Practical Assignment 3: Write a PL/SQL block to implement all types of cursor.


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

mysql> use pvgse
Database changed
mysql> create table student
    -> (
    -> sno int(10),
    -> name varchar(10),
    -> sub1 int(3),
    -> sub2 int(3),
    -> sub3 int(3),
    -> total int(3),
    -> percentage float(5,2)
    -> );
Query OK, 0 rows affected, 6 warnings (0.03 sec)

mysql> create table student_first
    -> (
    -> sno int(10),
    -> name varchar(10),
    -> sub1 int(3),
    -> sub2 int(3),
    -> sub3 int(3),
    -> total int(3),
    -> percentage float(5,2)
    -> );
Query OK, 0 rows affected, 6 warnings (0.04 sec)

mysql> create table student_pass
    -> (
    -> sno int(10),
    -> name varchar(10),
    -> sub1 int(3),
    -> sub2 int(3),
    -> sub3 int(3),
    -> total int(3),
    -> percentage float(5,2)
    -> );
Query OK, 0 rows affected, 6 warnings (0.03 sec)

mysql> create table student_fail
    -> (
    -> sno int(10),
    -> name varchar(10),
    -> sub1 int(3),
    -> sub2 int(3),
    -> sub3 int(3),
    -> total int(3),
    -> percentage float(5,2)
    -> );
Query OK, 0 rows affected, 6 warnings (0.04 sec)

