**/\* 4.3.1\*/**

**DECLARE**

**CURSOR C1 is**

**select cust\_code ,cust\_name,age  from CUST1 order by cust\_code asc ;**

**mcustcode  cust1.cust\_code %type;**

**mname cust1.cust\_name%type;**

**age1 cust1.age%type;**

**BEGIN**

**OPEN C1;**

**FETCH C1 INTO mcustcode,mname, age1;**

**CLOSE C1;**

**Dbms\_output.put\_line(mcustcode||'  '||mname||'   '||age1);**

**END;**

**/\*4.3.2\*/**

**DECLARE**

**CURSOR c1 is**

**select cust\_code ,cust\_name,age  from CUST1 order by cust\_code asc;**

**cust\_rec  c1%rowtype;**

**BEGIN**

**OPEN c1;**

**dbms\_output.put\_line('Cust\_code  Cust\_name   Age');**

**FOR I IN 1..3**

**LOOP**

**FETCH c1 INTO cust\_rec;**

**IF (cust\_rec.cust\_name like 'D%') THEN**

**dbms\_output.put\_line(cust\_rec.cust\_code||'  '||cust\_rec.cust\_name||'  '||cust\_rec.age);**

**end if;**

**END LOOP;**

**CLOSE c1;**

**END;**

**/\*4.5.1\*/**

**Declare cursor C2 is**

**Select \*  from INVENTORY order by inv\_no asc;**

**Inv\_rec  C2% rowtype;**

**BEGIN**

**OPEN C2;**

**LOOP**

**FETCH C2 INTO inv\_rec;**

**DBMS\_output.put\_line(inv\_rec.inv\_no||'  '||inv\_rec.iname);**

**EXIT WHEN (C2%rowcount=6);**

**END LOOP;**

**END:**

**/\*4.5.2\*/**

**Declare**

**cursor C2 is**

**Select inv\_no  from INVENTORY order by inv\_no asc ;**

**minvo  INVENTORY.inv\_no%type;**

**BEGIN**

**OPEN C2;**

**IF  (C2%ISOPEN) THEN**

**dbms\_output.put\_line('CURSOR IS OPEN ALREADY');**

**END IF;**

**FETCH C2 INTO minvo;**

**dbms\_output.put\_line(minvo);**

**CLOSE C2;**

**END;**

**/\* 4.5.3\*/**

**Declare**

**cursor C2 is**

**SELECT inv\_no  from INVENTORY where iname='INV7';**

**minvno  INVENTORY.INV\_NO%type;**

**BEGIN**

**OPEN C2;**

**FETCH C2 INTO minvno;**

**IF(C2%NOTFOUND)**

**THEN**

**Dbms\_output.put\_line('NO record with iname-INV7');**

**ELSE dbms\_output.put\_line('Inventory found');**

**END IF;**

**CLOSE C2;**

**END;**

**/\*4.5.4\*/**

**Declare**

**mname     varchar2(15);**

**price         number(8,2);**

**cursor c1 is select iname, unit\_price from inventory**

**order by inv\_no;**

**Begin**

**OPEN c1;**

**DBMS\_OUTPUT.put\_line('Inventory Name. Price of Inventory ');**

**Loop**

**FETCH c1 into mname, price;**

**exit when c1%NOTFOUND OR c1%ROWCOUNT = 6;**

**If ( price > 30000)**

**Then**

**DBMS\_OUTPUT.put\_line( mname||' '||price);**

**End if;**

**End loop;**

**CLOSE c1;**

**End;**

**/\*4.5.5\*/**

**DECLARE**

**CURSOR c1 is SELECT FLIGHT\_NO, SOURCE1,DESTIN FROM FLIGHT FOR UPDATE OF SOURCE1;**

**flight\_rec c1%rowtype;**

**BEGIN**

**OPEN c1;**

**LOOP**

**/\* fetch the next row\*/**

**fetch c1 into flight\_rec;**

**EXIT WHEN c1%NOTFOUND;**

**IF(flight\_rec.source1 = 'Delhi')**

**THEN**

**UPDATE flight set source1 ='New Delhi'**

**where current of c1;**

**/\*current of c1 indicates that update is to be done where cursor is pointing \*/**

**END IF;**

**END LOOP;**

**CLOSE c1;**

**END;**

**/\*4.5.6\*/**

**DECLARE**

**CURSOR c1 is select CUST1.cust\_code,cust1.cust\_name,insure.type,insure.duration from CUST1,INSURE**

**Where CUST1.cust\_code=INSURE.cust\_code ORDER BY cust\_code;**

**mcustcode  CUST1.cust\_code%type;**

**mname CUST1.cust\_name%type;**

**mtype    INSURE.type %type;**

**mduration  INSURE.duration%type;**

