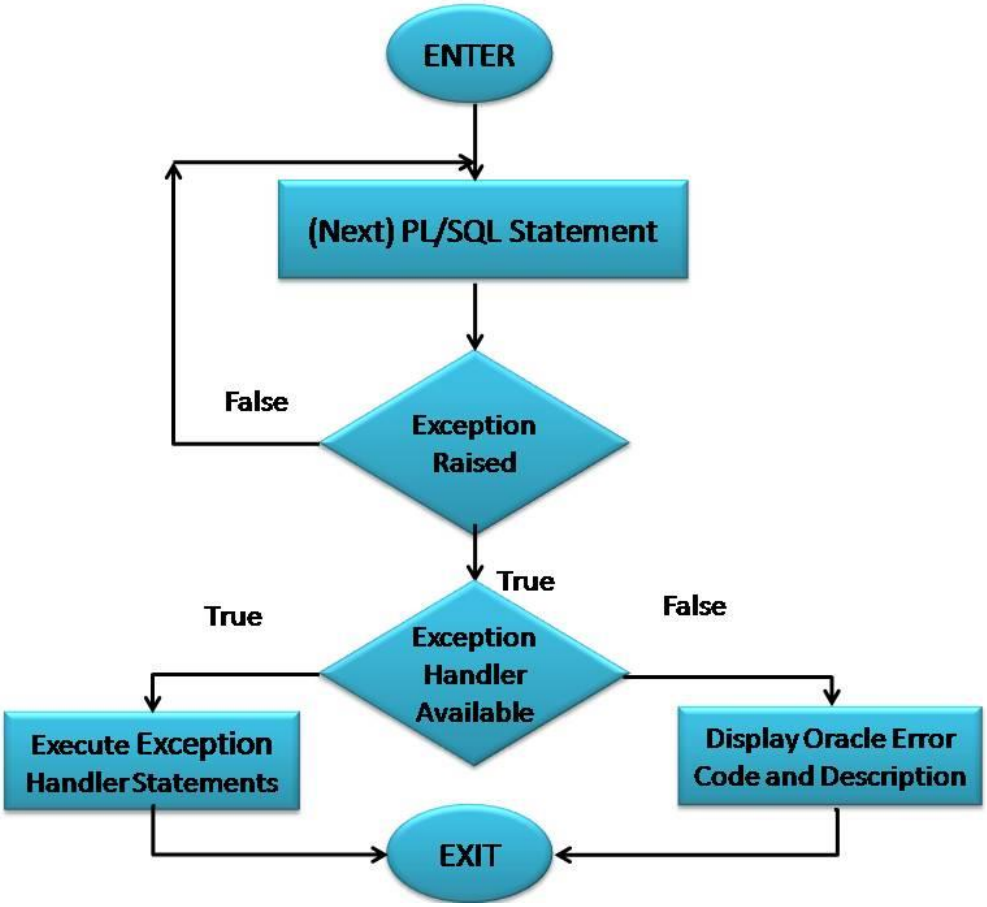
EXCEPTION

- "Run time error or unusual condition may occur while executing program, is called EXCEPTION".


ENTER
(Next) PL/SQL Statement
False
Exception Raised
True
True
False
Exception Handler Available
Execute Exception Handler Statements
Display Oracle Error Code and Description
EXIT

- **TYPES:**
  1. Named Exception
  2. Numbered Exception
  3. User Defined Exception

- **NAMED EXCEPTION:**

- Named system exceptions are exceptions that have been given names by PL/SQL.

```
DECLARE

 NO ACCOUNT.ANO%TYPE;
 BAL ACCOUNT.BALANCE%TYPE;
 BN ACCOUNT.BNAME%TYPE;

BEGIN
 NO:=:NO;
 BAL:=:BAL;
 BN:=:BN;

 INSERT INTO ACCOUNT VALUES(NO,BAL,BN);
 DBMS_OUTPUT.PUT_LINE('RECORD INSERTED');
 COMMIT;

EXCEPTION

 WHEN DUP_VAL_ON_INDEX THEN
   DBMS_OUTPUT.PUT_LINE('YOU CAN NOT ENTER
DUPLICATE ACCOUNT NO');

END;
```

- **NUMBERED EXCEPTION:**
- Every Exception will have a unique number associated with it, which is called numbered exception.
- Ex:- 1400 for null exception.

