**/\* 5.5.1\*/**

**DECLARE**

**mcode   journey.p\_code%type;**

**m\_perdiscount     journey.PER\_DISCOUNT%type;**

**low\_discount EXCEPTION;**

**BEGIN**

**SELECT p\_code, per\_discount into mcode, m\_perdiscount**

**FROM JOURNEY**

**WHERE p\_code =:p\_code;**

**/\*     Enter  2683 for pcode online\*/**

**IF ( m\_perdiscount <20)**

**THEN**

**raise low\_discount;**

**ELSE**

**Dbms\_output.put\_line(mcode||'    '||'discount percent'||'     '||m\_perdiscount );**

**END IF:**

**EXCEPTION**

**WHEN low\_discount  THEN**

**Dbms\_output.put\_line(mcode ||'     ' ||'Low discount ');**

**END;**

**/\*5.5.2\*/**

**DECLARE**

**mbonus      FLOAT;**

**msalary     inform.salary%type;**

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

**over\_salary EXCEPTION;**

**BEGIN**

**SELECT cust\_code,salary INTO mcustcode,msalary FROM inform**

**WHERE cust\_code = 20;**

**IF(msalary >98000)**

**THEN**

**raise over\_salary;**

**ELSE**

**mbonus := msalary \* .20;**

**msalary := msalary + mbonus;**

**Dbms\_output.put\_line(mcustcode||'   '||msalary||'   '||mbonus);**

**END IF;**

**EXCEPTION**

**WHEN over\_salary**

**THEN**

**msalary:= msalary+500;**

**Dbms\_output.put\_line('over salary'||'  '||mcustcode ||’ ‘||  msalary||'   '||'No Bonus');**

**WHEN OTHERS**

**THEN**

**Dbms\_output.put\_line('salary out of range');**

**END;**

**/\* 5.5.3\*/**

**DECLARE**

**CURSOR C1 IS SELECT TEL\_NO,CALL\_DAY,DURATION FROM CALLS\_INFO;**

**A  EXCEPTION;**

**REC CALLS\_INFO%rowtype;**

**BEGIN**

**FOR REC IN C1**

**LOOP**

**IF  (REC.call\_day ='Thursday' AND REC.duration >=7 )THEN**

**Raise A;**

**END IF;**

**END LOOP;**

**EXCEPTION**

**WHEN A THEN**

**DBMS\_OUTPUT.PUT\_LINE ('Call duration >7 on Thursday');**

**WHEN OTHERS THEN**

**DBMS\_OUTPUT.PUT\_LINE ('Call duration' ||'   '|| rec.call\_day);**

**END;**

**/\*5.6.1\*/**

**DECLARE**

**I number:=5;**

**N number;**

**BEGIN**

**N:=1;**

**While N >=0**

**LOOP**

**I:=I /N;**

**Dbms\_output.put\_line(' I :' ||   I||'  '||'denominator'||'  '||N);**

**N:=N-1;**

**END LOOP;**

**EXCEPTION**

**WHEN ZERO\_DIVIDE THEN**

**dbms\_output.put\_line('denominator'||'   '||N|| ' DIVISION BY ZERO');**

**END;**

/**\*5.6.2\*/**

**DECLARE**

**BEGIN**

**INSERT INTO OWNER values(1021,'RC',392912);**

**EXCEPTION**

**WHEN DUP\_VAL\_ON\_INDEX THEN**

**Dbms\_output.put\_line('duplicate owner code ');**

**END;**

/**\* 5.6.3\*/**

**DECLARE**

**c\_code CUST1.cust\_code%type;**

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

**c\_addr CUST1.address%type;**

**BEGIN**

**SELECT  cust\_name, address INTO  c\_name, c\_addr**

**FROM CUST1**

**WHERE cust\_code = 80;**

**Dbms\_output.put\_line ('Name: '||  c\_name);**

**Dbms\_output.put\_line( ('Address: ' || c\_addr);**

**EXCEPTION**

**WHEN no\_data\_found THEN**

**Dbms\_output.put\_line('No such customer!');**

**WHEN others THEN**

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

**END;**

**/\* 5.6.4\*/**

**DECLARE**

**c\_code CUST1.Cust\_code%type;**

**c\_name CUST1.Cust\_name%type;**

**c\_addr CUST1.address%type;**

**temp varchar(20);**

**BEGIN**

**SELECT  Cust\_name INTO temp FROM CUST1;**

**/\* SELECT command selects more than one row/record and cannot be**

**Selected into an ordinary variable temp. too\_many\_rows exception will be raised\*/**

**Dbms\_output.put\_line ('Name: '||  c\_name);**

**Dbms\_output.put\_line ('Address: ' || c\_addr);**

**EXCEPTION**

**WHEN NO\_DATA\_FOUND THEN**

**Dbms\_output.put\_line('No such customer!');**

**WHEN TOO\_MANY\_ROWS THEN**

**Dbms\_output.put\_line('error trying to SELECT too many rows');**

**WHEN OTHERS THEN**

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

