Assignment 4

DBMS LAB

IT552

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Fifth Semester

Information Technology (HY)

Q1. Write PL/SQL code to check if given year is a leap year or not

```
declare
    year number := 1826;
begin
    if   mod(year, 4) = 0
         and mod(year, 100) != 0
         or mod(year, 400) = 0 then
         dbms_output.put_line(year || ' is a leap year ');
    else
         dbms_output.put_line(year || ' is not a leap
year.');
    end if;
end;
```

```
Statement processed.
1826 is not a leap year.
```

Q2. Write a PL/SQL program to find out whether the given number is a palindrome or not

```
declare
    numorg   integer := 1221;
    numrev   integer := 0;
    temp     integer;
begin
    temp := numorg;

    while temp > 0 loop
         numrev := numrev * 10 + mod(temp, 10);
         temp := floor(temp / 10);
    end loop;

    if   numorg = numrev then
         dbms_output.put_line(numorg || ' is a
palindrome');
    else
```

```
         dbms_output.put_line(numorg || ' is not a
palindrome');
     end if;
end;
```

```
Statement processed.
1221 is a palindrome
```

Q3. Write a PL/SQL program to find whether a given number is a Armstrong number or not

```
declare
    numorg integer := 153;
    numnew integer :=0;
    temp integer;
begin
    temp := numorg;
    while temp>0 loop
     numnew := numnew + power(mod(temp,10),3);
     temp := floor(temp/10);
     end loop;

    if numorg = numnew then
        dbms_output.put_line(numnew ||' is an armstrong
number');
    else
        dbms_output.put_line(numorg || ' is not an
armstrong number');
    end if;
end;
```

```
Statement processed.
153 is an armstrong number
```

Q4. Write a PL/SQL program to find out the GC of three numbers

```
declare
    num1 integer := 8;
    num2 integer := 64;
    num3 integer := 128;
    a1 integer;
    a2 integer;
    a3 integer;
    aa integer;
begin
    a1:= num1;
    a2:= num2;
    a3:= num3;
    while mod(a2,a1)!=0 loop
        aa:=mod(a2,a2);
        a2:= a1;
        a1:= aa;
    end loop;
    while mod(a3,a1)!=0 loop
        aa:=mod(a3,a1);
        a3:=a1;
        a1:=aa;
    end loop;
    dbms_output.put_line('The GCD of ' ||num1||' , ' ||
num2 || ' and '||num3 || ' is = ' || a1);
end;
```

```
Statement processed.
The GCD of 8 , 64 and 128 is = 8
```

Q5. Write a PL/SQL program to find out LCM of three numbers

```
declare
    num1 integer := 8;
    num2 integer := 16;
```

```
    num3 integer := 56;
    a1 integer;
    a2 integer;
    a3 integer;
    aa integer;
    lcm1 integer;
begin
    a1:= num1;
    a2:= num2;
    a3:= num3;
    while mod(a2,a1)!=0 loop
        aa:=mod(a2,a2);
        a2:= a1;
        a1:= aa;
    end loop;
    lcm1 := (num1*num2)/a1;

    while mod(a3,a1)!=0 loop
        aa:=mod(a3,a1);
        a3:=a1;
        a1:=aa;
    end loop;
    a1:= (lcm1*num3)/a1;

    dbms_output.put_line('The GCD of ' ||num1||' , ' ||
num2 || ' and '||num3 || ' is = ' || a1);
end;
```

```
Statement processed.
The GCD of 8 , 16 and 56 is = 112
```

Q6. Write a PL/SQL program to find whether a given number is a perfect number or not. A perfect number is a number which is equal to the sum of its divisors

```
declare
     num integer := 6;
     sumd integer := 1;
     i integer;
```

```
begin
     for i in 2 .. (num-1) loop
          if mod(num,i)=0 then
               sumd := sumd + i;
          end if;
     end loop;
     if sumd = num and num != 1 then
          dbms_output.put_line('The given number '||num||'
is a Perfect Number');
     else
          dbms_output.put_line('The given number '||num||'
is not a Perfect Number');
     end if;
end;
```

```
Statement processed.
The given number 6 is a Perfect Number
```

Q7. Write a PL/SQL program to count the number of vowels and consonants in a given word

```
declare
     string varchar2(12) := 'samplestring';
     countV integer := 0;
     countC integer := 0;
     i integer;
     c character;
begin
     for i in 1 .. length(string) loop
          c := substr(string, i , 1);
          if c='a' or c='e' or c='i' or c='o' or c='u' then
               countV := countV + 1;
          else
               countC := countC + 1;
          end if;
     end loop;
```

```
    dbms_output.put_line('The number of Vowels are
'||countV);
    dbms_output.put_line('The number of Consonants are
'||countC);
end;
```

```
Statement processed.
The number of Vowels are 3
The number of Consonants are 9
```

