



PI/sql



Example



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example
on PL/sql

cursor

Common PL/SQL Predefined
Exceptions



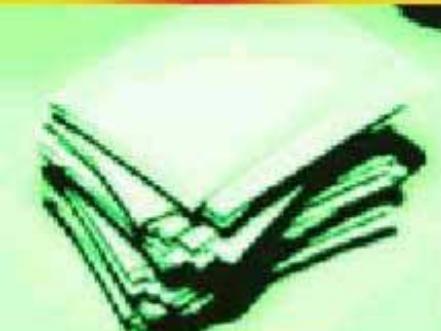
FUNCTION TO CHAR

```
>DECLARE  
1 x number (10);  
2 y varchar2 (20);  
3 d date ;  
4 Begin  
5 Y :='101';  
6 X :=y;  
7 d='11/11/2011';  
8 Dbms_output.put_line(d);  
9 End;  
10 /
```

Error “we must use function to char for date”



Example 1



```
>DECLARE
x number (10);
y varchar2 (20) := 'welcome to yarmouk university';
d date ;
Begin
Dbms_output.put_line(y);
End;
/
Error 'size of y is 20 that's not enough '
```



example2

```
>DECLARE  
x number (10);  
y varchar2 (50) := 'welcome to yarmouk university';  
d date ;  
Begin  
Dbms_output.put_line(y);  
End;  
/
```

welcome to yarmouk university



example3

```
>DECLARE  
x number (10);  
y varchar2 (50) default'welcome to yarmouk university';  
d date ;  
Begin  
Dbms_output.put_line(y);  
End;  
/  
  
welcome to yarmouk university
```

DEFAULT SAME AS :=



example 4

```
>DECLARE  
x number (100);  
y varchar2 (50) default'welcome to yarmouk university';  
d date ;  
Begin  
x :=length(y);  
Dbms_output.put_line(x);  
End;  
/  
29
```

LENGTH :

Takes into account the spaces



example 5

```
>DECLARE
x number (100);
y varchar2 (50) default'welcome to yarmouk university';
m char(50) ;
Begin
m:=y;
x :=length(m);
Dbms_output.put_line(x);
End;
/
50
```

CHAR :

Print 50 because char is fixed length record



example 6

```
>DECLARE
x number (100);
y varchar2 (50) default'welcome to yarmouk university';
m varchar2(50) :='o'
Begin
m:=y;
X :=instr(x,m);
Dbms_output.put_line(x);
End;
/
5
```

INSTR :
FIND THE SUB STRING(M) IN X
AND RETURN “THE LOCATION IN X
”



example 7

```
>DECLARE
x number (100);
y varchar2 (50) default'welcome to yarmouk university';
m char(50) :='o'
Begin
    X :=instr(x,m);
    Dbms_output.put_line(x);
End;
/
0
```



CHAR :
FIXED





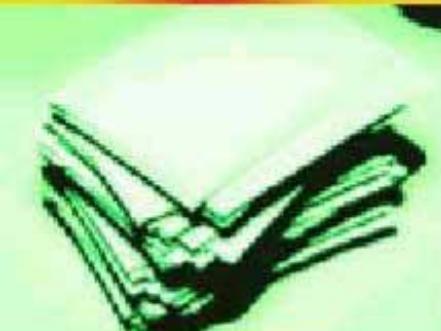
example 8

```
>DECLARE
x number (100);
y varchar2 (50) default'welcome to yarmouk university';
m varchar2(50) :=' '
Begin
m:=y;
X :=instr(x,m);
Dbms_output.put_line(x);
End;
/
8
```

‘ ’ = SPACE



example 9



```
>DECLARE
x number (10);
y varchar2 (50) default'welcome to yarmouk university';
m varchar2(50) :='h'
Begin
m:=y;
X :=instr(x,m);
Dbms_output.put_line(x);
End;
/
0
```





example 10

```
>DECLARE  
x number (10);  
y varchar2 (50) default'welcome to yarmouk university';  
m varchar2(50) :='N'  
Begin  
m:=y;  
X :=instr(x,m);  
Dbms_output.put_line(x);  
End;  
/  
0
```

Pl/sql is sensitive



example 11

```
>DECLARE
x number (10);
y varchar2 (50) default'welcome to yarmouk university';
m varchar2(50) :='university'
Begin
x :=instr(x,m);
Dbms_output.put_line(x);
End;
/
20
```





example 12

```
>DECLARE
x number (10);
y varchar2 (50) default'welcome to yarmouk university';
m varchar2(50) ;
Begin
m :=substr(y,8,10);
Dbms_output.put_line(x);
End;
/
to yarmou
```