**END;**

**/\*5.6.5\*/**

**DECLARE**

**CURSOR c2 IS SELECT \* FROM  FLIGHT;**

**flight\_rec            FLIGHT%rowtype;**

**mcode NUMBER(6);**

**mdetails             VARCHAR2(30);**

**BEGIN**

**OPEN c2;**

**dbms\_output.put\_line('c2 open');**

**LOOP**

**FETCH c2 INTO flight\_rec;**

**EXIT WHEN c2 %notfound;**

**END LOOP;**

**OPEN c2;**

**EXCEPTION**

**WHEN CURSOR\_ALREADY\_OPEN**

**THEN**

**Dbms\_output.put\_line('cursor already open');**

**WHEN OTHERS**

**THEN**

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

**END;**

**/\*5.6.6\*/**

**/\* Illustrates no\_data\_found predefined Exception\*/**

**DECLARE**

**mpass\_code      PASSENG.pass\_code%type;**

**mname PASSENG.pass\_name%type;**

**mconfirm           BOOKING.confirm%type;**

**status   varchar(15);**

**BEGIN**

**SELECT BOOKING.pass\_code, PASSENG.pass\_name, BOOKING.confirm**

**INTO mpass\_code, mname, mconfirm**

**FROM PASSENG,BOOKING**

**WHERE PASSENG.pass\_code = BOOKING.pass\_code**

**and BOOKING.pass\_code = :pass\_code;**

**IF( upper(mconfirm) = 'Y')**

**THEN**

**status := 'confirmed';**

**ELSE**

**status := 'waiting';**

**END IF;**

**insert into res11 values(mpass\_code, status, mname);**

**EXCEPTION**

**/\* if there is no record for given passenger code \*/**

**WHEN NO\_DATA\_FOUND  THEN**

**Dbms\_output.put\_line('No data found');**

**/\* if more than one record exist for given passenger code \*/**

**WHEN  TOO\_MANY\_ROWS  THEN**

**Dbms\_output.put\_line ( 'too\_many\_bookings with same name');**

**WHEN OTHERS THEN**

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

**END;**

**/\*5.7.1\*/**

**DECLARE**

**CURSOR c2 IS SELECT \* FROM FLIGHT;**

**flight\_rec FLIGHT%rowtype;**

**mcode NUMBER(6);**

**mdetails VARCHAR2(30);**

**BEGIN**

**CLOSE c2;**

**LOOP**

**FETCH c2 INTO flight\_rec;**

**EXIT WHEN c2 %notfound;**

**END LOOP;**

**OPEN c2;**

**EXCEPTION**

**WHEN CURSOR\_ALREADY\_OPEN THEN**

**INSERT INTO log\_table VALUES**

**( 1000,'cursor already open');**

**WHEN OTHERS**

**THEN**

**/\* that error's code and description are stored in log\_table\*/**

**mcode := SQLCODE;**

**mdetails := SUBSTR(SQLERRM, 0,30);**

**INSERT INTO log\_table**

**VALUES( mcode,mdetails);**

**END;**

**DECLARE**

**merr varchar(30);**

**BEGIN**

**INSERT INTO COURSE VALUES('CS123','four',1, 2);**

**EXCEPTION**

**WHEN TOO\_MANY\_ROWS**

**THEN**

**Dbms\_output.put\_line('format not correct');**

**When OTHERS**

**THEN**

**merr := substr(SQLERRM,0, 200);**

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

**END;**

**/5.8.1\*/**

**BEGIN**

**/\* 3456 Def     Delhi          Frankfurt    Already exists in the flight table\*/**

**INSERT INTO FLIGHT VALUES ( 3456,'Def','Delhi','London');**

**EXCEPTION**

**WHEN DUP\_VAL\_ON\_INDEX  THEN**

**Dbms\_output.put\_line( 'Same passenger code exists already');**

**WHEN OTHERS THEN**

**raise\_application\_error(-20001,' An error occurred'||SQLCODE||'    '||SQLERRM);**

**END;**

**/\*5.8.2\*/**

**BEGIN**

**/\* 3456 Def     Delhi          Frankfurt    Already in the flight too many rows exception\*/**

**INSERT INTO FLIGHT VALUES (3456,'Def','Delhi','London');**

**EXCEPTION**

**when too\_many\_rows then**

**Dbms\_output.put\_line('too\_many\_rows');**

**/\* if some other error, except the handled errors\*/**

**WHEN OTHERS THEN**

**raise\_application\_error(-20001,'An error was encountered - '||SQLCODE||' -ERROR- '||SQLERRM);**

**END;**

/**\*5.9.1\*/**

