Database Management Laboratory (PCCIT592)

Lab Sessional Report Submitted to

Maulana Abul Kalam Azad University of Technology, West Bengal

for

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY,



B. Tech.

in Department of Information Technology

Submitted by

Monodip Biswas (10000220062)

Course Faculty
MrS. Sayantani Saha

Department of Information Technology

Maulana Abul Kalam Azad University of Technology, West Bengal
Simhat, Haringhata, Nadia
Pin-741249

July, 2021

Table of Contents

Exp. No	Name of the Experiments	Page no	Date of Experiment	Date of Submission	Faculty Signature
1	ASSIGNMENT 1:	5-6	17-11-2021	21-11-2021	
	1.Create the following table: STUDENT and display structure. 2. Insert the following data in the STUDENT table.				
2	ASSIGNMENT 2: 1. Write SQL command to add primary key	7-10	17-11-2021	24-11-2021	
	to the table STUDENT with RegNo as Primary Key 2. Display all student records				
	3.Display name, address and year of admission of each student				
	4. List the name and year of students who are in Computer Science.				
	5. List the names and departments of students belonging to 3rd year.				
	6. Display names of students with 'a' as the second letter in their names.				
	7. Display names of students in descending alphabetical order.				
	8.Display names and addresses of students who took admission in the year 2004.				
	9. List the names of students who does not have a phone number.				
	10. List names of student and their departments whose date of birth is after 1st June 1981.				
	11. Create a CHECK constraint on this table for the field Year such that Year should be between 1&4.				
	12. Update 4th year students to make Year=5. Observe and note the message.				

ASSIGNMENT 3:	11-17	17-11-2021	21-11-2021	
1. Create table DEPARTMENT				
2. Insert values into DEPARTMENT table, as follows:				
3. Add a foreign key constraint in STUDENT against DeptCode column which references department.				
4. Create table: FACULTY				
5. Alter the table Faculty and add check constraint such that FacultyCode starts with 'F'				
6. Alter the table Faculty and add check constraint such DeptCode is either CSE,IT, EE,ECE				
7. Add constraint: DeptCode of Faculty is foreign key and references DeptCode in Department .				
8. Add Constraint: HOD of Department table is foreign key and references FacultyCode of Faculty.				
9. Find the names of faculties of CSE Department.				
10. Find the number of faculties in the IT department				
11. Show the names of the heads of departments with department name.				
12. Find the number of faculties who joined in August.				
13. Add an extra attribute to the faculty table - Salary Number(8,2)				
14. Insert values into the corresponding field Salary Number(8,2) (Enter distinct values).				
15. Find the Department having more than one faculty.				
16. Find the name, department of the faculties who earn between 8000 and 12000.				
17. Find the name of the department with maximum faculties.				

	18. Find the senior most faculty. 19. Find the name of the faculty who has completed 5 years.				
4	ASSIGNMENT 5 : Joins and SQL Operations	18-24	07-01-2022	26-01-2022	
5	ASSIGNMENT 6: Views and JOINS	25-29	07-01-2022	26-01-2022	
6.	ASSIGNMENT 7: Views , JOINS and SQL Operations	30-36	07-01-2022	27-01-2022	
7.	ASSIGNMENT 8: PL/SQL	37-47	07-01-2022	28-01-2022	

Date: 17/11/2021

ASSIGNMENT-1

1.Create the following table: STUDENT and display structure.

create table STUDENT (
RegNo varchar(6) Not null,
RollNo int(6) Not null,
Name varchar(10) Not null,
Address varchar(15) Not null,
PhoneNo int(10),
YearofAdm int(4) Not null,
DeptCode varchar(4) Not null,
Year int(1) Not null,
BirthDate date Not null);

Field	Туре	Null	Key	ļ	Default	Extra
++ RegNo	varchar(6)	+ NO	+ 	+ 	NULL	+1
RoĺlNo	int	NO	i	i	NULL	i i
Name	varchar(10)	NO	į –	İ	NULL	j i
Address	varchar(15)	NO	İ	İ	NULL	į į
PhoneNo	int	YES	1	1	NULL	
YearofAdm	int	NO	I .	1	NULL	
DeptCode	varchar(4)	NO NO	MUL	1	NULL	
Year	int	NO NO	l l	Т	NULL	
BirthDate	date	NO NO	l l	Т	NULL	1

2. Insert the following data in the STUDENT table.

insert into STUDENT values (012301, 123001, 'Ashish', 'Jadavpur', 24761892, 2003,'CSE', 3, '1981- 06-01'); insert into STUDENT values (012315, 123015, 'Kamal', 'Kashba', 24424987, 2003,'CSE', 3, '1981-09-19'); insert into STUDENT values (012424, 124024, 'Ipsita', 'Kaikhali', 25739608, 2004,'CSE', 2, '1982-08-15'); insert into STUDENT values (012250, 122050, 'Anita', 'Hooghly', 36719695, 2002,'IT', 4, '1980-12-22'); insert into STUDENT values (012344, 123044, 'Biplab', 'Howrah', null, 2003,'IT', 3, '1982-01-03'); insert into STUDENT values (012357, 123057, 'Samik', 'Barasat', 25426742, 2003,'IT', 3, '1981-07-15'); insert into STUDENT values (012419, 124019, 'Srija','Garia', 24755655, 2004, 'EE', 2, '1982-10-25');

Date:

insert into STUDENT values (012427, 124027, 'Saibal', 'Garia', 24753306, 2004,'ECE', 2, '1983-03-22');

insert into STUDENT values (012236, 122036, 'Santanu', 'DumDum', null, 2002, 'ECE', 4, '1980-12-11');

RegNo	RollNo	Name	Address	PhoneNo	YearofAdm	DeptCode	Year	BirthDate
12301	123001	Ashish	Jadavpur	24761892	2003	CSE	3	1981-06-01
12315	123015	Kamal	Kashba	24424987	2003	CSE	3	1981-09-19
12424	124024	Ipsita	Kaikhali	25739608	2004	CSE	2	1982-08-15
12250	122050	Anita	Hooghly	36719695	2002	IT	4	1980-12-22
12344	123044	Biplab	Howrah	NULL	2003	IT	3	1982-01-03
12357	123057	Samik	Barasat	25426742	2003	IT	3	1981-07-15
12419	124019	Srija	Garia	24755655	2004	EE	2	1982-10-25
12427	124027	Saibal	Garia	24753306	2004	ECE	2	1983-03-22
12236	122036	Santanu	DumDum	NULL	2002	ECE	4	1980-12-11

Date: 17/11/2021

ASSIGNMENT 2

1.Write SQL command to add primary key to the table STUDENT with RegNo as Primary Key:

2. Display all student records:

RegNo	RollNo	Name	Address	PhoneNo	YearofAdm	DeptCode	Year	BirthDate
12236	122036	Santanu	DumDum	NULL		ECE	4	1980-12-11
12250	122050	Anita	Hooghly	36719695	2002	IT	4	1980-12-22
12301	123001	Ashish	Jadavpur	24761892	2003	CSE	3	1981-06-01
12315	123015	Kamal	Kashba	24424987	2003	CSE	3	1981-09-19
12344	123044	Biplab	Howrah	NULL	2003	IT	3	1982-01-03
12357	123057	Samik	Barasat	25426742	2003	IT	3	1981-07-15
12419	124019	Srija	Garia	24755655	2004	EE	2	1982-10-25
12424	124024	Ipsita	Kaikhali	25739608	2004	CSE	2	1982-08-15
12427	124027	Saibal	Garia	24753306	2004	ECE	2	1983-03-22
+	+	·+			+	+	·	++

3. Display Name, Address and Year of Admission of each STUDENT:

Date:

4. List the name and year of students who are in Computer Science.

```
mysql> select Name, Year from STUDENT where DeptCode="CSE";
+-----+
| Name | Year |
+-----+
| Ashish | 3 |
| Kamal | 3 |
| Ipsita | 2 |
+-----+
3 rows in set (0.00 sec)
```

5. List the names and departments of students belonging to 3rd year.

6.Display names of students with 'a' as the second letter in their names.

Date:

7.Display names of students in descending alphabetical order.

8.Display names and addresses of students who took admission in the year 2004.

9. List the names of students who does not have a phone number.

Date:

10.List names of student and their departments whose date of birth is after 1st June 1981.

11. Create a CHECK constraint on this table for the field Year such that Year should be between 1&4.

```
mysql> alter table STUDENT add CHECK(Year>1 and Year<=4);
Query OK, 9 rows affected (2.60 sec)
Records: 9 Duplicates: 0 Warnings: 0
```

12. Update 4th year students to make Year=5. Observe and note the message.

```
mysql> update STUDENT set Year = 5 where Year = 4;
ERROR 3819 (HY000): Check constraint 'STUDENT_chk_1' is violated.
mysql>
```

Date: 17/11/2021

ASSIGNMENT 3

1. Create table DEPARTMENT

```
mysql> create table DEPARTMENT (
-> DeptCode varchar (4) PRIMARY KEY,
-> DeptName varchar (40) not null,
-> HOD varchar (4) not null
-> );
Query OK, 0 rows affected (2.49 sec)
```

Description:

2. INSERT values into DEPARTMENT Table:

mysql> // changes were made in DEPARTMENT table due to the FOREIGN KEY issue in table STUDENT;//

insert into DEPARTMENT values ('CSE','Computer Science and Engineering','F101'); insert into DEPARTMENT values ('ECE','Electronics Communication Engineering','F506'); insert into DEPARTMENT values ('EE,'Electrtical Engineering','F901'); insert into DEPARTMENT values ('IT','Information Technology','F201');

12

Date:

3. Add a foreign key constraint in STUDENT against DeptCode column which references DEPARTMENT.

```
mysql> alter table STUDENT add constraint Department FOREIGN KEY (DeptCode) references DEPARTMENT(DeptCode);
Query OK, 10 rows affected (2.59 sec)
Records: 10 Duplicates: 0 Warnings: 0
mysql> desc STUDENT;
 Field
                     | Null | Key | Default | Extra |
           | varchar(6) | NO
 RollNo
                        l NO
           I int
                                      NULL
 Name
           | varchar(10) | NO
                                    NULL
           | varchar(15) | N0
                                    NULL
 Address
 PhoneNo
           | int
                        | YES
                                    | NULL
                        | NO |
 YearofAdm | int
                                     I NULL
 DeptCode | varchar(4) | NO | MUL | NULL
                        | NO |
 Year
           | int
                                      NULL
                        | NO
 BirthDate | date
                                    | NULL
9 rows in set (0.01 sec)
```

4.Create table: FACULTY.

```
mysql> create table FACULTY (
    -> FacultyCode varchar(4) PRIMARY KEY,
    -> FacultyName varchar(15) Not null,
    -> DateOfJoin date Not null,
    -> DeptCode varchar(4) Not null
Query OK, 0 rows affected (1.92 sec)
mysql> desc FACULTY;
 Field
             | Type
                           | Null | Key | Default | Extra |
 FacultyCode | varchar(4) | NO | PRI
FacultyName | varchar(15) | NO |
                                   | PRI | NULL
                                          I NULL
              DateOfJoin | date
                                            NULL
 DeptCode
                                            NULL
4 rows in set (0.05 sec)
```

5. Insert appropriate values in the above table.

```
INSERT INTO FACULTY VALUES ('F101', 'M.Sinha','2005-01-01','CSE'); INSERT INTO FACULTY VALUES ('F105', 'P.sarkar','2019-02-01','CSE'); INSERT INTO FACULTY VALUES ('F201', 'S.Mazumder','2005-09-15','IT'); INSERT INTO FACULTY VALUES ('F301', 'S.Mondal','2018-08-01','CSE'); INSERT INTO FACULTY VALUES ('F401', 'D.Majumdar','2003-01-12','IT'); INSERT INTO FACULTY VALUES ('F506', 'N.Biswas','2013-12-31','ECE');
```

Date:

```
INSERT INTO FACULTY VALUES ('F607', 'R.Paul','2007-04-10','EE');
INSERT INTO FACULTY VALUES ('F704', 'S.Sarkar','2012-01-01','IT');
INSERT INTO FACULTYVALUES ('F808', 'K.Das','2010-06-15','IT');
INSERT INTO FACULTYVALUES ('F901', 'R.Roy','2017-06-15','EE');
INSERT INTO FACULTY VALUES ('F902', 'R.Biswas','2018-06-15','ECE');
```

```
mysql> update FACULTY set DeptCode = "ECE" where FacultyCode = "F506";
Query OK, 1 row affected (0.25 sec)
Rows matched: 1 Changed: 1 Warnings: 0
mysql> select * from FACULTY;
| FacultyCode | FacultyName | DateOfJoin | DeptCode |
              | M.Sinha | 2005-01-01 | CSE
| P.Sarkar | 2019-02-01 | CSE
| F105
                   | S.Mazumder | 2005-09-15 | IT
| F201
              | S.Mondal | 2018-08-01 | CSE
| D.Majumdar | 2003-01-12 | IT
| N.Biswas | 2007-12-31 | ECE
| R.Paul | 2007-04-10 | EE
| S.Sarkar | 2012-01-01 | IT
| K.Das | 2010-06-15 | IT
| R.Roy | 2017-06-15 | EE
| R.Biswas | 2018-06-15 | EE
| F301
  F401
  F506
  F607
  F704
   F808
   F901
   F902
11 rows in set (0.00 sec)
```