Q8. Write a PL/SQL program that accepts the account number from terminal and update the amount by adding RS 2000 if the amount is less than RS 5000. The update is reflected in the deposit table

```
declare
    actNum varchar2(6);
    actAmt integer;
begin
    actNum := '&actNum';

    select amount
    into actAmt
    from deposit
    where Act_no = actNum;

    if actAmt >= 5000 then
        dbms_output.Put_line('Amount is ' || actAmt);
    else
        actAmt := actAmt + 2000;
        dbms_output.Put_line('New amount is ' || actAmt);
    end if;

    update deposit
    set amount = actAmt
    where Act_no = actNum;
end;
```

input = ‘RM7200’

```
Statement processed.
New amount is 4000
```

Before

ACT_NO	C_NAME	B_NAME	AMOUNT
BA1572	CLINT	Jadavpur	10000
RO2222	STEVE	Chembur	15000
ST4675	TONY	Hauz Khas	6500
RM7200	NATASHA	Jadavpur	2000

After

ACT_NO	C_NAME	B_NAME	AMOUNT
BA1572	CLINT	Jadavpur	10000
RO2222	STEVE	Chembur	15000
ST4675	TONY	Hauz Khas	6500
RM7200	NATASHA	Jadavpur	4000

Q9. Create an employee table(emp). Write a PL/SQL code for the following accept an employee code from the user and find the employee. Add row in emp. If employee code is duplicate then display a message

```
create table emp (
e_id varchar2(4),
e_name varchar2(10)
);
insert into emp values ('E01','Steve');
insert into emp values ('E02','Stan');
insert into emp values ('E03','Peter');
insert into emp values ('E04','Phil');
```

E_ID	E_NAME
E01	Steve
E02	Stan
E03	Peter
E04	Phil

Find employee with given e_id

```
declare
    eno varchar2(4);
    name varchar2(10);
begin
    eno := '&eno';

    select e_name
    into name
    from emp
    where e_id = eno;

    dbms_output.put_line('Employee Found '||'Name:
'||name);

    exception
    when NO_DATA_FOUND then
        dbms_output.put_line('No Employee record with ID
'||eno);
end;
```

eno = ‘E01’

```
Statement processed.
Employee Found Name: Steve
```

eno = ‘E10’

```
Statement processed.
No Employee record with ID E10
```

Insert into table or check for duplicates

```
declare
    eno varchar2(4);
    name varchar2(10);
    count1 number := 0;
begin
    eno := '&eno';
```

```
    select count(*)
    into count1
    from emp
    where e_id = eno;

    if count1 = 0 then
        name := '&name';
        insert into emp values(eno,name);
        dbms_output.put_line('('||eno ||', '||name||')
inserted');
    else
        dbms_output.put_line(eno||' alredy exists');
    end if;
end;
```

eno = ‘E01’
name = ‘Tony’

```
Statement processed.
E01 alredy exists
```

eno = ‘E10’
name = ‘Tony’

```
Statement processed.
(E10, Tony) inserted
```

E_ID	E_NAME
E10	Tony

Q10. Write a PL/SQL program for the following. Accept a branch name from the user. Delete all the borrow rows with that branch name. Show how many rows have been deleted

```
declare
     bname varchar2(10);
     count1 number;
begin
     bname := '&bname';

     select count(bname)
     into count1
     from borrow
     where B_name = bname;

     if count1 > 0 then
          delete from borrow
          where B_name = bname;

          dbms_output.put_line(count1 ||' rows deleted');
     else
          dbms_output.put_line('No entries for given
branch');
     end if;
end;
```

LOAN_NO	C_NAME	B_NAME	AMOUNT
SNS11	STEVE	R K Puram	5000
AFB26	NATASHA	R K Puram	2000
AFB28	CLINT	Jadavpur	4500
TRR65	TONY	Hauz Khas	6550

bname = ‘abc’

```
Statement processed.
No entries for given branch
```

bname = ‘R K Puram’

```
Statement processed.
2 rows deleted
```

LOAN_NO	C_NAME	B_NAME	AMOUNT
AFB28	CLINT	Jadavpur	4500
TRR65	TONY	Hauz Khas	6550

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