**DECLARE**

**cursor C1 is select cust\_code, age from cust1 order by cust\_code asc;**

**Overage    EXCEPTION;**

**age       cust1.age%type;**

**PRAGMA EXCEPTION\_INIT(overage, -20008);**

**BEGIN**

**FOR rec IN C1**

**LOOP**

**IF rec.age >40 THEN**

**DBMS\_OUTPUT.PUT\_LINE(rec.cust\_code||'   '||rec.age);**

**RAISE overage;**

**END IF;**

**END LOOP;**

**EXCEPTION**

**WHEN overage**

**THEN**

**DBMS\_OUTPUT.PUT\_LINE(SQLERRM);**

**END;**

**/\*5.9.2\*/**

**DECLARE**

**CURSOR C1 is SELECT cust\_code,age**

**FROM CUST1 ORDER BY cust\_code asc;**

**overage    EXCEPTION;**

**age       cust1.age%type;**

**PRAGMA EXCEPTION\_INIT(overage, -20008);**

**BEGIN**

**FOR rec IN C1**

**LOOP**

**IF rec.age>40 THEN**

**DBMS\_OUTPUT.PUT\_LINE(rec.cust\_code||'  '||rec.age);**

**RAISE overage;**

**END IF;**

**END LOOP;**

**EXCEPTION**

**WHEN overage**

**THEN**

**DBMS\_OUTPUT.PUT\_LINE(SQLcode ||'   '||'Age greater than 40');**

**END;**

**/\*5.10.1\*/**

**DECLARE**

**cursor C1 is SELECT \* FROM INVENTORY order by inv\_no asc;**

**E1 Exception;**

**E2 Exception;**

**miname varchar(20);**

**mprice number;**

**BEGIN**

**FOR REC IN C1**

**LOOP**

**IF (C1%ROWCOUNT =1) THEN**

**miname:=rec.iname;**

**mprice:=rec.unit\_price;**

**IF rec.unit\_price>=50000 and rec.unit\_price<70000 THEN**

**RAISE E1;**

**END IF;**

**DBMS\_OUTPUT.PUT\_LINE(C1%ROWCOUNT||'  '||rec.unit\_price);**

**ELSE**

**IF (C1%ROWCOUNT =6) THEN**

**DBMS\_OUTPUT.PUT\_LINE(C1%ROWCOUNT||'  '||rec.unit\_price);**

**miname:=rec.iname;**

**mprice:=rec.unit\_price;**

**IF  rec.unit\_price>=70000 THEN**

**https://ssl.gstatic.com/ui/v1/icons/mail/images/cleardot.gif**

**RAISE E2;**

**END IF;**

**END IF;**

**END IF;**

**END LOOP;**

**EXCEPTION**

**WHEN E1 THEN**

**Dbms\_output.put\_line( miname||'   '||  mprice ||  'Price Moderate');**

**WHEN E2 THEN**

**Dbms\_output.put\_line( miname||'  '||  mprice||'   '||'Exorbitant');**

**END;**

**/\*5.11.1\*/**

**DECLARE**

**CURSOR C1 IS**

**SELECT JOURNEY.p\_code, JOURNEY.per\_discount,** [**PASSENGER.name**](http://passenger.name/)**, PASSENGER.occupation**

**FROM PASSENGER, JOURNEY**

**WHERE PASSENGER.P\_code= JOURNEY.P\_code;**

**A  EXCEPTION;**

**mdiscount number;**

**mcode number;**

**BEGIN**

**BEGIN**

**/\* Note there are two BEGIN statements \*/**

**FOR REC IN C1**

**LOOP**

**mdiscount:= REC.per\_discount;**

**mcode:=REC.P\_code;**

**IF (REC.occupation='Teacher' AND mdiscount=0) THEN**

**RAISE A;**

**END IF;**

**END LOOP;**

**EXCEPTION**

**WHEN A THEN**

**DBMS\_OUTPUT.PUT\_LINE( 'No discount given for teacher');**

**RAISE;/\* reraise the current exception \*/**

**END;**

**EXCEPTION**

**WHEN A THEN**

**mdiscount:=40;**

**DBMS\_OUTPUT.PUT\_LINE(mcode||'   ' || 'Revised Discount'|| mdiscount);**

**END;**

**/\*5.11.2\*/**

**DECLARE**

**CURSOR C1 is SELECT JOURNEY.p\_code, JOURNEY.per\_discount,** [**PASSENGER.name**](https://imsva91-ctp.trendmicro.com/wis/clicktime/v1/query?url=http%3a%2f%2fpassenger.name&umid=214E91A9-A78E-1805-B5A9-76A002C55076&auth=913095b7036a3ad74cd770917596180890a05ba7-f19e54bef954567c7f5fd36c0c73671fa96d6be2)**, PASSENGER.occupation**

**FROM PASSENGER, JOURNEY**

**WHERE PASSENGER.P\_code= JOURNEY.P\_code;**

**A Exception;**

**B Exception;**

**mdiscount number;**

**mcode number;**

**mname VARCHAR(20);**

**BEGIN**

**BEGIN**

**FOR REC IN C1**

**LOOP**

**mdiscount:= REC.per\_discount;**

**mcode:=REC.P\_code;**

**mname:=REC.name;**

**IF (REC.occupation='Teacher' AND mdiscount=0)**

**THEN RAISE A;**

**END IF;**

**END LOOP;**

**EXCEPTION**

**WHEN A THEN**

**DBMS\_OUTPUT.PUT\_LINE( mcode ||'     '||mname ||'    '||'No discount given for teacher');**

**IF (mdiscount=0) THEN RAISE  B;**

**END IF;**

**END;**

**EXCEPTION**

**UPDATE  JOURNEY SET per\_discount=40 WHERE P\_Code=mcode;**

**END;**