

```
declare
    a number;
begin
    a:=1;
    loop
        dbms_output.put_line(a);
        a:=a+1;
        exit when a>10;
    end loop;

end;
/
```

```
-----
declare
    a number;
begin
    a:=1;
    while a<=10
    loop
        dbms_output.put_line(a);
        a:=a+1;
    end loop;
end;
/
```

```
-----
declare
    a number;
begin
    for a in 1..10
    loop
        dbms_output.put_line(a);
    end loop;
end;
/
```

```
-----
declare
    a number;
begin
    for a in reverse 1..10
    loop
        dbms_output.put_line(a);
    end loop;
end;
/
```

```
-----
declare
    a number;
    sq number;
```

```

begin
    for a in 1..10
    loop
        sq:=a*a;
        insert into squares values(a,sq);
    end loop;
end;
/

-----
declare
    name varchar(10);
    cid number;
begin
    for cid in 1..10
    loop
        select cname into name from customers where cno=cid;
        dbms_output.put_line(name);
    end loop;
end;
/
-----

declare
    cid customers.cno%type;
    name customers.cname%type;
    town customers.city%type;
begin
    cid:=&cid;
    select cname,city,dept into name,town from customers where cno=cid;
    dbms_output.put_line(name);
    dbms_output.put_line(town);
end;
/
-----

declare
    cid customers.cno%type;
    custdata customers%rowtype;
begin
    cid:=&cid;
    select * into custdata from customers c where cno=cid;
    dbms_output.put_line('Name ' || custdata.cname);
    dbms_output.put_line('City ' || custdata.city);
    dbms_output.put_line('Department ' || custdata.dept);
end;
/
-----

declare
    cid customers.cno%type;
    phone customers.contact%type;

```

```
begin
    cid:=&cid;
    select contact into phone from customers where cno=cid;
    if phone=null
    then
        phone:=&phone;
        update customers set contact=phone where cno=cid;
        dbms_output.put_line('Phone No Updated!!');
    else
        dbms_output.put_line('Contact no already exists');
    end if;
end;
/
=====
```

Loops in PL/SQL

```
SQL*Plus: Release 10.2.0.1.0 - Production on Sat Dec 6 08:50:09 2025
```

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

```
SQL> connect
Enter user-name: prince
Enter password:
Connected.
SQL> set serveroutput on
SQL> ed c:/oracle/loop1.sql

SQL> ed c:/oracle/loop2.sql

SQL> @ c:/oracle/loop2.sql
1
2
3
4
5
6
7
8
9
10
```

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

```
SQL> ed c:/oracle/loop2.sql
```

```
SQL> x
SP2-0042: unknown command "x" - rest of line ignored.
SQL> ed c:/oracle/loop3.sql

SQL> @ c:/oracle/loop3.sql
SP2-0552: Bind variable "FOR" not declared.
SQL> ed c:/oracle/loop3.sql

SQL> @ c:/oracle/loop3.sql
      a:=a+1;
      *
ERROR at line 7:
ORA-06550: line 7, column 3:
PLS-00363: expression 'A' cannot be used as an assignment target
ORA-06550: line 7, column 3:
PL/SQL: Statement ignored

SQL> ed c:/oracle/loop3.sql

SQL> @ c:/oracle/loop3.sql
1
2
3
4
5
6
7
8
9
10

PL/SQL procedure successfully completed.

SQL> ed c:/oracle/loop3.sql

SQL> ed c:/oracle/loop4.sql

SQL> @ c:/oracle/loop4.sql
      a:=a-1;
      *
ERROR at line 7:
ORA-06550: line 7, column 3:
PLS-00363: expression 'A' cannot be used as an assignment target
ORA-06550: line 7, column 3:
PL/SQL: Statement ignored

SQL> ed c:/oracle/loop4.sql
```

```
SQL> @ c:/oracle/loop4.sql
PL/SQL procedure successfully completed.

SQL> ed c:/oracle/loop4.sql
SQL> @ c:/oracle/loop3.sql
1
2
3
4
5
6
7
8
9
10

PL/SQL procedure successfully completed.

SQL> ed c:/oracle/loop3.sql
SQL> @ c:/oracle/loop4.sql
PL/SQL procedure successfully completed.

SQL> ed c:/oracle/loop4.sql
SQL> @ c:/oracle/loop4.sql
PL/SQL procedure successfully completed.

SQL> ed c:/oracle/loop3.sql
SQL> ed c:/oracle/loop4.sql
SQL> @ c:/oracle/loop4.sql
10
9
8
7
6
5
4
3
2
1

PL/SQL procedure successfully completed.
```

```
SQL> ed c:/oracle/loop4.sql  
SQL>  
SQL> create table squares (no number,square number);
```

