create or replace package pkg\_department is

procedure add\_department(dep\_id departments.department\_id%type,

dep\_name departments.department\_name%type,

man\_id departments.manager\_id%type,

loc\_id departments.location\_id%type);

procedure upd\_department(dep\_id departments.department\_id%type,

dep\_name departments.department\_name%type);

procedure del\_department(dep\_id departments.department\_id%type);

procedure get\_department(dep\_id departments.department\_id%type,

dep\_name out departments.department\_name%type);

end pkg\_department;

/

create or replace package body pkg\_department is

procedure add\_department

(dep\_id departments.department\_id%type,

dep\_name departments.department\_name%type,

man\_id departments.manager\_id%type,

loc\_id departments.location\_id%type)

is begin

insert into departments values (dep\_id, dep\_name,man\_id,loc\_id);

dbms\_output.put\_line(dep\_name||' '||dep\_id||' '||man\_id||' '||loc\_id);

end add\_department;

procedure upd\_department

(dep\_id departments.department\_id%type,

dep\_name departments.department\_name%type)

is begin

update departments

set department\_name=dep\_name

where department\_id=dep\_id;

dbms\_output.put\_line(dep\_name||' '||dep\_id);

end upd\_department;

procedure del\_department

(dep\_id departments.department\_id%type)

is begin

delete from departments where department\_id=dep\_id;

end del\_department;

procedure get\_department

(dep\_id departments.department\_id%type,

dep\_name out departments.department\_name%type)

is begin

select department\_name into dep\_name

from departments

where department\_id=dep\_id;

dbms\_output.put\_line(dep\_name||' '||dep\_id);

end get\_department;

end pkg\_department;

/

set serveroutput on

declare

dep\_name departments.department\_name%type;

begin

pkg\_department.get\_department(10,dep\_name);

end;

/

begin

pkg\_department.add\_department(280,'Cleaning Service',200,1700);

end;

/

begin

pkg\_department.upd\_department(280,'Back Office');

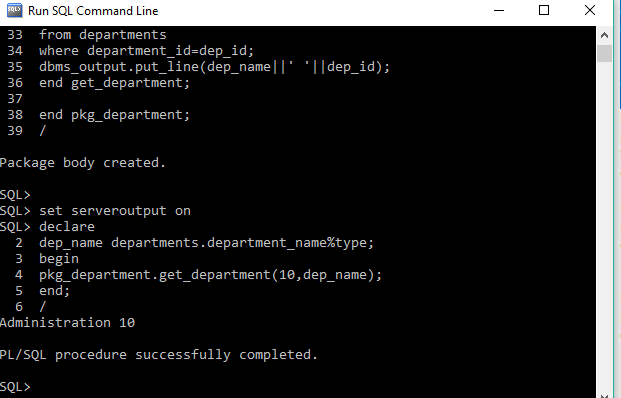
end;

/begin

pkg\_department.del\_department(270);

end;

/

1. tidak terjadi error
2. akan error
3. Error
4. error

pengamatan 3

CREATE OR REPLACE PACKAGE PKG\_VOLUME IS

tinggi NUMBER := 9;

FUNCTION volume\_balok(panjang NUMBER, lebar NUMBER) RETURN NUMBER;

FUNCTION volume\_tabung(jari\_jari NUMBER) RETURN NUMBER;

END pkg\_volume;

/

CREATE OR REPLACE PACKAGE BODY PKG\_VOLUME IS

FUNCTION volume\_balok(panjang NUMBER, lebar NUMBER) RETURN NUMBER is volume number;

tinggi NUMBER := 9;

begin

volume:=panjang\*lebar\*tinggi;

return volume;

end volume\_balok;

FUNCTION volume\_tabung(jari\_jari NUMBER) RETURN NUMBER is volume number;

tinggi NUMBER := 9;

phi number:=3.14;

begin

volume:=phi\*jari\_jari\*jari\_jari\*tinggi;

return volume;

end volume\_tabung;

END pkg\_volume;

set serveroutput on

begin dbms\_output.put\_line(pkg\_volume.volume\_balok(5,6)); dbms\_output.put\_line(pkg\_volume.volume\_tabung(10));

end;

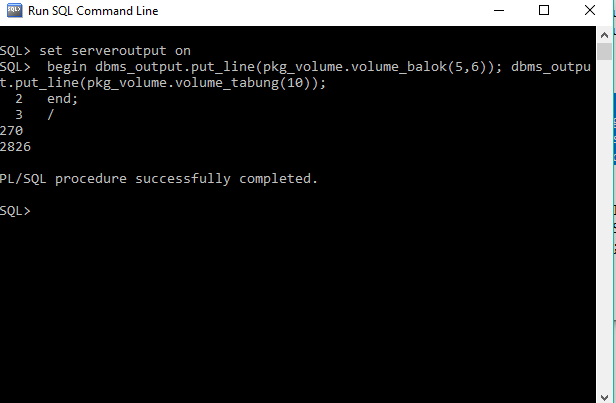
/

BEGIN

DBMS\_OUTPUT.PUT\_LINE(pkg\_volume.volume\_tabung.tinggi); END;

/

3. tidak bisa



11.4 TEST AKHIR

1. Buatlah package bernama PKG\_LUAS\_BANGUN. Package ini berisi empat buah function

sebagai berikut:

a. Function LUAS\_PERSEGI, mengembalikan luas dari persegi

b. Function LUAS\_SEGITIGA, mengembalikan luas dari segitiga.

c. Function LUAS\_LINGKARAN, mengembalikan luas lingkaran.

d. Function LUAS\_BELAHKETUPAT, mengembalikan luas belah ketupat.