6.Alter the table Faculty and add check constraint such that FacultyCode starts with 'F'.

```
mysql> alter table FACULTY add constraint Con_Faculty Check(FacultyCode like 'F%');
Query OK, 11 rows affected (2.92 sec)
Records: 11 Duplicates: 0 Warnings: 0
```

7.Alter the table FACULTY and add check constraint such DeptCode is either CSE,IT, EE,ECE:

```
mysql> alter table FACULTY add constraint Cons_Faculty Check(DeptCode IN('CSE','IT','EE','ECE'));
Query OK, 11 rows affected (2.92 sec)
Records: 11 Duplicates: 0 Warnings: 0
mysql>
```

Date:

8.Add constraint: DeptCode of FACULTY is foreign key and references DeptCode in DEPARTMENT.

```
      mysql> alter table FACULTY add constraint Fkey_Department Foreign key(DeptCode)

      references DEPARTMENT(DeptCode);

      Query OK, 11 rows affected (4.88 sec)

      Records: 11 Duplicates: 0 Warnings: 0

      mysql> desc FACULTY;

      +-----+

      | Field | Type | Null | Key | Default | Extra |

      +-----+

      | FacultyCode | varchar(4) | NO | PRI | NULL | |

      | FacultyName | varchar(15) | NO | NULL | |

      | DateOfJoin | date | NO | NULL | |

      | DeptCode | varchar(4) | NO | MUL | NULL | |

      | DeptCode | varchar(4) | NO | MUL | NULL | |

      +------+

      4 rows in set (0.00 sec)
```

9.Add Constraint: HOD of DEPARTMENT table is foreign key and references FacultyCode of FACULTY.

```
mysql> alter table DEPARTMENT add constraint Fkey_HOD Foreign key(HOD) reference
s FACULTY(FacultyCode);
Query OK, 4 rows affected (2.30 sec)
Records: 4 Duplicates: 0 Warnings: 0
```

10. Find the names of faculties of CSE Department.

15

Date:

11. Find the number of faculties in the IT department:

12. Show the names of the heads of departments with department name.

13. Find the number of faculties who joined in August.

```
mysql> select count( * )as "no of faculty" from FACULTY where month(DateOfJoin)= 8;
+------+
| no of faculty |
+------+
| 1 |
+----------+
1 row in set (0.10 sec)
```

14.Add an extra attribute to the faculty table -Salary Number(8,2)

15.Insert values into the corresponding field Salary Number(8,2) (Enter distinct values).

```
mysql> update FACULTY set salary=12400.00 where FacultyCode='F901';
Query OK, 1 row affected (0.10 sec)
Rows matched: 1 Changed: 1 Warnings: 0
mysql> update FACULTY set salary=20000.00 where FacultyCode='F902';
Query OK, 1 row affected (0.28 sec)
Rows matched: 1 Changed: 1 Warnings: 0
mysql> select * from FACULTY;
| FacultyCode | FacultyName | DateOfJoin | DeptCode | Salary |
         F101
 F105
 F201
 F301
 F401
 F506
 F607
 F704
 F808
 F901
 F902
11 rows in set (0.00 sec)
```

16. Find the Department having more than one faculty.

17. Find the name, department of the faculties who earn between 8000 and 12000.

18. Find the name of the department with maximum faculties.

19. Find the senior most faculty.

```
mysql> select FacultyName, timestampdiff(year,DateOfJoin,sysdate()) as MostSenio
r from FACULTY order by DateOfJoin limit 1;
+-----+
| FacultyName | MostSenior |
+-----+
| D.Majumdar | 18 |
+-----+
1 row in set (0.00 sec)
mysql>
```

20. Find the name of the faculty who has completed 5 years.

18

Date: 07/01/2022

ASSIGNEMENT-5

1.Create table SUBJECT and insert appropriate values.

Column Name	Data Type	Size	Constraints
SubjectCode	Varchar2	4	Not null, Primary key
SubjectName	Varchar2	15	Not null
Faculty	Varchar2	4	Foreign key references FacultyCode of table FACULTY

Ans:

```
create table SUBJECT(
SubjectCode varchar(4) not null,
```

```
SubjectName varchar(20) not null,
Faculty varchar (4) not null,
FOREIGN KEY(Faculty) references FACULTY(FacultyCode)
);
```

```
insert into SUBJECT values ('IT50','RDBMS','F201'); insert into SUBJECT values ('CS45','DAA','F301'); insert into SUBJECT values ('CS35','DSA','F101'); insert into SUBJECT values ('EC21','AE','F506'); insert into SUBJECT values ('EE69','IM','F901');
```

ield	Туре	Null H	Key Default	Extra
ubjectCode	varchar(4)	NO	+ NULL	
ubjectName	varchar(20)	NO	NULL	
	varchar(4)		MUL NULL	
	varchar(4)	YES	NULL	
	varchar(1)	I YES I	NULL	
ear ows in set (·		
ows in set		; ; ;		++ year
ows in set	(0.01 sec) * from SUBJECT	; ; ;		++ year ++ 3
ows in set of	(0.01 sec) from SUBJECT SubjectName	; ; ; Faculty	 Department	
ows in set of the set of the select of the s	(0.01 sec) from SUBJECT SubjectName RDBMS	; ; 	 Department 	
ows in set of the set of the select of the s	(0.01 sec) from SUBJECT SubjectName RDBMS DAA	; Faculty F201 F301	Department IT CSE	3

19

Date:

2.Find the number of students in each department with their department name.

Ans: select DeptName, count(*) as NumOfStudents from DEPARTMENT JOIN STUDENT on STUDENT.DeptCode = DEPARTMENT.DeptCode group by STUDENT.DeptCode;

DeptName	NumOfStudents
Computer Science and Engineering	4
Electronics Communication Engineering	1
Electrtical Engineering	1
Information Technology	4

3.Increment the salary of each faculty by Rs 500.

Ans: update FACULTY set Salary = Salary + 500;

acultyCode	FacultyName	DateOfJoin	DeptCode	Salary
	K.Das	 0000-00-00	CSE	NULL
F101	M.Sinha	2005-01-01	IT	15500.00
F105	P.sarkar	2019-02-01	CSE	7300.00
F201	S.Mazumder	2005-09-15	IT	9700.00
F301	S.Mondal	2018-08-01	CSE	8600.00
F401	D.Majumdar	2003-01-12	IT	13600.00
F506	N.Biswas	2013-12-31	ECE	10500.00
F607	R.Paul	2007-04-10	EE	41500.00
F704	S.Sarkar	2012-01-01	IT	16500.00
F808	K.Das	2010-06-15	IT	19500.00
F901	R.Roy	2017-06-15	EE	12900.00
F902	R.Biswas	2018-06-15	ECE	20500.00

4. Find the names of students and faculties whose name start with 'S'.

Date:

5. Find the students who stay in Kaikhali

Ans: select Name from STUDENT where Address = "Kaikhali";