Exception	Oracle Error	SQLCODE	Description
DUP_VAL_ON_INDEX	00001	-1	It is raised when duplicate values are attempted to be stored in a column with unique index.
INVALID_CURSOR	01001	-1001	It is raised when attempts are made to make a cursor operation that is not allowed, such as closing an unopened cursor.
INVALID_NUMBER	01722	-1722	It is raised when the conversion of a character string into a number fails because the string does not represent a valid number.
LOGIN_DENIED	01017	-1017	It is raised when a program attempts to log on to the database with an invalid username or password.

NO_DATA_FOUND	01403	+100	It is raised when a SELECT INTO statement returns no rows.
NOT_LOGGED_ON	01012	-1012	It is raised when a database call is issued without being connected to the database.
PROGRAM_ERROR	06501	-6501	It is raised when PL/SQL has an internal problem.
ROWTYPE_MISMATCH	06504	-6504	It is raised when a cursor fetches value in a variable having incompatible data type.
TOO_MANY_ROWS	01422	-1422	It is raised when a SELECT INTO statement returns more than one row.
VALUE_ERROR	06502	-6502	It is raised when an arithmetic, conversion, truncation, or sizeconstraint error occurs.
ZERO_DIVIDE	01476	1476	It is raised when an attempt is made to divide a number by zero.

Program:

```
DECLARE

 NO ACCOUNT.ANO%TYPE;
 BAL ACCOUNT.BALANCE%TYPE;
 BN ACCOUNT.BNAME%TYPE;

 nullEX EXCEPTION;
 PRAGMA EXCEPTION_INIT(nullEX,-1400);

BEGIN
 NO:=:NO;
 BAL:=:BAL;
 BN:=:BN;

 INSERT INTO ACCOUNT VALUES(NO,BAL,BN);
 DBMS_OUTPUT.PUT_LINE('RECORD INSERTED');
 COMMIT;

EXCEPTION

 WHEN DUP_VAL_ON_INDEX THEN
   DBMS_OUTPUT.PUT_LINE('YOU CAN NOT ENTER
DUPLICATE ACCOUNT NO');
 WHEN nullEX THEN
   DBMS_OUTPUT.PUT_LINE('ACCOUNT NO CAN NOT BE
EMPTY');
END;
```

- **USER DEFINED EXCEPTION:**

Exception defined by user is known as user defined exception

For Example balance can not be negative to handle that value user can define exception.

```
DECLARE

 NO ACCOUNT.ANO%TYPE;
 BAL ACCOUNT.BALANCE%TYPE;
 BN ACCOUNT.BNAME%TYPE;

 nullEX EXCEPTION;
 PRAGMA EXCEPTION_INIT(nullEX,-1400);

 negBal EXCEPTION;
BEGIN
 NO:=:NO;
 BAL:=:BAL;
 BN:=:BN;

 IF BAL< 0 THEN
   RAISE negBal;
 END IF;

 INSERT INTO ACCOUNT VALUES(NO,BAL,BN);
 DBMS_OUTPUT.PUT_LINE('RECORD INSERTED');
 COMMIT;

EXCEPTION

 WHEN DUP_VAL_ON_INDEX THEN
   DBMS_OUTPUT.PUT_LINE('YOU CAN NOT ENTER
DUPLICATE ACCOUNT NO');
```

```
 WHEN nullEX THEN
   DBMS_OUTPUT.PUT_LINE('ACCOUNT NO CAN NOT BE
EMPTY');

 WHEN negBal THEN
   DBMS_OUTPUT.PUT_LINE(BALANCE CAN NOT BE
NEGATIVE');

END;
```