

Lupsan Sabrina

Group 1064

Assignment – Seminar 5

1. Fie un șir de cifre stocat într-o variabilă de tip VARCHAR2. Să se parcurgă șirul iar fiecare cifră să se stocheze într-o colecție de tip index-by-table. Să se șteargă al treilea element din colecție. Să se parcurgă colecția cu FOR și cu WHILE – se va include cod + captură de ecran

The code where I used FOR:

```
SET SERVEROUTPUT ON
```

```
DECLARE
```

```
    V_STRING VARCHAR2(100):='25925624594564';
```

```
    TYPE t_strings is table of number index by pls_integer;
```

```
    v t_strings;
```

```
    i pls_integer;
```

```
BEGIN
```

```
    FOR i in 1..length(v_string) LOOP
```

```
        v(i):=substr(v_string, i, 1);
```

```
    END LOOP;
```

```
    dbms_output.put_line('The collection has '||v.count||' elements.');
```

```
    v.delete(3);
```

```
    dbms_output.put_line('The collection has '||v.count||' elements.');
```

```
END;
```

```
/
```

Worksheet Query Builder

```
SET SERVEROUTPUT ON
DECLARE
  V_STRING VARCHAR2(100):='25925624594564';
  TYPE t_strings is table of number index by pls_integer;
  v t_strings;
  i pls_integer;
BEGIN
  FOR i in 1..length(v_string) LOOP
    v(i):=substr(v_string, i, 1);
  END LOOP;
  dbms_output.put_line('The collection has '||v.count||' elements.');
```

Task completed in 0.086 seconds

The collection has 13 elements.

PL/SQL procedure successfully completed.

The collection has 14 elements.

The collection has 13 elements.

PL/SQL procedure successfully completed.

The code where I used WHILE:

```
SET SERVEROUTPUT ON
```

```
DECLARE
```

```
  V_STRING VARCHAR2(100):='25925624594564';
```

```
  TYPE t_strings is table of number index by pls_integer;
```

```
  v t_strings;
```

```
  i PLS_INTEGER :=1;
```

```
BEGIN
```

```

while i<=length(v_string) LOOP

    v(i):=substr(v_string, i, 1);

    i:=i+1;

END LOOP;

dbms_output.put_line('The collection has '||v.count||' elements.');
```

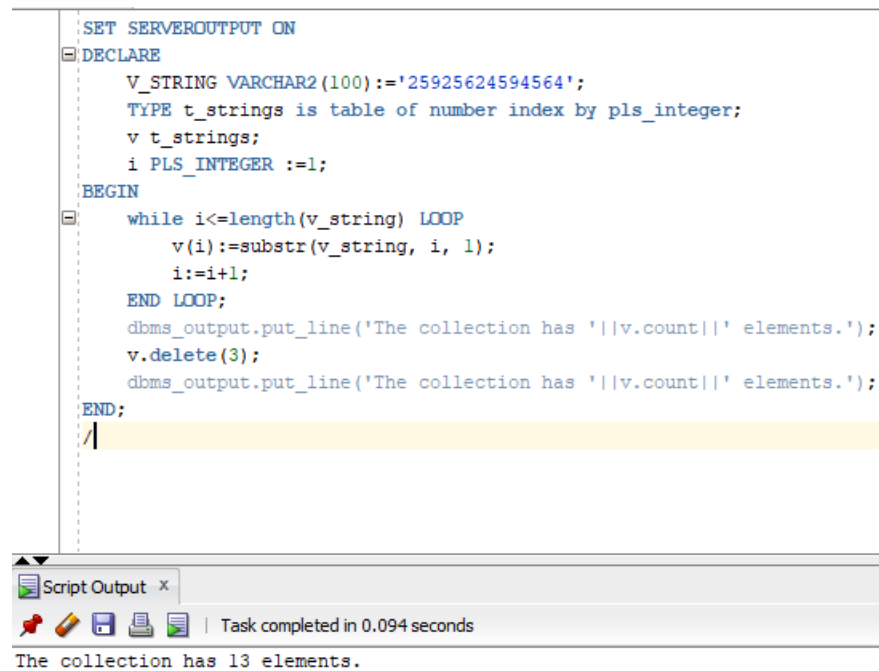
v.delete(3);

```

dbms_output.put_line('The collection has '||v.count||' elements.');
```

END;

/



The screenshot shows the Oracle SQL Developer interface. The main window displays a PL/SQL script with the following code:

```

SET SERVEROUTPUT ON
DECLARE
    V_STRING VARCHAR2(100):='25925624594564';
    TYPE t_strings is table of number index by pls_integer;
    v t_strings;
    i PLS_INTEGER :=1;
BEGIN
    while i<=length(v_string) LOOP
        v(i):=substr(v_string, i, 1);
        i:=i+1;
    END LOOP;
    dbms_output.put_line('The collection has '||v.count||' elements.');
```

v.delete(3);

```

    dbms_output.put_line('The collection has '||v.count||' elements.');
```

END;

/

Below the script, the 'Script Output' window is visible, showing the result of the execution:

```

Task completed in 0.094 seconds
The collection has 13 elements.
```

PL/SQL procedure successfully completed.

The collection has 14 elements.

The collection has 13 elements.

PL/SQL procedure successfully completed.