6. Find the names of faculties who take classes in the IT department.

Ans: select FacultyName from FACULTY where DeptCode = 'IT';

7. Find the names of all faculties whose HOD is given.

Ans: select HOD,FacultyName from DEPARTMENT JOIN FACULTY ON DEPARTMENT.HOD = FACULTY.FacultyCode;

Date:

8. Add extra attribute to the Subject table - department varchar2(4), year varchar2(1)

Ans: alter table SUBJECT add column Department varchar(4); alter table SUBJECT add column year varchar(1);

Field	Type	Null	Key	Default	Extra
SubjectCode	varchar(4)	NO NO		NULL	
SubjectName	varchar(20)	NO	i i	NULL	i
Faculty	varchar(4)	NO	MUL	NULL	i
Department	varchar(4)	YES	i	NULL	i
year	varchar(1)	YES	i	NULL	i

9. Insert values into the fields - department, year.

```
Ans:
```

```
update SUBJECT set Department = 'IT', year = 3 where SubjectName = 'RDBMS'; update SUBJECT set Department = 'CSE', year = 2 where SubjectCode = 'CS45'; update SUBJECT set Department = 'ECE', year = 1 where SubjectCode = 'EC21'; update SUBJECT set Department = 'IM', year = 4 where SubjectCode = 'EE69'; update SUBJECT set Department = 'CSE', year = 3 where SubjectCode = 'CS35'; select * from SUBJECT;
```

```
mysql> select * from SUBJECT;
 SubjectCode | SubjectName | Faculty | Department | year
 IT50
               RDBMS
                            F201
                                       IT
                              F301
                                                      2
 CS45
                                        CSE
               DAA
               AE
                              F506
                                        ECE
                                                      1
               IM
 EE69
                              F901
                                        EE
                DSA
                              F101
                                        CSE
                                                      3
 rows in set (0.12 sec)
```

10. Find the names of faculties who earn more than the average of all faculties.

Ans:

select FacultyName from FACULTY group by FacultyName having avg(Salary) > (select avg(salary) from FACULTY);

Date:

11. List the names of faculties of CSE department who earn more than the average salary of the department.

Ans: select FacultyName from FACULTY group by FacultyName having avg(Salary) > (select avg(Salary) from FACULTY where DeptCode = 'CSE');

12. Find the maximum and minimum salaries among faculties.

Ans: select max(Salary) as MaxSal, min(Salary) as MinSal from FACULTY;

Date:

13. Find the second maximum samary among all faculties.

Ans: select * from FACULTY order by Salary desc limit 1,1;

14. Find the names of faculties who are not the HOD's of any department.

Ans select FacultyName from FACULTY where FacultyCode Not in(select HOD from DEPARTMENT);

15. Find the names of subjects for students of CSE 3^{rd} year.

Ans: select SubjectName from SUBJECT where Department = 'CSE' and year = '3';

Date:

16. Name the departments having highest number of faculties and display the names of faculties.

Ans: select DeptName,F.FacultyName,Count(*) as FacultyCount from DEPARTMENT D JOIN FACULTY F on D.DeptCode = F.DeptCode Group by D.DeptName Order by FacultyCount desc limit 1;

Date: 07/1/2022

ASSIGNMENT - 6

Create a view on the STUDENT table named V_STD selecting all the columns. Run the following queries on the view.

1. Display all data from the view.

Ans create view V_STD as select * from STUDENT; select * from V_STD;

```
mysql> create view V STD as select * from STUDENT;
Query OK, 0 rows affected (0.29 sec)
mysql> select * from V_STD;
                           | Address | PhoneNo | YearofAdm | DeptCode | Year | BirthDate
 RegNo | RollNo | Name
 12315 | 123015 | Kamal
                           | Kashba
                                        24424987 |
                                                        2003 | IT
                                                                             3 | 1981-09-19
 12424
        | 124024 | Ipsita
                           | Kaikhali |
                                                        2004 | CSE
                                                                             2 |
                                        25739608 |
                                                                                 1982-08-15
 12344
        | 123044 | Biplab | Howrah
                                            NULL
                                                        2003 | IT
                                                                             3 |
                                                                                 1982-01-03
       | 123057 | Samik
                                                        2003 | IT
                                                                             3 |
                                                                                 1981-07-15
                            | Barasat | 25426742 |
                                                                             2 |
 12419
         | 124019 | Srija
                            | Garia
                                      24755655
                                                        2004 | EE
                                                        2004 | ECE
 12427
         | 124027 | Saibal
                            | Garia
                                       | 24753306 |
                                                                                 1983-03-22
 012301 | 123001 | Ashish |
                                                        2003 | CSE
                             Jadavpur | 24761892
                                                                                 1981-06-01
 012301 | 123001
                   Ashish
                                                        2003 | CSE
                                                                                 1981-06-01
                             Jadavpur
                                        24761892
 12363
                   Bishakh |
                             Sector V
                                        23371987
                                                        2005
                                                                                  1982-05-01
               0 | Kami
                                            NULL
                                                                             2 |
                                                                                 0000-00-00
lO rows in set (0.14 sec)
```

2. Insert a new row into the view with the following data –

012363 123011 Bishakh Salt Lake 23371987 2005 IT 2 01-May-82

Ans: insert into V_STD values (012363, 123011, 'Bishakh', 'Salt Lake', 23371987,2005,'IT', 2, '1982-05-01');

-> 200	95,'IT', 2 1 row aft	2, '1982-05 fected (0.3	-01');	123011, 'B	ishakh', 'Sal	t Lake', 2	3371987	
RegNo	RollNo	Name	Address	PhoneNo	YearofAdm	DeptCode	Year	BirthDate
12315	123015	 Kamal	Kashba	 24424987	2003	IT	3	1981-09-19
12424	124024	Ipsita	Kaikhali	25739608	2004	CSE	2	1982-08-15
12344	123044	Biplab	Howrah	NULL	2003	IT	3	1982-01-03
12357	123057	Samik	Barasat	25426742	2003	IT	3	1981-07-15
12419	124019	Srija	Garia	24755655	2004	EE	2	1982-10-25
12427	124027	Saibal	Garia	24753306	2004	ECE	2	1983-03-22
012301	123001	Ashish	Jadavpur	24761892	2003	CSE	3	1981-06-01
012301	123001	Ashish	Jadavpur	24761892	2003	CSE	3	1981-06-01
12363	123011	Bishakh	Sector V	23371987	2005	IT	2	1982-05-01
5353	0	Kami		NULL	0	CSE	2	0000-00-00
12363	123011	Bishakh	Salt Lake	23371987	2005	IT	2	1982-05-01
+ 11 rows i	n set (0.0	++ 90 sec)					+	

Date:

3. Display data from student table to verify that the row has been inserted into the table.

Ans: select * from V_STD where Name = 'Bishakh';

```
mysql> select * from V_STD where Name = 'Bishakh';
  RegNo | RollNo | Name
                               | Address | PhoneNo | YearofAdm | DeptCode | Year | BirthDate
 12363 | 123011 | Bishakh | Sector V | 23371987 | 2005 | IT | 2 | 1982-05-01 | 12363 | 123011 | Bishakh | Salt Lake | 23371987 | 2005 | IT | 2 | 1982-05-01 |
 rows in set (0.00 sec)
```

4.Update the address of Bishakh to "SectorV" & verify the change in the table.