SUBSTR function

Extracts specific number of characters from character string
Starting at given point



example 13

```
>spool c:\p11.txt
>set serveroutput on
>DECLARE
x varchar2 (50);
y varchar2 (50);
m number(20) ;
Begin
X:='welcome to yarmouk university';
m :=inster(x,'△');
Y:=substr(x,1,m-1);
Dbms_output.put_line(y);
End;
/
wel1come
```

Print the first word in a sentence



example14

```
>set serveroutput on
>DECLARE
x varchar2 (50);
y varchar2 (50);
m number(20) ;
Begin
X:='welcome..... to yarmouk university';
m :=inster(x , 'o');
x :=substr(x,m+1,length (x)-m);
m :=inster(x , 'o');
Y:=substr(x,1,m-1);
Dbms_output.put_line(y);
End;
/
to
```

Print the second word in a sentence



pars

```
>set serveroutput on
>DECLARE
x varchar2 (50);
y varchar2 (50);
m number(20) ;
Begin
X:='welcome to yarmouk university';
m :=inster(x,'△');
Y:=substr(x,1,m-1)
Dbms_output.put_line(y);
X:=ltrim(x,y);
m :=inster(x,'△');
Y:=substr(x,1,m);
Dbms_output.put_line(y);

End;
/
welcome
to
.
.
```





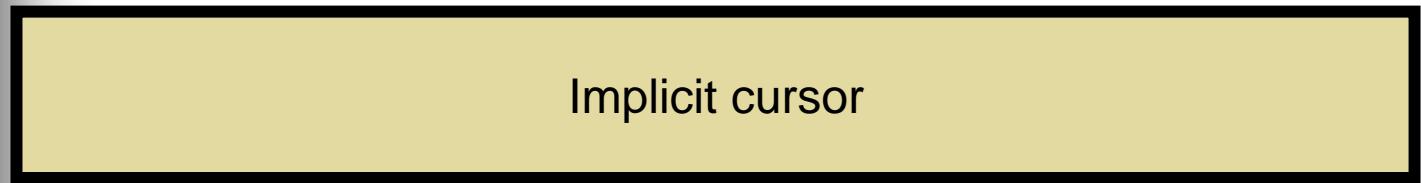
pars

```
>set serveroutput on
>DECLARE
x number (5) := 1;
y varchar2 (100);
Begin
y:='welcome to yarmouk university';
For j in 1 .. Length(y) loop
Dbms_output.put_line(substr(y,x,1));
end loop;
End;
/
w
t
```


Print each letter in a sentence on the line .



cursor



Implicit cursor

```
>DECLARE
x number (10);
y varchar2 (20) ;
d date ;
Begin
i := 1;
Select f_first into x from faculty where
f_id=i;
Dbms_output.put_line(x);
End;
/
Teresa
```



cursor



explicit cursor



```
>DECLARE
x number (10);
y varchar2 (20) ;
d date ;
Begin
i := 1;
Select f_first into x from faculty where
f_id>i;
Dbms_output.put_line(x);
End;
/
```





cursor

explicit cursor

An explicit cursor is defined in the declaration section of the PL/SQL Block. It is created on a SELECT Statement which returns more than one row. We can provide a suitable name for the cursor.

The General Syntax for creating a cursor is as given below:

;CURSOR cursor_name IS select_statement



explicit cursor

- .There are four steps in using an Explicit Cursor
- DECLARE the cursor in the declaration section
- OPEN the cursor in the Execution Section
- FETCH the data from cursor into PL/SQL variables or records in the Execution Section
- CLOSE the cursor in the Execution Section before you end the PL/SQL Block.



Example 1

explicit cursor

```
>DECLARE
x varchar2 (20);
i  number (20) ;
cursor c is select f_first into x from faculty
where f_id>1;
Begin
open c;
loop
fetch c into x;
exit when c% notfound;
dbms_output.put_line(x);
end loop;
close c;
End;
/
mark
jones
```



Example 2

```
>DECLARE
x varchar2 (20);
g varchar2 (20);
cursor c is select s_first,grad into x,g from
student,enrollment where
student.s_id=enrollment.s_id;
Begin
open c;
loop
fetch c into x,g;
exit when c%notfound;
if g='A' then
Dbms_output.put_line(x || 'excellent');
end if
end loop;
close c;
End;
/
tamey excellent
tamey excellent
Jorge excellent
```



Example 3

explicit cursor

```
>DECLARE
x faculty.f_first%type;
y faculty.f_rank%type;
i number (10);
cursor c is select f_first,f_rank into x,y from
faculty where;
Begin
  for x in c loop
Dbms_output.put_line(x || y);
end loop;
End;
/
```



