='\n' ")
Enter 10 students names and their ages respectively:
Enter Name: Annamalai
Enter Age: 17
Enter Name: Aashik Mathew
Enter Age: 23
Enter Name: Kumaran
Enter Age: 30
Enter Name: Sivasakthiya
Enter Age: 28
Enter Name: Leena
Enter Age: 45
Enter Name: Meena
Enter Age: 65
Enter Name: Kamalakannan
Enter Age: 35
Enter Name: Sowmyaa
Enter Age: 20
Enter Name: Ramaa
Enter Age: 70
Enter Name: Melvin
Enter Age: 35
Displaying All the Records From student Table in Descending order of age
('Ramaa', 70)
('Meena', 65)
('Leena', 45)
('Kamalakannan', 35)
('Melvin', 35)
('Kumaran', 30)
('Sivasakthiya', 28)
('Aashik Mathew', 23)
('Sowmyaa', 20)
('Annamalai', 17)
10

Write a program to get five marks using list and display the marks in pie chart

Coding

```python
import matplotlib.pyplot as plt
marks=[]
i=0
subjects = ["Tamil", "English", "Maths", "Science", "Social"]
while i<5:
    marks.append(int(input("Enter Mark = ")))
i+=1
for j in range(len(marks)):
    print("{}.{}. Mark = ".format(j+1, subjects[j],marks[j]))
plt.pie (marks, labels = subjects, autopct = "%.2f")
plt.axes().set_aspect("equal")
plt.show()
```

Output:

Enter Mark = 67
Enter Mark = 31
Enter Mark = 45
Enter Mark = 89
Enter Mark = 73
1. Tamil Mark = 67
2. English Mark = 31
3. Maths Mark = 45
4. Science Mark = 89
5. Social Mark = 73
<table>
<thead>
<tr>
<th>Practical Question Number</th>
<th>Question 1</th>
<th>Question 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS1</td>
<td>PY1(a) Calculate Factorial</td>
<td>(OR)</td>
</tr>
<tr>
<td></td>
<td>PY1(b) Sum of Series</td>
<td>PY9 - Python with SQL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS2</td>
<td>PY2(a) Odd or Even</td>
<td>(OR)</td>
</tr>
<tr>
<td></td>
<td>PY2(b) Reverse the String</td>
<td>PY8 - Python with CSV</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS3</td>
<td>PY3 - Generate values and remove odd numbers</td>
<td>(OR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PY10 - Python Graphics with Pip</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS4</td>
<td>PY4 - Generate Prime numbers and Set Operations</td>
<td>(OR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DB6 - MySQL – Employee Table</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS5</td>
<td>PY5 - Display a String elements – Using Class</td>
<td>(OR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DB7 - MySQL – Student Table</td>
</tr>
</tbody>
</table>