**BEGIN**

**OPEN c1;**

**LOOP**

**FETCH  c1 INTO mcustcode,mname,mtype,mduration;**

**EXIT WHEN c1  %NOTFOUND ;**

**IF (mtype='Life' AND mduration >=18)**

**THEN**

**Dbms\_output.put\_line('Details for Long Duration  For type  LIFE' ;**

**Dbms\_output.put\_line(mname||'  '||mtype ||'  '||'Long Duration');**

**ELSIF (mtype= 'House' AND mduration >=3)**

**THEN**

**Dbms\_output.put\_line(' \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*' ) ;**

**Dbms\_output.put\_line(' Details for Long period  For  type House' ) ;**

**Dbms\_output.put\_line(mname||'  '||mtype||'  '||'Long period');**

**END IF;**

**END LOOP;**

**CLOSE  c1;**

**END;**

**/\* 4.5.7\*/**

**DECLARE**

**CURSOR c1 is SELECT fare  FROM  JOURNEY order by p\_code asc;**

**mfare   JOURNEY.fare%type;**

**total\_fare NUMBER(10,2) := 0;**

**BEGIN**

**OPEN c1;**

**LOOP**

**FETCH c1 into mfare;**

**/\* if no data is found then exit the loop\*/**

**EXIT WHEN c1%NOTFOUND;**

**/\*otherwise add the fare to total fare\*/**

**total\_fare := total\_fare + mfare;**

**END LOOP;**

**CLOSE c1;**

**/\* insert the total commission in the result table\*/**

**insert into r3 values(total\_fare);**

**END;**

**/\* 4.5.8\*/**

**DECLARE**

**cursor c1 is select \* from license;**

**lic\_rec  license%rowtype;**

**BEGIN**

**OPEN c1;**

**FETCH c1 into lic\_rec;**

**/\*while loop is executed till the last row\*/**

**while c1%found**

**LOOP**

**/\* if place name is Bangalore\*/**

**if ( lic\_rec.place\_issued = 'Bangalore')**

**then**

**/\*replace with Bangaluru\*/**

**update license**

**set place\_issued = 'Bangaluru'**

**where lic\_rec.lic\_no = lic\_no;**

**/\* if place name is Delhi\*/**

**elsif (lic\_rec.place\_issued = 'Delhi')**

**then**

**/\*replace with N.DELHI\*/**

**update license**

**set place\_issued = 'N.DELHI'**

**where lic\_rec.lic\_no = lic\_no;**

**end if;**

**/\* go to the next row of the table\*/**

**FETCH c1 into lic\_rec;**

**END LOOP;**

**CLOSE c1;**

**END;**

**/\*4.6.1\*/**

**BEGIN**

**UPDATE PASSENG**

**set FARE  = 20000 where PASS\_CODE =1117;**

**/\*-- if the previous update statement didn’t match any row**

**-- insert the error in the error table.\*/**

**IF SQL%NOTFOUND THEN**

**INSERT into error values('no record found');**

**END IF;**

**END;**

**/\* Weakly typed REF cursor\*/**

**/\*4.7.1\*/**

**DECLARE**

**type c1\_INSURANCE is REF CURSOR;**

**C2  c1\_INSURANCE;**

**mcode   number;**

**age1         cust1.age%type;**

**mtype  varchar(20);**

**mamount  number;   
  
BEGIN**

**OPEN C2 FOR SELECT  cust\_code,cust\_name FROM cust1;**

**LOOP**

**EXIT when C2  %notfound ;**

**FETCH  C2 INTO mname,age1;**

**IF((cust\_rec.age>=36) AND(cust\_rec.age<40)) THEN**

**Dbms\_output.put\_line(mname||’     ‘||age1);**

**End IF;**

**END LOOP;**

**CLOSE  C2;**

**dbms\_output.put\_line('\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*');**

**OPEN C2 FOR select cust\_code,type,amount  from insure;**

**FOR I IN 1..3**

**LOOP**

**FETCH C2 INTO  mcode,mtype,mamount;**

**dbms\_output.put\_line(mcode||’      ‘||mtype||’      ‘ ||mamount);**

**END LOOP;**

**CLOSE C2;**

**END;**

**/\* Strongly typed REF Cursor\*/**

**/\*4.7.2\*/**

**DECLARE**

**Type c1\_insurance