Ans: update V_STD set Address = 'Sector V' where RegNo = '12363'; select * from V STD where RegNo = '12363';

```
mysql> update V_STD set Address = 'Sector V' where RegNo = '12363';
Query OK, 1 row affected (0.14 sec)
Rows matched: 2 Changed: 1 Warnings: 0
mysql> select * from V_STD where RegNo = '12363';
  RegNo | RollNo | Name | Address | PhoneNo | YearofAdm | DeptCode | Year | BirthDate |
 12363 | 123011 | Bishakh | Sector V | 23371987 | 2005 | IT
12363 | 123011 | Bishakh | Sector V | 23371987 | 2005 | IT
                                                                                     2 | 1982-05-01 |
                                                                                     2 | 1982-05-01 |
  rows in set (0.00 sec)
```

4(i). Create a view on student tables named V_STD_2 selecting the columns – RegNo, Name, Year, Deptcode.

Display data from the view.

12363 | Bishakh |

11 rows in set (0.01 sec)

Ans: create view V_STD_2 as select RegNo,Name,Year,DeptCode from STUDENT;

mysql> create view V_STD_2 as select RegNo,Name,Year,DeptCode from STUDENT; Query OK, 0 rows affected (0.24 sec) mysql> select * from V_STD_2; RegNo | Name | Year | DeptCode | 12424 | Ipsita | 2 | CSE 12344 | Biplab | 3 | IT 12427 | Saibal | 2 | ECE 012301 | Ashish | 3 | CSE 012301 | Ashish | 3 | CSE 12363 | Bishakh | 2 | IT 5353 | Kami | 2 | CSE | 2 | CSE | 2 | IT

select * from V_STD_2;

5. Try to insert data into table through view.

Ans: insert into V_STD_2 values (5419, 'Kamisato', 2, 'CSE');

```
mysql> insert into V_STD_2 values (5419, 'Kamisato', 2, 'CSE');
Query OK, 1 row affected, 4 warnings (0.46 sec)
mysql> select * from V_STD_2;
 RegNo
         | Name
                    | Year | DeptCode
 12315 | Kamal
                         3 | IT
 12424 | Ipsita
                         2 | CSE
 12344 | Biplab
                         3 | IT
 12357 | Samik
                         3 | IT
                         2 | EE
 12419
        | Srija
 12427 | Saibal
                         2 | ECE
 012301 | Ashish
                         3 | CSE
 012301 | Ashish
                         3 | CSE
 12363
         | Bishakh
                         2 | IT
 12363
          Bishakh
                         2 | IT
  5419
         | Kamisato |
                         2 | CSE
11 rows in set (0.00 sec)
```

6. Update the Deptcode of 'Kamal' to 'IT' through view.

Ans: update V_STD_2 set DeptCode = 'CSE' where Name = 'Kamal';

```
mysql> update V_STD_2 set DeptCode = 'CSE' where Name = 'Kamal';
Query OK, 1 row affected (0.65 sec)
Rows matched: 1 Changed: 1 Warnings: 0
mysql> select * from V_STD_2;
RegNo | Name
                    | Year | DeptCode
 12315 | Kamal
                         3 | CSE
 12424 | Ipsita
                         2 | CSE
  12344 | Biplab
                         3 | IT
 12357
       | Samik
                         3 | IT
                         2 | EE
 12419
        | Srija
 12427
                         2 | ECE
         | Saibal
                         3 | CSE
 012301 | Ashish
 012301 | Ashish
                         3 | CSE
  12363
          Bishakh
                         2 | IT
  12363
           Bishakh
                         2 | IT
  5419
          Kamisato
                         2 | CSE
ll rows in set (0.01 sec)
```

28

Date:

7. Delete records of students of 4th year through view.

Ans: delete from V_STD_2 where Year = 4;

mysql> del Query OK,			here Year = .00 sec)	÷ 4;
mysql> sel	ect * from	V_STD_2	;	
RegNo +	Name	Year	DeptCode	
12315	Kamal	3	IT	
12424	Ipsita	2	CSE	
12344	Biplab	3	IT	
12357	Samik	3	IT	
12419	Srija	2	EE	
12427	Saibal	2	ECE	
012301	Ashish	3	CSE	
012301	Ashish	3	CSE	
12363	Bishakh	2	IT	
12363	Bishakh	2	IT	
5419	Kamisato	2	CSE	
++		++		
11 rows in	set (0.00	sec)		

I. Create a view named $V_FACULTY$ consisting of columns FacultyName, DeptCode from FACULTY table and HOD from Department table.

II .Display data from V_FACULTY

Ans: create view V_FACULTY as select

FACULTY.FacultyName,FACULTY.DeptCode,DEPARTMENT.HOD from FACULTY join DEPARTMENT on FACULTY.DeptCode = DEPARTMENT.DeptCode;

select * from V_FACULTY;

* from V_FA	CULTY;
DeptCode	HOD
CSE	F101
IT	F201
CSE	F101
IT	F201
CSE	F101
IT	F201
ECE	F506
EE	F901
IT	F201
IT	F201
EE	F901
I ECE	F506
	+

29

Date:

8. Try to insert a new row into this view V_FACULTY.

Ans: insert into V_FACULTY(FacultyName,DeptCode) values ('B.Bas','CSE');

```
mysql> insert into V_FACULTY(FacultyName,DeptCode) values ('B.Bas','CSE');
Query OK, 1 row affected, 2 warnings (0.41 sec)
mysql> select * from V_FACULTY;
 FacultyName | DeptCode | HOD
              | CSE
 B.Bas
                         | F101
 P.sarkar
              | CSE
                         | F101
 S.Mondal
              | CSE
                         | F101
 M.Sinha
              | IT
                         | F201
 S.Mazumder
              | IT
                          F201
 D.Majumdar
              | IT
                         F201
 S.Sarkar
              | IT
                         F201
 K.Das
               IT
                           F201
 N.Biswas
              | ECE
                           F506
 R.Biswas
              I ECE
                           F506
 R.Paul
                           F901
 R. Roy
                EE
                           F901
12 rows in set (0.00 sec)
```