Table created.

```
SQL> ed c:/oracle/loop5.sql  
SQL> @c:/oracle/loop5.sql  
PL/SQL procedure successfully completed.
```

```
SQL> select * from squares;
```

NO	SQUARE
1	1
2	4
3	9
4	16
5	25
6	36
7	49
8	64
9	81
10	100

10 rows selected.

```
SQL> ed c:/oracle/loop5.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> ed c:/oracle/loop6.sql
```

```
SQL> @ c:/oracle/loop6.sql
```

```
Ravi  
Sumit  
Ajay  
Vijay  
Sanjay  
Gourav  
Sourav  
Raja  
Rani  
Gaurav
```

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

```
SQL> ed c:/oracle/loop6.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> ed c:/oracle/loop7.sql
```

```
SQL> @ c:/oracle/loop7.sql
```

```
Enter value for cno: 1
```

```
old   6:      cno:=&cno;
```

```
new   6:      cno:=1;
```

```
declare
```

```
*
```

```
ERROR at line 1:
```

```
ORA-01422: exact fetch returns more than requested number of rows
```

```
ORA-06512: at line 7
```

```
SQL> ed c:/oracle/loop7.sql
```

```
SQL> @ c:/oracle/loop7.sql
Enter value for cid: 1
old   6:      cid:=&cid;
new   6:      cid:=1;
Ravi
Indore
```

PL/SQL procedure successfully completed.

```
SQL> @ c:/oracle/loop7.sql
Enter value for cid: 2
old   6:      cid:=&cid;
new   6:      cid:=2;
Sumit
Sagar
```

PL/SQL procedure successfully completed.

```
SQL> @ c:/oracle/loop7.sql
Enter value for cid: 3
old   6:      cid:=&cid;
new   6:      cid:=3;
Ajay
Sagar
```

PL/SQL procedure successfully completed.

```
SQL> @ c:/oracle/loop7.sql
Enter value for cid: 4
old   6:      cid:=&cid;
new   6:      cid:=4;
Vijay
Indore
```

PL/SQL procedure successfully completed.

```
SQL> 4
 4*    town varchar(6);
SQL> @ c:/oracle/loop7.sql
Enter value for cid: 5
old   6:      cid:=&cid;
new   6:      cid:=5;
declare
*
ERROR at line 1:
ORA-06502: PL/SQL: numeric or value error: character string buffer too small
ORA-06512: at line 7
```

```
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> ed c:/oracle/loop7.sql

SQL> @ c:/oracle/loop7.sql
Enter value for cid: 5
old 6: cid:=&cid;
new 6: cid:=5;
Sanjay
Indore

PL/SQL procedure successfully completed.

SQL> ed c:/oracle/loop7.sql

SQL> @ c:/oracle/loop7.sql
Enter value for cid: 6
old 6: cid:=&cid;
new 6: cid:=6;
select cname,city,dept into name,town from customers where cno=cid;
*

ERROR at line 7:

ORA-06550: line 7, column 40:

PL/SQL: ORA-00947: not enough values

ORA-06550: line 7, column 2:

PL/SQL: SQL Statement ignored

SQL> ed c:/oracle/loop7.sql

SQL> ed c:/oracle/loop8.sql

SQL> @ c:/oracle/loop8.sql
Enter value for cid: 5
old 5: cid:=&cid;
new 5: cid:=5;

```
    select * from customers into custdata where cno=cid;
*
ERROR at line 6:
ORA-06550: line 6, column 26:
PL/SQL: ORA-00933: SQL command not properly ended
ORA-06550: line 6, column 2:
PL/SQL: SQL Statement ignored
```

```
SQL> ed c:/oracle/loop8.sql
```

```
SQL> ed c:/oracle/loop8.sql
```

```
SQL> ed c:/oracle/loop87sql
```

```
SQL> ed c:/oracle/loop7sql
```

```
SQL> ed c:/oracle/loop7.sql
```

```
SQL> ed c:/oracle/loop8.sql
```

```
SQL> @ c:/oracle/loop8.sql
```

```
Enter value for cid: 5
old      5:      cid:=&cid;
new      5:      cid:=5;
          dbms_output.put_line('Name ' || custdate.cname);
*
```

```
ERROR at line 7:
```

```
ORA-06550: line 7, column 34:
PLS-00201: identifier 'CUSTDATE.CNAME' must be declared
ORA-06550: line 7, column 2:
PL/SQL: Statement ignored
ORA-06550: line 8, column 34:
PLS-00201: identifier 'CUSTDATE.CITY' must be declared
ORA-06550: line 8, column 2:
PL/SQL: Statement ignored
ORA-06550: line 9, column 40:
PLS-00201: identifier 'CUSTDATE.DEPT' must be declared
ORA-06550: line 9, column 2:
PL/SQL: Statement ignored
```

