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Creating Procedures

In Oracle, you can create your own procedures.

The syntax for a procedure is:

```
CREATE [OR REPLACE] PROCEDURE procedure_name
  [ (parameter [,parameter]) ]
IS
  [declaration_section]
BEGIN
  executable_section
[EXCEPTION
  exception_section]
END [procedure_name];
```

When you create a procedure or function, you may define parameters. There are three types of parameters that can be declared:

1. **IN** - The parameter can be referenced by the procedure or function. The value of the parameter can not be overwritten by the procedure or function.
2. **OUT** - The parameter can not be referenced by the procedure or function, but the value of the parameter can be overwritten by the procedure or function.
3. **IN OUT** - The parameter can be referenced by the procedure or function and the value of the parameter can be overwritten by the procedure or function.

The following is a simple example of a procedure:

```
CREATE OR REPLACE Procedure UpdateCourse
  ( name_in IN varchar2 )
IS
  cnumber number;

  cursor c1 is
  select course_number
  from courses_tbl
  where course_name = name_in;

BEGIN

open c1;
fetch c1 into cnumber;
```

```
if c1%notfound then
    cnumber := 9999;
end if;

insert into student_courses
( course_name,
  course_number)
values ( name_in,
        cnumber );

commit;

close c1;

EXCEPTION
WHEN OTHERS THEN
    raise_application_error(-20001,'An error was encountered - '||SQLCODE||' -ERROR-
    '||SQLERRM);
END;
```

This procedure is called UpdateCourse. It has one parameter called *name_in*. The procedure will lookup the *course_number* based on course name. If it does not find a match, it defaults the course number to 99999. It then inserts a new record into the *student_courses* table.