mysql> desc student;
```

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+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| sno        | int         | YES  |     | NULL    |       |
| name       | varchar(10) | YES  |     | NULL    |       |
| sub1       | int         | YES  |     | NULL    |       |
| sub2       | int         | YES  |     | NULL    |       |
| sub3       | int         | YES  |     | NULL    |       |
| total      | int         | YES  |     | NULL    |       |
| percentage | float(5,2)  | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
7 rows in set (0.00 sec)

mysql> desc student_first;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| sno        | int         | YES  |     | NULL    |       |
| name       | varchar(10) | YES  |     | NULL    |       |
| sub1       | int         | YES  |     | NULL    |       |
| sub2       | int         | YES  |     | NULL    |       |
| sub3       | int         | YES  |     | NULL    |       |
| total      | int         | YES  |     | NULL    |       |
| percentage | float(5,2)  | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
7 rows in set (0.00 sec)

mysql> desc student_pass;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| sno        | int         | YES  |     | NULL    |       |
| name       | varchar(10) | YES  |     | NULL    |       |
| sub1       | int         | YES  |     | NULL    |       |
| sub2       | int         | YES  |     | NULL    |       |
| sub3       | int         | YES  |     | NULL    |       |
| total      | int         | YES  |     | NULL    |       |
| percentage | float(5,2)  | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
7 rows in set (0.00 sec)

mysql> desc student_fail;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| sno        | int         | YES  |     | NULL    |       |
| name       | varchar(10) | YES  |     | NULL    |       |
| sub1       | int         | YES  |     | NULL    |       |
| sub2       | int         | YES  |     | NULL    |       |
| sub3       | int         | YES  |     | NULL    |       |
| total      | int         | YES  |     | NULL    |       |
| percentage | float(5,2)  | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
7 rows in set (0.00 sec)

mysql> insert into student values
    -> (1,'AMIT',55,66,77,NULL,NULL),
    -> (2,'AJIT',66,44,77,NULL,NULL),
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    -> (3,'SUJIT',50,60,70,NULL,NULL),
    -> (4,'JIT',56,74,70,NULL,NULL),
    -> (5,'RAHUL',50,50,48,NULL,NULL),
    -> (6,'KAPIL',65,45,75,NULL,NULL),
    -> (7,'RAJ',52,60,50,NULL,NULL),
    -> (8,'SUSHIL',40,30,35,NULL,NULL),
    -> (9,'RAMESH',50,50,50,NULL,NULL),
    -> (10,'SUNIL',60,40,70,NULL,NULL);
Query OK, 10 rows affected (0.01 sec)
Records: 10  Duplicates: 0  Warnings: 0

mysql> select * from student;
+------+--------+------+------+------+-------+------------+
| sno  | name   | sub1 | sub2 | sub3 | total | percentage |
+------+--------+------+------+------+-------+------------+
|    1 | AMIT   |   55 |   66 |   77 | NULL  |       NULL |
|    2 | AJIT   |   66 |   44 |   77 | NULL  |       NULL |
|    3 | SUJIT  |   50 |   60 |   70 | NULL  |       NULL |
|    4 | JIT    |   56 |   74 |   70 | NULL  |       NULL |
|    5 | RAHUL  |   50 |   50 |   48 | NULL  |       NULL |
|    6 | KAPIL  |   65 |   45 |   75 | NULL  |       NULL |
|    7 | RAJ    |   52 |   60 |   50 | NULL  |       NULL |
|    8 | SUSHIL |   40 |   30 |   35 | NULL  |       NULL |
|    9 | RAMESH |   50 |   50 |   50 | NULL  |       NULL |
|   10 | SUNIL  |   60 |   40 |   70 | NULL  |       NULL |
+------+--------+------+------+------+-------+------------+
10 rows in set (0.00 sec)

mysql> select * from student_first;
Empty set (0.00 sec)

mysql> select * from student_pass;
Empty set (0.00 sec)

mysql> select * from student_fail;
Empty set (0.00 sec)

mysql> DELIMITER //
mysql> create procedure calgrade()
    -> begin
    -> declare s1,s2,s3,tot int(3);
    -> declare id int(10);
    -> declare per float(5,2);
    -> declare sname varchar(10);
    -> declare i,cnt int(3);
    -> DECLARE stu_cur CURSOR FOR select sno,name,sub1,sub2,sub3 from
student;
    -> SET i=0;
    -> select count(*) into cnt from student;
    -> OPEN stu_cur;
    -> REPEAT
    -> FETCH stu_cur INTO id,sname,s1,s2,s3;
    -> SET tot=(s1+s2+s3);
    -> SET per=(tot/3);
    -> IF per >= 60 THEN
    -> insert into student_first values (id,sname,s1,s2,s3,tot,per);
    -> ELSEIF per<60 and per>=50 THEN
    -> insert into student_pass values (id,sname,s1,s2,s3,tot,per);
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    -> ELSE
    -> insert into student_fail values (id,sname,s1,s2,s3,tot,per);
    -> END IF;
    -> update student set total=tot,percentage=per where sno=id;
    -> SET i=i+1;
    -> UNTIL i>=cnt END REPEAT;
    -> CLOSE stu_cur;
    -> end //
Query OK, 0 rows affected, 4 warnings (0.01 sec)

mysql> call calgrade()//
Query OK, 1 row affected (0.10 sec)

mysql> select * from student_first//
+------+-------+------+------+------+-------+------------+
| sno  | name  | sub1 | sub2 | sub3 | total | percentage |
+------+-------+------+------+------+-------+------------+
|    1 | AMIT  |   55 |   66 |   77 |   198 |      66.00 |
|    2 | AJIT  |   66 |   44 |   77 |   187 |      62.33 |
|    3 | SUJIT |   50 |   60 |   70 |   180 |      60.00 |
|    4 | JIT   |   56 |   74 |   70 |   200 |      66.67 |
|    6 | KAPIL |   65 |   45 |   75 |   185 |      61.67 |
+------+-------+------+------+------+-------+------------+
5 rows in set (0.00 sec)

mysql> select * from student_pass//
+------+--------+------+------+------+-------+------------+
| sno  | name   | sub1 | sub2 | sub3 | total | percentage |
+------+--------+------+------+------+-------+------------+
|    7 | RAJ    |   52 |   60 |   50 |   162 |      54.00 |
|    9 | RAMESH |   50 |   50 |   50 |   150 |      50.00 |
|   10 | SUNIL  |   60 |   40 |   70 |   170 |      56.67 |
+------+--------+------+------+------+-------+------------+
3 rows in set (0.00 sec)

mysql> select * from student_fail//
+------+--------+------+------+------+-------+------------+
| sno  | name   | sub1 | sub2 | sub3 | total | percentage |
+------+--------+------+------+------+-------+------------+
|    5 | RAHUL  |   50 |   50 |   48 |   148 |      49.33 |
|    8 | SUSHIL |   40 |   30 |   35 |   105 |      35.00 |
+------+--------+------+------+------+-------+------------+
2 rows in set (0.00 sec)
```