

```
declare cursor cur1 is select * from result;
begin
    for data in cur1
    loop
        dbms_output.put_line('Enrollment no ' || data.enrollno);
        for i in 1..data.subjmarks.count
        loop
            if data.subjmarks(i) is not null then
                dbms_output.put_line('Marks ' ||
data.subjmarks(i));
            else
                dbms_output.put_line('Marks NA');
            end if;
        end loop;
    end loop;
end;
/
-----
```

```
SQL*Plus: Release 10.2.0.1.0 - Production on Sat Jan 3 08:38:44 2026
```

```
Copyright (c) 1982, 2005, Oracle. All rights reserved.
```

```
SQL> connect
Enter user-name: prince/sagar
Connected.
SQL> create type booklist as varray(3) of varchar(10));
2 /
-----
```

```
Warning: Type created with compilation errors.
```

```
SQL> show err
Errors for TYPE BOOKLIST:
```

```
LINE/COL ERROR
-----
```

```
1/42      PLS-00103: Encountered the symbol ")" when expecting one of the
           following:
           ; not null alter STORED_ character
-----
```

```
SQL> drop type booklist;
```

```
Type dropped.
```

```
SQL> create type booklist as varray(3) of varchar(10);
2 /
-----
```

```
Type created.
```

```
SQL> create table bookissuse(memcd number,blist booklist);
```

Table created.

```
SQL> insert into bookissue values(1,booklist('SQK','Java','C'));
```

1 row created.

```
SQL> insert into bookissue values(2,booklist('C++','Python','HTML'));
```

1 row created.

```
SQL> select * from bookissue;
```

MEMCD

BLIST

1
BOOKLIST('SQK', 'Java', 'C')
2
BOOKLIST('C++', 'Python', 'HTML')

```
SQL> desc booklist;
```

```
booklist VARRAY(3) OF VARCHAR2(10)
```

```
SQL> create type marks as varray(5) of number;
```

```
2 /
```

Type created.

```
SQL> create table result(enrollno number,subjmarks marks);
```

Table created.

```
SQL> insert into result values(101,marks(50,60,70,80,90));
```

1 row created.

```
SQL> select * from result;
```

ENROLLNO

SUBJMARKS

101
MARKS(50, 60, 70, 80, 90)

```
SQL>
```

```
SQL> create table books1(bookno number,ISBN varchar(10));
```

```
Table created.
```

```
SQL> insert into books values(1,'ABC');
```

```
insert into books values(1,'ABC')
```

```
*
```

```
ERROR at line 1:
```

```
ORA-00947: not enough values
```

```
SQL> insert into books1 values(1,'ABC');
```

```
1 row created.
```

```
SQL> insert into books1 values(1,'1111');
```

```
1 row created.
```

```
SQL> insert into books1 values(1,'AB12#');
```

```
1 row created.
```

```
SQL> select * from books1;
```

BOOKNO	ISBN
1	ABC
1	1111
1	AB12#

```
SQL> create table temp(books booklist,score marks);
```

```
Table created.
```

```
SQL> insert into temp values(books('A','B','C'),score(1,2,3,4,5));
```

```
insert into temp values(books('A','B','C'),score(1,2,3,4,5))
```

```
*
```

```
ERROR at line 1:
```

```
ORA-00904: "BOOKS": invalid identifier
```

```
SQL> insert into temp values(booklist('A','B','C'),marks(1,2,3,4,5));
```

```
1 row created.
```

```
SQL>
```

```
SQL> select * from bookissue;
```

```
MEMCD
```

```
-----  
BLIST  
-----
```

```
1  
BOOKLIST('SQK', 'Java', 'C')
```

```
2  
BOOKLIST('C++', 'Python', 'HTML')
```

```
SQL> select * from bookissue where blist='Java';  
select * from bookissue where blist='Java'  
*
```

```
ERROR at line 1:  
ORA-00932: inconsistent datatypes: expected PRINCE.BOOKLIST got CHAR
```

```
SQL> select * from bookissue b where exists  
2 (select 1 from table(b.blist)b where b.column_value='Java');
```

```
MEMCD  
-----
```

```
BLIST  
-----
```

```
1  
BOOKLIST('SQK', 'Java', 'C')
```

```
SQL> select * from bookissue b where exists  
2 (select from table(b.blist)b where b.column_value='Java');  
(select from table(b.blist)b where b.column_value='Java')  
*
```

```
ERROR at line 2:  
ORA-00936: missing expression
```

```
SQL> select * from bookissue b where exists
```

```
2
```

```
SQL> select * from bookissue b where exists  
2 (select 10 from table(b.blist)b where b.column_value='Java');
```

```
MEMCD  
-----
```

```
BLIST  
-----
```

```
1  
BOOKLIST('SQK', 'Java', 'C')
```

```
SQL> select * from bookissue b where exists
```

```
2 (select 'A' from table(b.blist)b where b.column_value='Java');
```

```
MEMCD
```

```
-----  
BLIST
```

```
-----  
1  
BOOKLIST('SQK', 'Java', 'C')
```

```
SQL> select * from bookissue b where exists  
2 (select * from table(b.blist)b where b.column_value='Java');
```

```
MEMCD
```

```
-----  
BLIST
```

```
-----  
1  
BOOKLIST('SQK', 'Java', 'C')
```

```
SQL> select * from bookissue b where exists  
2 (select * from table(x.blist)b where b.column_value='Java');  
(select * from table(x.blist)b where b.column_value='Java')  
*
```

```
ERROR at line 2:
```

```
ORA-06553: PLS-306: wrong number or types of arguments in call to 'OGC_X'
```

```
SQL> select * from bookissue b where exists  
2 (select * from table(b.blist)x where x.column_value='Java');
```

```
MEMCD
```

```
-----  
BLIST
```

```
-----  
1  
BOOKLIST('SQK', 'Java', 'C')
```

```
SQL> select * from table bookissue;  
select * from table bookissue  
*
```

```
ERROR at line 1:
```

```
ORA-00906: missing left parenthesis
```

```
SQL> select * from marks;  
select * from marks  
*
```

```
ERROR at line 1:  
ORA-04044: procedure, function, package, or type is not allowed here
```

```
SQL> select * from result;
```