9. Try to update the DeptCode of a CSE faculty to IT.

Ans: update V_FACULTY set DeptCode = 'IT' where FacultyName = 'B.Bas';

```
mysql> update V_FACULTY set DeptCode = 'IT' where FacultyName = 'B.Bas';
Query OK, 1 row affected (0.10 sec)
Rows matched: 1 Changed: 1 Warnings: 0
mysql> select * from V_FACULTY;
 FacultyName | DeptCode | HOD
                         | F101
 P.sarkar
              I CSE
 S.Mondal
              | CSE
                           F101
              | IT
                          F201
 B.Bas
                         | F201
 M.Sinha
              | IT
 S.Mazumder | IT
                           F201
 D.Majumdar | IT
                         | F201
 S.Sarkar
              | IT
                         | F201
 K.Das
              | IT
                           F201
 N.Biswas
              | ECE
                           F506
 R.Biswas
              | ECE
                           F506
 R.Paul
              | EE
                           F901
 R.Roy
              | EE
                           F901
12 rows in set (0.00 sec)
```

Date: 07/01/2022

ASSIGNMENT - 7

Consider the Employee table

emp_id	emp_name	job_name	manager_id	hire_date	salary	commission	dep_id
68319	KAYLING	PRESIDENT		1991-11-18	6000.00		1001
66928	BLAZE	MANAGER	68319	1991-05-01	2750.00	İ	3001
67832	CLARE	MANAGER	68319	1991-06-09	2550.00	İ	1001
65646	JONAS	MANAGER	68319	1991-04-02	2957.00	ĺ	2001
67858	SCARLET	ANALYST	65646	1997-04-19	3100.00	ĺ	2001
69062	FRANK	ANALYST	65646	1991-12-03	3100.00		2001
63679	SANDRINE	CLERK	69062	1990-12-18	900.00		2001
64989	ADELYN	SALESMAN	66928	1991-02-20	1700.00	400.00	3001
65271	WADE	SALESMAN	66928	1991-02-22	1350.00	600.00	3001

Department Table

dep_id	dep_name	dep_location
1001 2001 3001 4001	FINANCE AUDIT	SYDNEY MELBOURNE PERTH BRISBANE

Order table

Emp_id	Order_id	Amount	Order_Date
64989	5001	50000	25-06-2021
64989	5010	65000	20-04-2020
64989	5004	45000	21-03-2021

Solve using SQL query

Date:

1. List the employee names along with the department name and salary.

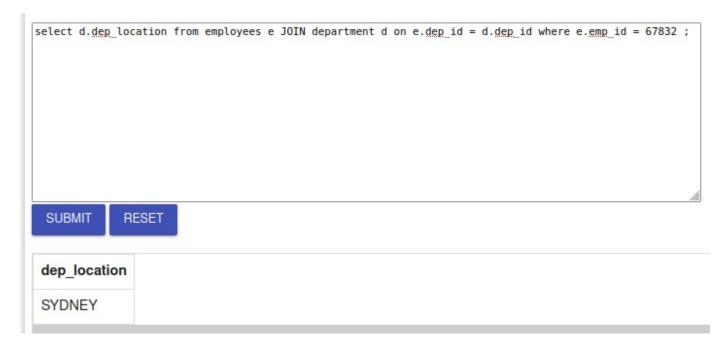
Ans: select emp_name,salary, d.dep_name from employees e,department d WHERE e.dep_id = d.dep_id;

emp_name	salary	dep_name
KAYLING	6000.00	FINANCE
BLAZE	2750.00	MARKETING
CLARE	2550.00	FINANCE
JONAS	2957.00	AUDIT
ADELYN	1700.00	MARKETING
WADE	1350.00	MARKETING
MADDEN	1350.00	MARKETING
TUCKER	1600.00	MARKETING
ADNRES	1200.00	AUDIT
JULIUS	1050.00	MARKETING
MARKER	1400.00	FINANCE
SCARLET	3100.00	AUDIT
FRANK	3100.00	AUDIT
SANDRINE	900.00	AUDIT

Date:

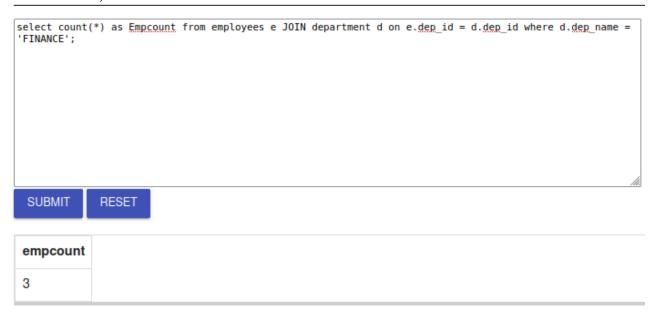
2. Write the location of the emp_id=67832

Ans: select d.dep_location from employees e JOIN department d on e.dep_id = d.dep_id where e.emp_id = 67832;



3. How many employees are working in the finance department?

Ans: select count(*) as Empcount from employees e JOIN department d on e.dep_id = d.dep_id where d.dep_name = 'FINANCE';



Date:

4. Write the name of the manager of Scarlet.

Ans: $/\!/$ In Question 4 there's no attribute named Manager name in the given table(s). only manager id, for manager id. $/\!/$

select manager_id from employees where emp_name = 'SCARLET';



Date:

5. List the employees who have joined after Clare.

Ans: select emp_name from employees where hire_date > '1991-06-09';

select <u>emp</u> nar	me from employees	where hire_date	> '1991-06-09'
SUBMIT emp_name	RESET		
KAYLING			
MADDEN			
TUCKER			
ADNRES			
JULIUS			
MARKER			
SCARLET			
FRANK			

Date:

6. Name the employee having highest salary.

Ans: select emp_name from employees where salary = (select Max(salary) from employees);

select	emp_name	from	employees	where	salary	= (select	Max(salary)	from	employees);
SUBM	NIT F	RESET							
emp_	name								
KAYLI									

7. List the details of the departments where maximum number of employees are working.

Ans: select dep_name from department JOIN employees on department.dep_id = employees.dep_id group by department.dep_name;



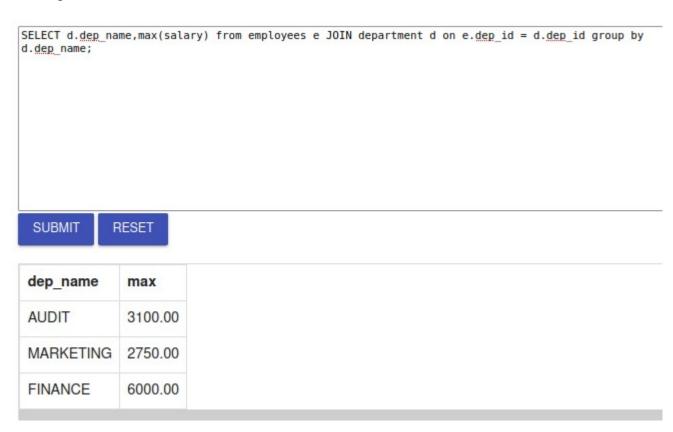
36

Page no:

Date:

8. Name and highest salary of each department.

Ans: SELECT d.dep_name,max(salary) from employees e JOIN department d on e.dep_id = d.dep_id group by d.dep_name;



9. Name the salesman who has not made any order.

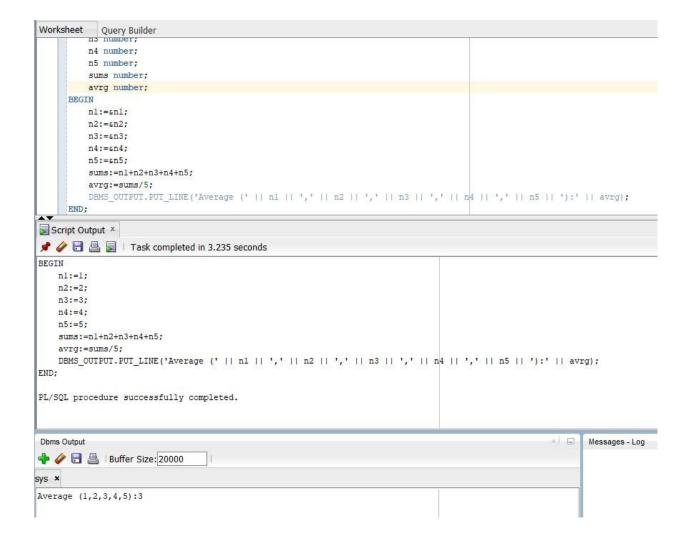
Ans: //In Question 9 No table/attribute provided for Salesman//

10 Write name department and order_id of the all the employees.

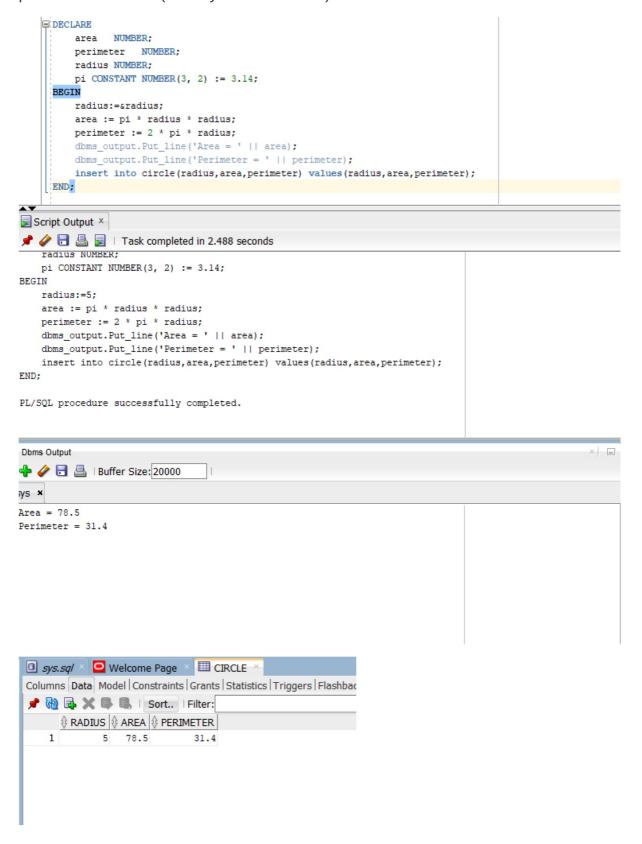
Date: 07/01/2022

ASSIGNMENT - 8

1. To read several input values and compute their average

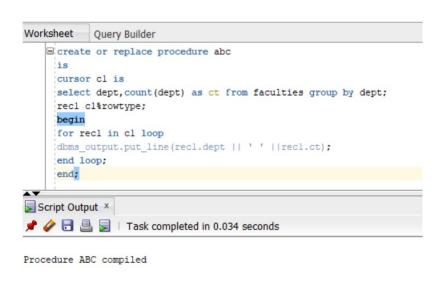


2. To take radius as input and calculate area and perimeter of a circle. Insert radius, area and perimeter in a table (already created before)



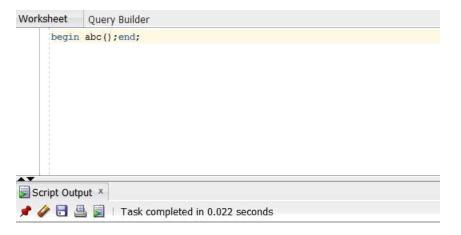
3. To display the number of faculties in each department. Also update the salary by 10% if number of faculties is less than 10 in the department, else update salary by 5%.

EDIT	FACULTYID	NAME	DEPT	SALARY
Z.	202201	S. Roy	IT	35000
Z.	202203	P. Das	IT	43000
Ø	202204	F. Ahmed	IT	50000
Z.	202208	W. Bagchi	IT	52000
Ø	202215	A. Das	CSE	27000
Ø	202251	L. Roy	CSE	45000
Ø	202241	D. Agarwal	CSE	35000
Ø	202255	P. Ghosh	IT	33000
Ø	202266	A. Ghoshal	IT	40000
Ø	202233	H. Verma	IT	40000
Ø	202274	A. Khan	IT	28000
Ø	202219	S. George	IT	30000
Ø	202237	S. Dam	IT	30000
			row(s)	1 - 13 of 13



PL/SQL procedure successfully completed.

Procedure ABC compiled



Procedure ABC compiled

PL/SQL procedure successfully completed.

PL/SQL procedure successfully completed.

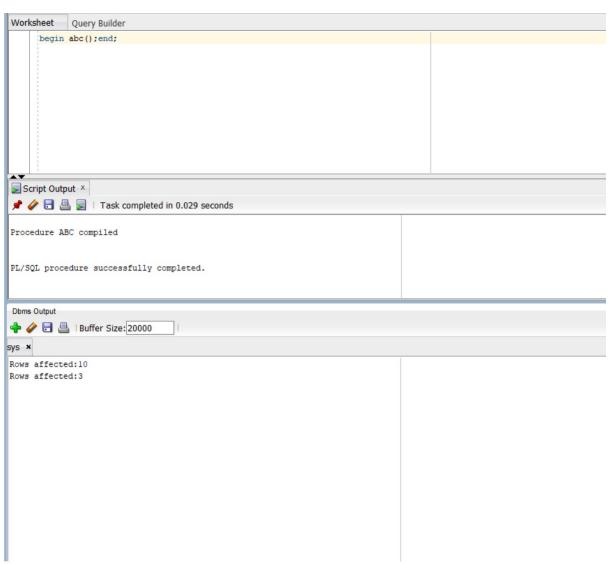


41

Date:

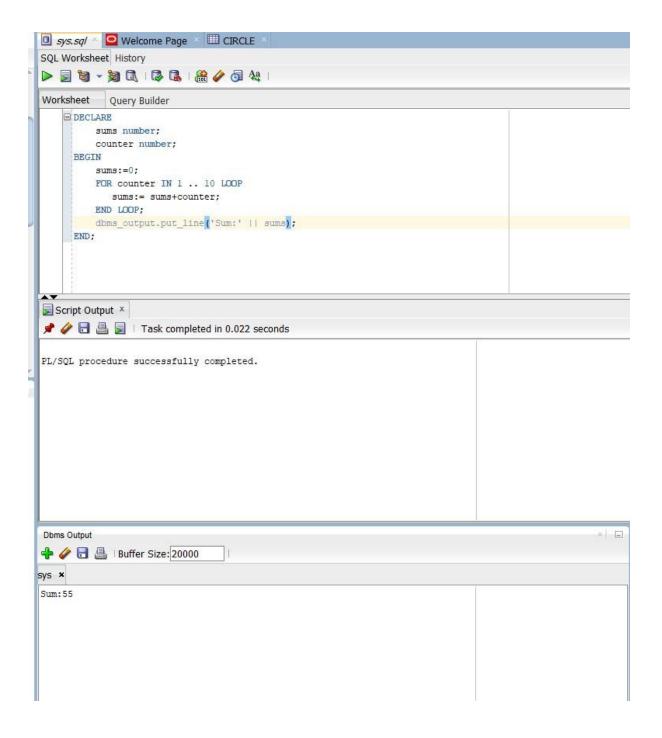
```
Worksheet Query Builder
   create or replace procedure abc
     is
     cursor cl is
     select dept, count (dept) as ct from faculties group by dept;
     recl cl%rowtype;
     var_rows number;
     begin
   for recl in cl loop
   mif recl.ct < 10 then
     update faculties set salary=salary+(salary*10/100) where dept=recl.dept;
    if SQL%FOUND then
         var_rows := SQL%ROWCOUNT;
         dbms_output_put_line('Rows affected:'||var_rows);
     else
      update faculties set salary=salary+(salary*5/100) where dept=recl.dept;
   ☐ if SQL%FOUND then
        var_rows := SQL%ROWCOUNT;
        dbms_output.put_line('Rows affected:'||var_rows);
     end if;
     end loop;
     end;
```

Date: Page no: 42



		\$ 1	NAME		
1	202201	s.	Roy	IT	36750
2	202203	P.	Das	IT	45150
3	202204	F.	Ahmed	IT	52500
4	202208	W.	Bagchi	IT	54600
5	202215	A.	Das	CSE	29700
6	202251	L.	Roy	CSE	49500
7	202241	D.	Agarwal	CSE	38500
8	202255	P.	Ghosh	IT	34650
9	202266	A.	Ghoshal	IT	42000
10	202233	Н.	Verma	IT	42000
11	202274	A.	Khan	IT	29400
12	202219	s.	George	IT	31500
13	202237	s.	Dam	IT	31500

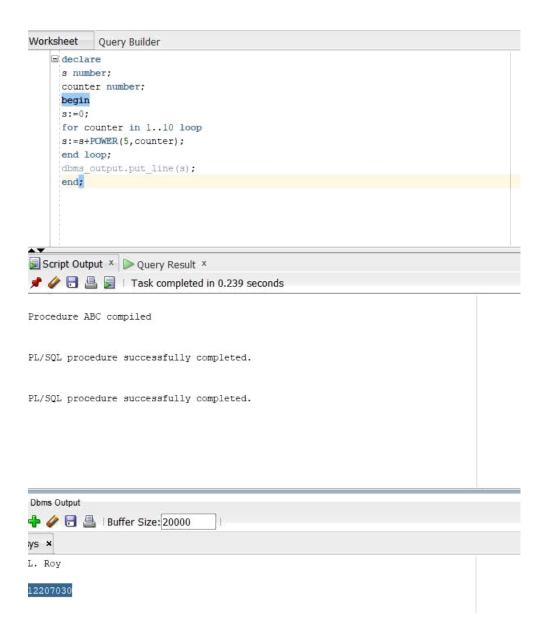
4. Find the sum upto 10th term of the following series: 1+2+3+......



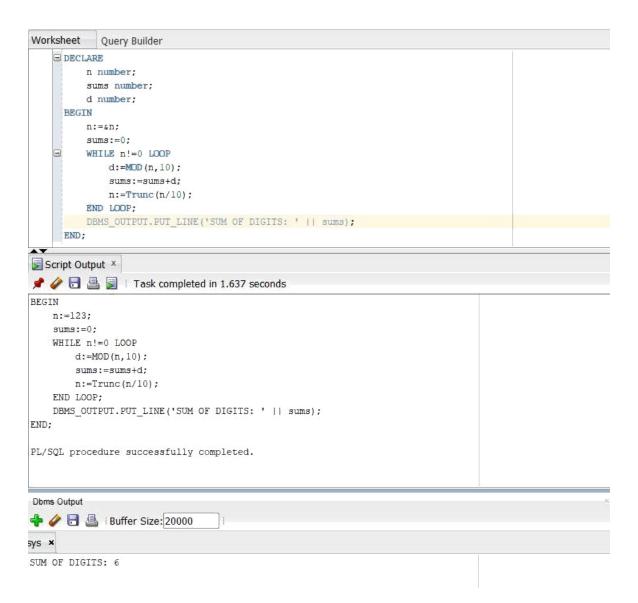
1 +4+9+.....

```
Worksheet Query Builder
    DECLARE
          sums number;
          counter number;
      BEGIN
          sums:=0;
         FOR counter IN 1 .. 10 LOOP
          sums:= sums+counter*counter;
         END LOOP;
         dbms_output.put_line('Sum:' || sums);
      END;
Script Output ×
 📌 🥢 🖥 🚇 📗 | Task completed in 0.029 seconds
PL/SQL procedure successfully completed.
Dbms Output
💠 🥢 🖥 🚇 | Buffer Size: 20000
sys ×
Sum:385
```

5+25+125+..

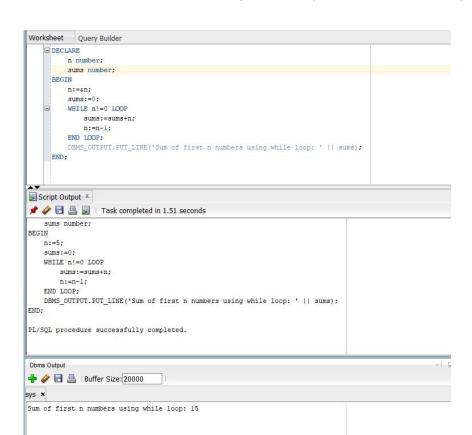


5. Find the sum of the digits of a number .(number is user input)



6. Find the sum of first n numbers using while loop &

for loop.



7. Find the 3_{rd} maximum salary among the faculties.

