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ADVANCED DATABASE MANAGEMENT SYSTEM-LAB CYCLE 2

1. Write a PL/SQL code to calculate total and percentage of marks of a student in four subjects.

declare

rollno number;

mark1 number;

mark2 number;

mark3 number;

mark4 number;

total number;

percentage number(8,2);

begin

rollno:=&rollno;

mark1:=&mark1;

mark2:=&mark2;

mark3:=&mark3;

mark4:=&mark4;

total:=mark1+mark2+mark3+mark4;

percentage:=total*0.25;

dbms_output.put_line('Student Marklist');

dbms_output.put_line('Total Mark = ' || total);

dbms_output.put_line('Percentage = ' || percentage);

end;

output

Student Marklist

Total Mark = 110

Percentage = 27.5

PL/SQL procedure successfully completed.

```
Student Marklist
```

```
Total Mark = 110
```

```
Percentage = 27.5
```

```
PL/SQL procedure successfully completed.
```

2. Write a PL/SQL code to calculate the total and the percentage of marks of the students in four subjects from the table, STUDENT with the following schema.

STUDENT (RNO , S1 , S2, S3, S4, total, percentage).

```
create table student (Rno number(5) primary key,s1 number(3),s2  
number(3),s3 number(3),s4 number(3),total number(5,2),percentage  
number(5));
```

```
insert into student values(101,87,90,95,75,0,0);
```

```
insert into student values(102,85,93,90,79,0,0);
```

```
insert into student values(103,88,92,80,80,0,0);
```

```
insert into student values(104,86,95,85,75,0,0);
```

```
select * from student;
```

```

declare
    t student.total%type;
    p student.percentage%type;
    cursor STU is select * from student;
    rw stu%rowtype;
begin
    open STU;
    loop
        fetch STU into rw;
        exit when STU%notfound;
        t:=rw.s1+rw.s2+rw.s3+rw.s4;
        p:=t*0.25;
        update student set total=t,percentage=p where
Rno=rw.Rno;
    end loop;
    close stu;
end;
select*from student;
output

```

Statement processed.

| RNO | S1 | S2 | S3 | S4 | TOTAL | PERCENTAGE |
|-----|----|----|----|----|-------|------------|
| 101 | 87 | 90 | 95 | 75 | 347 | 87 |
| 102 | 85 | 93 | 90 | 79 | 347 | 87 |
| 103 | 88 | 92 | 80 | 80 | 340 | 85 |
| 104 | 86 | 95 | 85 | 75 | 341 | 85 |

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4 rows selected.

3. Write a PL/SQL code to calculate the total salary amount of first n records of employee table.

```
create table employee(empid number(4),emp_name varchar(10),salary
number(5),dept_id number(4),dpt_name varchar(10));
```

```
insert into employee values(1,'anu',1000,10,'accounts');
```

```
insert into employee values(2,'manu',2000,11,'sales');
```

```
insert into employee values(3,'sanu',2500,12,'marketing');
```

```
insert into employee values(4,'tanu',3000,13,'accounts');
```

```
insert into employee values(5,'ranu',4000,14,'sales');
```

```
declare
```

```
    n number;
```

```
    i number:=1;
```

```
    tot number:=0;
```

```
    cursor emp is select salary from employee;
```

```
    cemp emp%rowtype;
```

```
begin
```

```
    n:=5;
```

```
    open emp;
```

```
    while (i<=n)
```

```
    loop
```

```
        fetch emp into cemp;
```

```
        tot:=tot+cemp.salary;
```

```
        i:=i+1;
```

```

        end loop;
        dbms_output.put_line('Total salary of ' || n || ' is ' || tot);
        close emp;
    end;

```

```

Statement processed.
Total salary of 5 is 12500

```

4. Use Cursors and add a user-defined exception to raise an exception if the number of employees in a particular department is less than 2. If the number of employees is less than 2, then print a message 'Department status needs 2 or more employees'. If the number is greater than 2, then populate the Department_stat table (dname, tot_emps, tot_salary).

declare

```

    dep_id employees.department_id%type;
    cursor dep is select * from demployees where department_id = dep_id;
    rw dep%rowtype;
    tl_emp number:=0;
    tl_sal number:=0;
    dep_name varchar(15);
    execp exception;
begin
    dep_id:=&dep_id;
    open dep;
    select department_name into dep_name from ddepartments
where department_id = dep_id;

```

```

        loop
            fetch dep into rw;
            exit when dep%notfound;
            tl_emp:=tl_emp+1;
            tl_sal := tl_sal + rw.salary;
        end loop;
        if(tl_emp<2) then
            raise execp;
        else
            insert into department_stat values(dep_name , tl_emp ,
tl_sal);
        end if;
    close dep;
exception
    when execp then
        dbms_output.put_line('dep status needs 2 or more employees');
end;

```

```
Total salary of 5 is 113275
```

```
PL/SQL procedure successfully completed.
```

5. Write a PL/SQL procedure to perform the concatenation of two strings. Strings need to be accepted through parameter passing.