ENROLLNO	SUBJMARKS
101	MARKS(50, 60, 70, 80, 90)

```
SQL> insert into result values(102,marks(10,20,30,40,50));
```

```
1 row created.
```

```
SQL> select * from result;
```

ENROLLNO	SUBJMARKS
101	MARKS(50, 60, 70, 80, 90)
102	MARKS(10, 20, 30, 40, 50)

```
SQL> select * from result r where exists  
2 (select 1 from table(r.marks) m where m.column_value=50);  
(select 1 from table(r.marks) m where m.column_value=50)  
*
```

```
ERROR at line 2:  
ORA-00904: "R"."MARKS": invalid identifier
```

```
SQL> select * from result r where exists  
2 (select 1 from table(r.subjmarks) m where m.column_value=50);
```

ENROLLNO	SUBJMARKS
101	MARKS(50, 60, 70, 80, 90)
102	

```
MARKS(10, 20, 30, 40, 50)
```

```
SQL> ed c:/oracle/var1.sql
```

```
SQL> set serveroutput on
SQL> @ c:/oracle/var1.sql
declare cur1 is select * from result;
*
ERROR at line 1:
ORA-06550: line 1, column 14:
PLS-00103: Encountered the symbol "IS" when expecting one of the following:
constant exception <an identifier>
<a double-quoted delimited-identifier> table LONG_ double ref
char time timestamp interval date binary national character
nchar
```

```
SQL> ed c:/oracle/var1.sql
```

```
SQL> @ c:/oracle/var1.sql
Enrollment no 101
Enrollment no 102
```

```
PL/SQL procedure successfully completed.
```

```
SQL> ed c:/oracle/var1.sql
```

```
SQL> @ c:/oracle/var1.sql
```

```
Enrollment no 101
```

```
Marks 50
```

```
Marks 60
```

```
Marks 70
```

```
Marks 80
```

```
Marks 90
```

```
Enrollment no 102
```

```
Marks 10
```

```
Marks 20
```

```
Marks 30
```

```
Marks 40
```

```
Marks 50
```

```
PL/SQL procedure successfully completed.
```

```
SQL> ed c:/oracle/var1.sql
```

```
SQL> insert into result values(103,marks(30,40,50,60,null));
```

```
1 row created.
```

```
SQL> @ c:/oracle/var1.sql
Enrollment no 101
Marks 50
Marks 60
Marks 70
Marks 80
Marks 90
Enrollment no 102
Marks 10
Marks 20
Marks 30
Marks 40
Marks 50
Enrollment no 103
Marks 30
Marks 40
Marks 50
Marks 60
Marks
```

PL/SQL procedure successfully completed.

```
SQL> ed c:/oracle/var1.sql
```

```
SQL> @ c:/oracle/var1.sql
      end loop;
      *
ERROR at line 13:
ORA-06550: line 13, column 3:
PLS-00103: Encountered the symbol "END" when expecting one of the following:
;
The symbol ";" was substituted for "END" to continue.
```

```
SQL> ed c:/oracle/var1.sql
```

```
SQL> @ c:/oracle/var1.sql
Enrollment no 101
Marks 50
Marks 60
Marks 70
Marks 80
Marks 90
Enrollment no 102
Marks 10
Marks 20
Marks 30
Marks 40
Marks 50
Enrollment no 103
```

```
Marks 30
Marks 40
Marks 50
Marks 60
Marks NA
```

PL/SQL procedure successfully completed.

```
SQL> ed c:/oracle/var1.sql
```

```
SQL> select * from customers;
```