CREATE OR REPLACE PACKAGE PKG\_LUAS\_BANGUN IS

FUNCTION LUAS\_PERSEGI (s NUMBER) RETURN NUMBER;

FUNCTION LUAS\_SEGITIGA (a NUMBER, t NUMBER) RETURN NUMBER;

FUNCTION LUAS\_LINGKARAN (r NUMBER) RETURN NUMBER;

FUNCTION LUAS\_BELAHKETUPAT (d1 NUMBER, d2 NUMBER) RETURN NUMBER;

END PKG\_LUAS\_BANGUN;

/

CREATE OR REPLACE PACKAGE BODY PKG\_LUAS\_BANGUN IS

FUNCTION LUAS\_PERSEGI (s NUMBER) RETURN NUMBER IS

BEGIN

RETURN (s\*s);

END LUAS\_PERSEGI;

FUNCTION LUAS\_SEGITIGA (a NUMBER, t NUMBER) RETURN NUMBER IS

BEGIN

RETURN (0.5\*a\*t);

END LUAS\_SEGITIGA;

FUNCTION LUAS\_LINGKARAN (r NUMBER) RETURN NUMBER IS

phi CONSTANT NUMBER := 3.14;

BEGIN

RETURN (phi\*r\*r);

END LUAS\_LINGKARAN;

FUNCTION LUAS\_BELAHKETUPAT (d1 NUMBER, d2 NUMBER) RETURN NUMBER IS

BEGIN

RETURN ((d1\*d2)/2);

END LUAS\_BELAHKETUPAT;

END PKG\_LUAS\_BANGUN;

/

BEGIN

DBMS\_OUTPUT.PUT\_LINE(pkg\_luas\_bangun.LUAS\_PERSEGI(6));

DBMS\_OUTPUT.PUT\_LINE(pkg\_luas\_bangun.LUAS\_SEGITIGA(6,10));

DBMS\_OUTPUT.PUT\_LINE(pkg\_luas\_bangun.LUAS\_LINGKARAN(7));

DBMS\_OUTPUT.PUT\_LINE(pkg\_luas\_bangun.LUAS\_BELAHKETUPAT(8,8));

END;

/

2. Buatlah package bernama PKG\_EMPJOB yang berisi procedure dan function sebagai berikut:

a. Procedure NEW\_JOB, berfungsi untuk menambahkan data baru di tabel JOBS

b. Procedure UPD\_JOBSAL, berfungsi untuk merubah gaji minimum dan maksimum di tabel

jobs.

c. Function GET\_YEARS\_SERVICE, berfungsi untuk mengembalikan lama bekerja dari seorang

pegawai.

d. Function GET\_JOB\_COUNT, berfungsi untuk mengembalikan jumlah job yang pernah

dijalani oleh seorang pegawai dari awal hingga saat ini (data diambil dari tabel employees

dan job\_history).

CREATE OR REPLACE PACKAGE PKG\_EMPJOB IS

PROCEDURE NEW\_JOB (j\_id jobs.job\_id%type, j\_title jobs.job\_title%type, min\_s jobs.min\_salary%type, max\_s jobs.max\_salary%type);

PROCEDURE UPD\_JOBSAL (j\_id jobs.job\_id%type, min\_s jobs.min\_salary%type, max\_s jobs.max\_salary%type);

FUNCTION GET\_YEARS\_SERVICE RETURN NUMBER;

FUNCTION GET\_JOB\_COUNT RETURN NUMBER;

END PKG\_LUAS\_BANGUN;

/

CREATE OR REPLACE PACKAGE BODY PKG\_EMPJOB IS

PROCEDURE NEW\_JOB (j\_id jobs.job\_id%type, j\_title jobs.job\_title%type, min\_s jobs.min\_salary%type, max\_s jobs.max\_salary%type);

BEGIN

END;

PROCEDURE UPD\_JOBSAL (j\_id jobs.job\_id%type, min\_s jobs.min\_salary%type, max\_s jobs.max\_salary%type);

BEGIN

END;

FUNCTION GET\_YEARS\_SERVICE (e\_id employees.employee\_id%type) RETURN NUMBER IS

jml NUMBER;

BEGIN

SELECT end\_date - start\_date as htg INTO jml FROM job\_history join employees using (employee\_id);

RETURN jml;

END;

FUNCTION GET\_JOB\_COUNT RETURN NUMBER;

BEGIN

END;

END PKG\_EMPJOB;

/