is REF CURSOR;**

**return cust1%rowtype;**

**C2  c1\_insurance;**

**cust\_rec   cust1%rowtype;**

**BEGIN**

**OPEN C2 FOR SELECT \* FROM cust1;**

**FOR I IN 1..3**

**LOOP**

**FETCH  C2 INTO cust\_rec;**

**dbms\_output.put\_line(cust\_rec.cust\_name||'   '||cust\_rec.age);**

**END LOOP;**

**CLOSE  C2;**

**END;**

**/\*4.7.3\*/**

**DECLARE**

**c2 SYS\_REFCURSOR;**

**cust\_rec cust1%rowtype;**

**ins\_rec insure%rowtype;**

**BEGIN**

**OPEN c2 for select  \* from CUST1 ORDER BY cust\_code;**

**FOR I IN 1..2**

**LOOP**

**FETCH c2 into cust\_rec;**

**EXIT WHEN c2 % NOTFOUND;**

**dbms\_output.put\_line(cust\_rec.cust\_code||'   '||cust\_rec.cust\_name);**

**END LOOP;**

**CLOSE c2;**

**OPEN c2 for select\* from insure;**

**LOOP**

**EXIT WHEN c2 % NOTFOUND;**

**FETCH c2 into ins\_rec;**

**IF (ins\_rec.type = 'Life') THEN**

**Dbms\_output.put\_line(ins\_rec.cust\_code||'   '||ins\_rec.amount);**

**END IF;**

**END LOOP;**

**END;**

**/\*4.9.1\*/**

**DECLARE**

**CURSOR c1 is SELECT cust\_code, salary, organization**

**FROM INFORM order by cust\_code asc;**

**BEGIN**

**FOR rec in c1**

**LOOP**

**/\* checking for first or fourth row \*/**

**IF ( c1%rowcount = 1)**

**THEN**

**IF( (rec.salary > 90000) AND (rec.organization = 'Gamma'))**

**THEN**

**UPDATE inform set**

**salary = salary + 10000**

**where cust\_code = rec.cust\_code;**

**END IF;**

**END IF;**

**IF( c1%rowcount = 4)**

**THEN**

**IF(rec.organization = 'Self')**

**THEN**

**UPDATE inform set salary = salary - 20000**

**where cust\_code = rec.cust\_code;**

**END IF;**

**END IF;**

**END LOOP;**

**END;**

**\*4.9.2\*/**

**DECLARE**

**CURSOR c1 is select train\_no, str\_pt, dest\_pt from train;**

**nchanges number(2) := 0;**

**BEGIN**

**/\* train\_rec is of record type, same as a row of the table train.It need not be declared explicitly.\*/**

**for train\_rec in c1**

**loop**

**if (train\_rec.str\_pt = 'Mumbai' )**

**then**

**UPDATE train set str\_pt = 'Bombay'**

**WHERE train\_no = train\_rec.train\_no;**

**nchanges := nchanges + 1;**

**ELSIF (train\_rec.dest\_pt = 'Mumbai')**

**THEN**

**UPDATE TRAIN SET dest\_pt = 'Bombay'**

**WHERE train\_no = train\_rec.train\_no;**

**nchanges := nchanges + 1;**

**END IF;**

**END LOOP;**

**/\* insert into res table the count of records updated\*/**

**INSERT into res values (nchanges);**

**END;**

**/\* 4.9.3\*/**

**DECLARE**

**/\* customers  who has made a transaction for more than 300000 \*/**

**CURSOR c1 is**

**SELECT cust\_code, cname**

**From PERSON**

**Where cust\_code**

**in ( SELECT cust\_code from TRANSACTION**

**Where amount > 300000 );**

**BEGIN**

**For prec in c1**

**LOOP**

**INSERT into result1 values(prec.cust\_code,prec.cname);**

**END LOOP;**

**END;**

**/\* 4.9.4\*/**

**DECLARE**

**CURSOR c1 is SELECT cust\_details.cust\_name,calls\_info.duration,calls\_info.call\_day from CUST\_DETAILS,CALLS\_INFO where cust\_details.tel\_no=calls\_info.tel\_no;**

**BEGIN**

**Dbms\_output.put\_line('cust\_name   call duration');**

**FOR rec1 in c1**

**LOOP**

**IF (rec1.duration >=10 AND rec1.call\_day='Saturday')**

**THEN**

**Dbms\_output.put\_line(rec1.cust\_name||'             '||rec1. duration);**

**END IF;**

**END LOOP;**

**END;**