CNO	CNAME	AMOUNT	DOJ	CONTACT	DEPT	CITY
1	Ravi	495	10-APR-20	9983	10	Indore
2	Sumit	715	13-APR-20	8832	20	Sagar
3	Ajay	165	30-SEP-22		10	Sagar
4	Vijay	935	15-FEB-23		30	Indore
5	Sanjay	385	10-APR-20		10	Indore
6	Gourav	55	03-NOV-25		20	Sagar
7	Sourav	120	06-NOV-25		10	Sagar
8	Raja	230	04-OCT-25		20	Bhopal
9	Rani	260	16-MAY-23		30	Bhopal
10	Gaurav	300	15-NOV-25	3394	40	Gwalior

10 rows selected.

```
SQL> select * from customers2;
```

CNO	CNAME	AMOUNT	DOJ	CONTACT
1	Ravi	495	10-APR-20	9983
2	Sumit	715	13-APR-20	
3	Ajay	165	30-SEP-22	
4	Vijay	935	15-FEB-23	
5	Sanjay	385	10-APR-20	
6	Gourav	55	03-NOV-25	
7	Sourav	120	06-NOV-25	
8	Raja	230	04-OCT-25	
9	Rani	260	16-MAY-23	

9 rows selected.

```
SQL> drop table customers2;
```

Table dropped.

```
SQL> select * from customers2;
select * from customers2
*
```

```
ERROR at line 1:  
ORA-00942: table or view does not exist
```

```
SQL> select * from customers2;
```

CNO	CNAME	AMOUNT	DOJ	CONTACT
1	Ravi	495	10-APR-20	9983
2	Sumit	715	13-APR-20	
3	Ajay	165	30-SEP-22	
4	Vijay	935	15-FEB-23	
5	Sanjay	385	10-APR-20	
6	Gourav	55	03-NOV-25	
7	Sourav	120	06-NOV-25	
8	Raja	230	04-OCT-25	
9	Rani	260	16-MAY-23	

```
9 rows selected.
```

```
SQL> select * from students;  
select * from students  
*
```

ERROR at line 1:
ORA-00942: table or view does not exist

```
SQL> select * from books;
```

BOOKNO	NAME	EDITION
1	SQL	2023
2	Java	2024

```
SQL> drop table books;  
drop table books  
*
```

ERROR at line 1:
ORA-02449: unique/primary keys in table referenced by foreign keys

```
SQL> drop table issue;
```

```
Table dropped.
```

```
SQL> drop table books;
```

```
Table dropped.
```

```
SQL> select * from books;
```

BOOKNO	NAME	EDITION
1	SQL	2023
2	Java	2024

```
SQL> dbms_output.put_line('Marks ' || data.subjmarks(i));
```

```
-----  
Microsoft Windows [Version 10.0.19045.6466]  
(c) Microsoft Corporation. All rights reserved.
```

```
C:\Users\XITS>exp
```

```
Export: Release 10.2.0.1.0 - Production on Sat Jan 3 09:27:59 2026
```

```
Copyright (c) 1982, 2005, Oracle. All rights reserved.
```

```
Username: prince
```

```
Password:
```

```
Connected to: Oracle Database 10g Express Edition Release 10.2.0.1.0 - Production  
Enter array fetch buffer size: 4096 >
```

```
Export file: EXPDAT.DMP > c:/oracle/booksbackup.dmp
```

```
(2)U(sers), or (3)T(ables): (2)U > t
```

```
Export table data (yes/no): yes >
```

```
Compress extents (yes/no): yes >
```

```
Export done in WE8MSWIN1252 character set and AL16UTF16 NCHAR character set
```

```
About to export specified tables via Conventional Path ...
```

```
Table(T) or Partition(T:P) to be exported: (RETURN to quit) > books
```

```
. . . exporting table BOOKS 2 rows exported  
Table(T) or Partition(T:P) to be exported: (RETURN to quit) >
```

```
Export terminated successfully without warnings.
```

```
C:\Users\XITS>imp
```

```
Import: Release 10.2.0.1.0 - Production on Sat Jan 3 09:29:16 2026
```

```
Copyright (c) 1982, 2005, Oracle. All rights reserved.
```

Username: prince
Password:

Connected to: Oracle Database 10g Express Edition Release 10.2.0.1.0 - Production

Import file: EXPDAT.DMP > c:/oracle/booksbackup.dmp

Enter insert buffer size (minimum is 8192) 30720>

Export file created by EXPORT:V10.02.01 via conventional path
import done in WE8MSWIN1252 character set and AL16UTF16 NCHAR character set
List contents of import file only (yes/no): no >

Ignore create error due to object existence (yes/no): no >

Import grants (yes/no): yes >

Import table data (yes/no): yes >

Import entire export file (yes/no): no >

Username: prince

Enter table(T) or partition(T:P) names. Null list means all tables for user
Enter table(T) or partition(T:P) name or . if done: .

. importing PRINCE's objects into PRINCE
. importing PRINCE's objects into PRINCE
. . importing table "BOOKS" 2 rows imported
Import terminated successfully without warnings.

C:\Users\XITS>
=====