create or replace procedure c_string(str1 in varchar,str2 in varchar) as

str3 varchar(20);

begin

str3:=CONCAT(str1,str2);

dbms_output.put_line('concatenated string is:' || str3);

end;

declare

str1 varchar(20);

str2 varchar(20);

begin

str1:='Anila';

str2:='Mathew';

c_string(str1,str2);

end;

OR (While in offline mode)

create or replace procedure c_string(str1 in varchar,str2 in varchar) as

str3 varchar(20);

begin

str3:=CONCAT(str1,str2);

```
        dbms_output.put_line('concatenated string is:' || str3);
    end;
/
```

```
accept str1 prompt 'enter the value of frist string:';
accept str2 prompt 'enter the value of second string:';
declare
    str1 varchar(20);
    str2 varchar(20);
begin
    str1:='&str1';
    str2:='&str2';
    c_string(str1,str2);
end;
/
```

```
Procedure created.
```

```
Statement processed.
concatenated string is:AnilaMathew
```


6. Write a PL/SQL procedure to find the number of students ranging from 100-70%, 69-60%, 59-50% & below 49% from the STUDENT table.

```
create table student (Rno number(5) primary key,s1 number(3),s2
number(3),s3 number(3),s4 number(3),total number(5,2),percentage
number(5));
```

```
insert into student values(101,87,90,95,75,347,87);
```

```
insert into student values(102,85,93,90,79,347,87);
```

```
insert into student values(103,88,92,80,80,340,85);
```

```
insert into student values(104,86,95,85,75,341,85);
```

```
select*from student;
```

| RNO | S1 | S2 | S3 | S4 | TOTAL | PERCENTAGE |
|-----|----|----|----|----|-------|------------|
| 101 | 87 | 90 | 95 | 75 | 347 | 87 |
| 102 | 85 | 93 | 90 | 79 | 347 | 87 |
| 103 | 88 | 92 | 80 | 80 | 340 | 85 |
| 104 | 86 | 95 | 85 | 75 | 341 | 85 |

[Download CSV](#)

4 rows selected.

```
declare
```

```
cursor cur_stud is select percentage as p from student_19;
```

```
c70 int;
```

```
c60 int;
```

```
c50 int;
```

```
c49 int;
```

```
rw cur_stud%rowtype;
```

```
begin
c70:=0;
c50:=0;
c60:=0;
c49:=0;
open cur_stud;
loop
    fetch cur_stud into rw;
    exit when cur_stud%notfound;
    if (rw.p >=70) and (rw.p<=100) then
        c70:=c70+1;
    else if (rw.p >=60) and (rw.p<=69) then
        c60:=c60+1;
    else if (rw.p >=50) and (rw.p<=59) then
        c50:=c50+1;
    else
        c49:=c49+1;
    end if;
end if;
end if;
end loop;
close cur_stud;
dbms_output.put_line('students with percentage 100-70 ' || c70);
dbms_output.put_line('students with percentage 69-60 ' || c60);
dbms_output.put_line('students with percentage 59-50 ' || c50);
dbms_output.put_line('students with percentage below 49 ' || c49);
```

end;

```
Statement processed.  
students with percentage 100-70 4  
students with percentage 69-60 0  
students with percentage 59-50 0  
students with percentage below 49 0
```

7.Create a function that accepts a number and returns its reverse value. Also write the program to invoke this function.

declare

 a int;

 c int;

 n int;

 rev int:=0;

 r int;

 function reverse_it(x IN int) return int as z int;

begin

 n := x;

 while (n > 0)

 loop

 r := mod(n , 10);

 rev := (rev * 10) + r;

 n := n / 10;

 end loop;

```

        z := rev;
        return z;
    end ;
BEGIN
    a := &a;
    c := reverse_it(a);
    dbms_output.put_line('the reverse of number is ' || c);
END;
```

```

The number is 23
the reverse of number is 32

PL/SQL procedure successfully completed.
```

9. Write a row trigger to add the details of new employees in Newemployee table, relieved employees in DelEmployee table and updated employees in ModiEmployee table. Trigger need to be fired after the insertion/deletion/updation made with Employee table.

```

CREATE OR REPLACE TRIGGER mytrig2
    AFTER DELETE OR INSERT OR UPDATE ON employee19
    FOR EACH ROW BEGIN IF DELETING THEN
        INSERT INTO delemployee19(ename,city) VALUES (:old.ename, :old.city);
    ELSE
        INSERT INTO modiemployee19(ename,city) VALUES (:new.ename, :old.city);
    END IF;
END;
```

output

```
select * from ModiEmployee;
```

| Script Output x | | Query Result x | |
|---|-------|----------------|--|
| SQL All Rows Fetched: 15 in 0.003 seconds | | | |
| | ENAME | CITY | |
| 1 | unni | kochi | |
| 2 | unni | kochi | |
| 3 | ammu | tvpm | |
| 4 | ammu | tvpm | |