Example 4

```
>spool c:\sql4.txt
>set serveroutput on
>declare
cursor cu is select * from student;
cu_var student%rowtype;
Begin
open (cu);
loop
fetch cu into cu_var;
exit when cu%notfound;
Dbms_output.put_line(cu_var.s_first);
end loop;
close cu;
End;
/
tammy
jorge
john
mike
lisa
```



Example 5

```
>spool c:\sql5.txt
>set serveroutput on
>declare
cursor cu is select * from student;
cu_var student%rowtype;
Begin
  for cu_var in cu loop
Dbms_output.put_line(cu_var.s_first);
end loop;
End;
/
tammy
jorge
john
mike
lisa
```



Common PL/SQL Predefined Exceptions

error

Oracle Error Code	Exception Name	Description
ORA-00001	DUP_VAL_ON_INDEX	Command violates primary key unique constraint
ORA-01403	NO_DATA_FOUND	Query retrieves no records
ORA-01422	TOO_MANY_ROWS	Query returns more rows than anticipated
ORA-01476	ZERO_DIVIDE	Division by zero
ORA-01722	INVALID_NUMBER	Invalid number conversion (such as trying to convert "2B" to a number)
ORA-06502	VALUE_ERROR	Error in truncation, arithmetic, or data conversion operation

Table 4-10 Common PL/SQL predefined exceptions

1

2

3



Common PL/SQL Predefined Exceptions

error

```
Declare  
...  
Begin  
...  
Begin  
... statements  
[EXCEPTION  
... handlers]  
End;  
...  
[EXCEPTION  
... handlers ]  
End;
```



Example 1

```
>set serveroutput on
>declare
cursor cu is select * from student;
cu_var student%rowtype;
Begin
insert into faculty (f_id,f_first) values (1,'ali')
/* for cu_var in cu loop
Dbms_output.put_line(cu_var.s_first);
end loop;*/
End;
/
error:ORA-00001 : uniq constraint
(STDL.FACULATY_F.ID_PK)
```



Example 1

```
>set serveroutput on
>declare
cursor cu is select * from student;
cu_var student%rowtype;
Begin
insert into faculty (f_id,f_first) values (1,'ali')
/* for cu_var in cu loop
Dbms_output.put_line(cu_var.s_first);
end loop;*/
EXCEPTION
when dup_val_on_index then
Dbms_output.put_line('you are inserting duplicate
primary key');

End;
/
you are inserting duplicate primary key
```



Example 2

```
>set serveroutput on
>declare
cursor cu is select * from student;
cu_var student%rowtype;
f_var varchar2 (50);
Begin
select f_first into f_var from faculty;
insert into faculty (f_id,f_first) values (1,'ali')
/* for cu_var in cu loop
Dbms_output.put_line(cu_var.s_first);
end loop;*/
EXCEPTION
when dup_val_on_index then
Dbms_output.put_line('you are inserting duplicate
primary key');

End;
/
error : ORA-01422 : exact fetch returns more request
number of rows
```



Example 2

```
>set serveroutput on
>declare
cursor cu is select * from student;
cu_var student%rowtype;
f_var varchar2 (50);
Begin
select f_first into f_var from faculty;
insert into faculty (f_id,f_first) values (1,'ali')
/* for cu_var in cu loop
Dbms_output.put_line(cu_var.s_first);
end loop;*/
EXCEPTION
when dup_val_on_index then
Dbms_output.put_line('you are inserting duplicate
primary key');
when too_many_rows then
Dbms_output.put_line('select statmanet return many
rows');
End;
/
select statmanet return many rows
```



Example 3

```
>set serveroutput on
>declare
cursor cu is select * from student;
cu_var student%rowtype;
f_var varchar2 (50);
Begin
delete from student;
select f_first into f_var from faculty;
insert into faculty (f_id,f_first) values (1,'ali')
/* - - - */
EXCEPTION
when dup_val_on_index then
Dbms_output.put_line('you are inserting duplicate
primary key');
when too_many_rows then
Dbms_output.put_line('select statmanet return many
rows');
End;
/
error : ORA-02292 :integrity constraint
(std1.enrollment_std_fk)violated
```



Example 3

```
>set serveroutput on
>declare
cursor cu is select * from student;
cu_var student%rowtype;
f_var varchar2 (50);
Begin
delete from student;
select f_first into f_var from faculty;
insert into faculty (f_id,f_first) values (1,'ali')
/* - - - */
EXCEPTION
when dup_val_on_index then
Dbms_output.put_line('you are inserting duplicate
primary key');
when too_many_rows then
Dbms_output.put_line('select statmanet return many
rows');
when other then
Dbms_output.put_line('UNKOWN ERROR');
End;
/
UNKOWN ERROR
```



THE END

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