



BHARATIYA VIDYA BHAVAN'S
SARDAR PATEL INSTITUTE OF TECHNOLOGY
Academic Year: 2023– 2024

Class: F.Y.MCA

Course Code: MC502

Semester: I

Course: Database Management System

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Experiment No.6

Title: Demonstrate the use of PL/SQL Exceptions and Records.

Tools Required: MySQL Workbench

Prior Concept: Database, Concept of Relational Database, SQL, Building blocks of PL/SQL, Conditional statement and Control structures.

New Concept: Exceptions and Records.

Concept:

Exception Syntax:

```
DECLARE
<declarations section> BEGIN
<executable command(s)>
EXCEPTION
    <exception handling goes here >
    WHEN exception1 THEN
        exception1-handling-statements
    WHEN exception2 THEN
        exception2-handling-statements
    WHEN exception3 THEN
        exception3-handling-statements
    .....
    WHEN others THEN
        exception3-handling-statements
END;
```

Record in PL/SQL:

a) Table based: %ROWTYPE is used.

b) Cursor based: Explicit cursor is used to fetch records.

c) User defined:

```
TYPE
type_name IS RECORD
( field_name1 datatype1 [NOT NULL] [:= DEFAULT EXPRESSION],
  field_name2 datatype2 [NOT NULL] [:= DEFAULT EXPRESSION],
  ...
```



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field_nameN datatypeN [NOT NULL] [:= DEFAULT EXPRESSION);

record-name type_name;

Lab Exercise:

Demonstrate all these syntax with the help on the problem statement given by instructor.

a. Create a database college.

create database college;

use college;

b. Create a table student (rollno, name).

create table student(rollno int, name varchar(20));

c. Insert 4 to 5 values in student table.

insert into student values(1,'Abhijit'),(2,'Yash'),(3,'Sam'),(4,'Mayank');



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1. Write a procedure which will handle the exception for selecting a data from test table (which is not present in college database) and selecting a data from student table (which is present in the college database)

Hint: Use continue statement and observe the output.

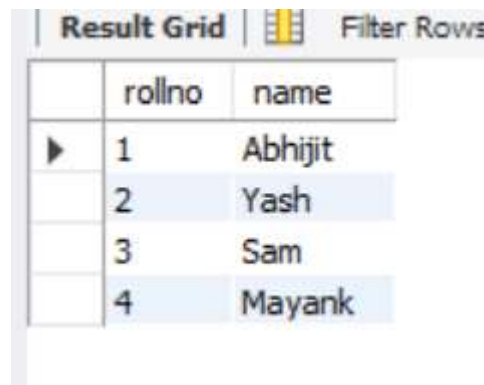
Procedure:

```
CREATE DEFINER='root'@'localhost' PROCEDURE `procedure_1`()  
BEGIN  
declare continue handler for 1146  
select 'Please create the table first as it does not exists' message;  
select * from test;  
select * from student;  
END
```

Calling procedure:

```
call procedure_1();
```

OUTPUT:



| | rollno | name |
|---|--------|---------|
| ▶ | 1 | Abhijit |
| | 2 | Yash |
| | 3 | Sam |
| | 4 | Mayank |

2. Write a procedure which will handle the exception for selecting a data from test table (which is not present in college database) and selecting a data from student table (which is present in the college database)

Hint: Use exit statement and observe the output.

Procedure:

```
CREATE DEFINER='root'@'localhost' PROCEDURE `procedure_2`()  
BEGIN  
declare exit handler for 1146  
select 'Please create the table first as it does not exists' message;  
select * from test;  
select * from student;
```



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END

Calling procedure:

call procedure_2();

Output:

| | |
|---|---|
| | message |
| ▶ | Please create the table first as it does not exists |

A. Create a database Flipkart.

```
create database flipkart;  
use flipkart;
```

B. Create a table SupplierProducts(supplierId, productId) Make supplierId and productId a combined primary key.

```
create table supplierproducts(supplierId int, productId int, primary  
key(supplierId,productId));
```

3. **Write a procedure which will insert the value in SupplierProducts table if the value inserted are new, throw an exception for duplicate value insertion. And also show the count of rows. Hint: Use continue statement and observe the output.**

Procedure:

```
CREATE DEFINER='root'@'localhost' PROCEDURE `procedure_1`(IN sid int, IN  
pid int)  
BEGIN  
declare continue handler for 1062  
BEGIN  
select 'Duplicate key inserted' message;  
END;  
insert into supplierproducts values (sid,pid);  
select count(*) from supplierproducts  
where supplierId = sid;  
END
```

Calling procedure:

```
call procedure_1(1,10);  
call procedure_1(1,20);  
call procedure_1(1,30);
```



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```
call procedure_1(1,40);  
call procedure_1(1,10);
```

Output:

| | count(*) |
|---|----------|
| ▶ | 4 |

4. Write a procedure which will insert the value in SupplierProducts table if the value inserted are new, throw an exception for duplicate value insertion. And also show the count of rows. Hint: Use continue statement and observe the output.

Procedure:

```
CREATE DEFINER='root'@'localhost' PROCEDURE `procedure_2`(IN sid int, IN  
pid int)  
BEGIN  
declare exit handler for 1062  
BEGIN  
    select 'Duplicate key inserted ' As message;  
END;  
insert into supplierproducts values (sid,pid);  
select count(*) from supplierproducts  
where supplierId = sid;  
END
```

Calling procedure:

```
call procedure_2(1,10);
```

Output:

| | message |
|---|------------------------|
| ▶ | Duplicate key inserted |



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Observation:

1. Exception handling allows you to deal with errors
2. Exceptions are of two types:
 - a. System Defined Exception
 - b. User Defined Exception.
3. To handle exceptions in a block of code we need to declare a HANDLER
4. There are two action that can be taken.
 - CONTINUE : If an exception is encountered please do not stop the execution of the code.
 - EXIT : If an exception is encountered please stop the execution of the code.