```
SQL> ed c:/oracle/loop8.sql
```

```
SQL> @ c:/oracle/loop8.sql
```

```
Enter value for cid: 6
old      5:      cid:=&cid;
new      5:      cid:=6;
```

```
Name Gourav
```

```
City Sagar
```

Department 20

PL/SQL procedure successfully completed.

SQL> ed c:/oracle/loop8.sql

```
SQL> @ c:/oracle/loop8.sql
Enter value for cid: 6
old   5:      cid:=&cid;
new   5:      cid:=6;
      cid c.cno%type;
      *
ERROR at line 2:
ORA-06550: line 2, column 6:
PLS-00201: identifier 'C.CNO' must be declared
ORA-06550: line 2, column 6:
PL/SQL: Item ignored
ORA-06550: line 3, column 11:
PLS-00201: identifier 'C' must be declared
ORA-06550: line 3, column 11:
PL/SQL: Item ignored
ORA-06550: line 5, column 2:
PLS-00320: the declaration of the type of this expression is incomplete or
malformed
ORA-06550: line 5, column 2:
PL/SQL: Statement ignored
ORA-06550: line 6, column 53:
PLS-00320: the declaration of the type of this expression is incomplete or
malformed
ORA-06550: line 6, column 53:
PL/SQL: ORA-00904: "CID": invalid identifier
ORA-06550: line 6, column 2:
PL/SQL: SQL Statement ignored
ORA-06550: line 7, column 34:
PLS-00320: the declaration of the type of this expression is incomplete or
malformed
ORA-06550: line 7, column 2:
PL/SQL: Statement ignored
ORA-06550: line 8, column 34:
PLS-00320: the declaration of the type of this expression is incomplete or
malformed
ORA-06550: line 8, column 2:
PL/SQL: Statement ignored
ORA-06550: line
```

SQL> ed c:/oracle/loop8.sql

SQL> ed c:/oracle/loop9.sql

```
SQL> @ c:/oracle/loop8.sql
```

```
Enter value for cid: 3
old 5:      cid:=&cid;
new 5:      cid:=3;
Name Ajay
City Sagar
Department 10
```

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

```
SQL> @ c:/oracle/loop9.sql
```

```
Enter value for cid: 3
old 5:      cid:=&cid;
new 5:      cid:=3;
Enter value for phone: 987
old 9:          phone:=&phone;
new 9:          phone:=987;
Phone No Updated!!
```

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

```
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	987	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> @ c:/oracle/loop9.sql
```

```
Enter value for cid: 1
old 5:      cid:=&cid;
new 5:      cid:=1;
Enter value for phone: 374
old 9:          phone:=&phone;
new 9:          phone:=374;
```

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

```
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	987	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> ed c:/oracle/loop9.sql

SQL> @ c:/oracle/loop9.sql
Enter value for cid: 1
old 5: cid:=&cid;
new 5: cid:=1;
Enter value for phone: 11
old 9: phone:=☎
new 9: phone:=11;

PL/SQL procedure successfully completed.

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	987	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> ed c:/oracle/loop9.sql

SQL> @ c:/oracle/loop9.sql
Enter value for cid: 1
old 5: cid:=&cid;
new 5: cid:=1;

```
Enter value for phone: 1
old 10:          phone:=&phone;
new 10:          phone:=1;
      dbms.output.put_line('Current phone no ' || phone);
      *
ERROR at line 7:
ORA-06550: line 7, column 2:
PLS-00201: identifier 'DBMS.OUTPUT' must be declared
ORA-06550: line 7, column 2:
PL/SQL: Statement ignored
```

```
SQL> ed c:/oracle/loop9.sql
```

```
SQL> @ c:/oracle/loop9.sql
Enter value for cid: 1
old 5:          cid:=&cid;
new 5:          cid:=1;
Enter value for phone: 1
old 9:          phone:=&phone;
new 9:          phone:=1;
Contact no already exists
```

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

```
SQL> ed c:/oracle/loop9.sql
```

```
SQL> @ c:/oracle/loop9.sql
Enter value for cid: 5
old 5:          cid:=&cid;
new 5:          cid:=5;
Enter value for phone: 55
old 9:          phone:=&phone;
new 9:          phone:=55;
Enter value for cid: 11
old 14:          cid=&cid;
new 14:          cid=11;
          cid=11;
          *
```

```
ERROR at line 14:
ORA-06550: line 14, column 6:
PLS-00103: Encountered the symbol "=" when expecting one of the following:
:= . ( @ % ;
The symbol ":=" was inserted before "=" to continue.
```

```
SQL> ed c:/oracle/loop9.sql
```