2. Rezolvați problema astfel încât elementele care nu există să nu fie afișate. Se vor folosi 2 variante.

The code where I used WHILE and NEXT:

```
SET SERVEROUTPUT ON
```

```
DECLARE
```

```
    type t_nt is table of number;
```

```
    v t_nt;
```

```
    i PLS_INTEGER:=1;
```

```
BEGIN
```

```
    v:=t_nt();
```

```
    v.extend(1);
```

```
    v(1):=10;
```

```
    dbms_output.put_line('Number of elements: '||v.count);
```

```
    v.extend(7);
```

```
    dbms_output.put_line('Number of elements: '||v.count);
```

```
    v(8):=120;
```

```
    v.delete(2,6);
```

```
    while i<=v.last loop
```

```
        if v(i) is not null then
```

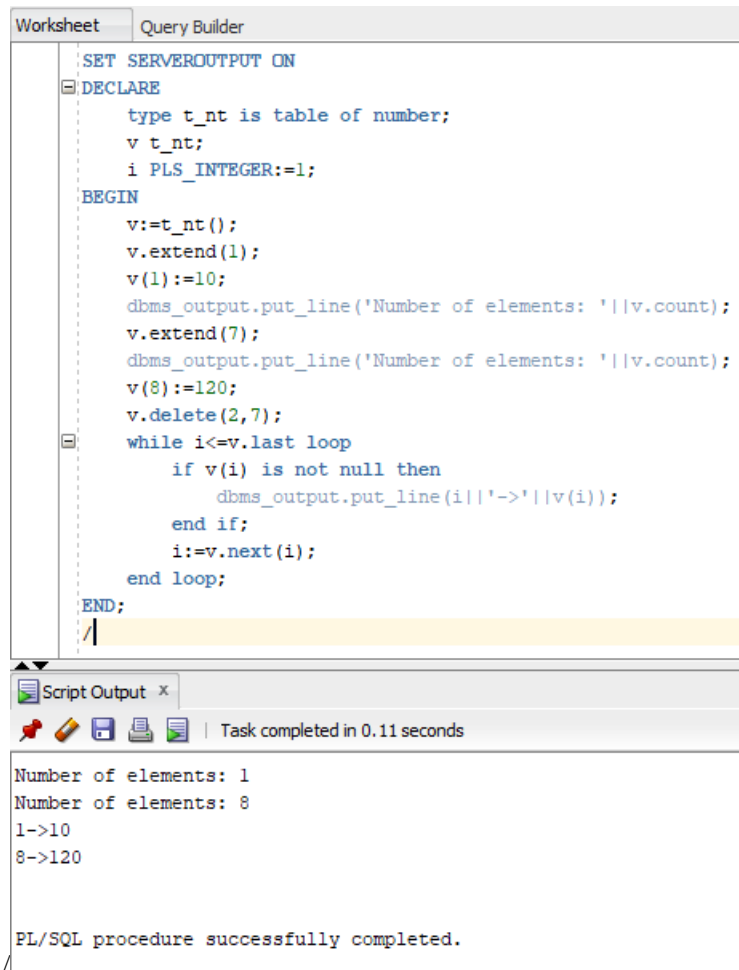
```
            dbms_output.put_line(i||'-'>||v(i));
```

```
        end if;
```

```
        i:=v.next(i);
```

```
    end loop;
```

```
END;
```



The screenshot shows the Oracle SQL Developer interface. The top pane, titled 'Query Builder', contains a PL/SQL script. The script starts with 'SET SERVEROUTPUT ON', followed by a 'DECLARE' section where a table type 't_nt' is defined, a variable 'v' of that type is declared, and an integer 'i' is set to 1. The 'BEGIN' section includes an initialization of 'v', extending it by 1 and setting the first element to 10. It then prints the count, extends by 7, prints the count again, sets the 8th element to 120, and deletes the last 7 elements. A 'while' loop follows, printing each element as it is iterated. The script ends with 'END;' and a forward slash. The bottom pane, titled 'Script Output', shows the execution results: 'Number of elements: 1', 'Number of elements: 8', '1->10', '8->120', and a confirmation message 'PL/SQL procedure successfully completed.'.

```
SET SERVEROUTPUT ON
DECLARE
    type t_nt is table of number;
    v t_nt;
    i PLS_INTEGER:=1;
BEGIN
    v:=t_nt();
    v.extend(1);
    v(1):=10;
    dbms_output.put_line('Number of elements: '||v.count);
    v.extend(7);
    dbms_output.put_line('Number of elements: '||v.count);
    v(8):=120;
    v.delete(2,7);
    while i<=v.last loop
        if v(i) is not null then
            dbms_output.put_line(i||'-'>'||v(i));
        end if;
        i:=v.next(i);
    end loop;
END;
/
```

Script Output x

Task completed in 0.11 seconds

Number of elements: 1
Number of elements: 8
1->10
8->120

PL/SQL procedure successfully completed.

The code where I used FOR AND EXISTS:

SET SERVEROUTPUT ON

DECLARE

type t_nt is table of number;

v t_nt;

i PLS_INTEGER;

BEGIN

v:=t_nt();

v.extend(1);

v(1):=10;

dbms_output.put_line('Number of elements: '||v.count);

```

v.extend(7);

dbms_output.put_line('Number of elements: '||v.count);

v(8):=120;

v.delete(2,7);

for i in v.first..v.last loop

    if v.exists(i) then

        dbms_output.put_line(i||'->'||v(i));

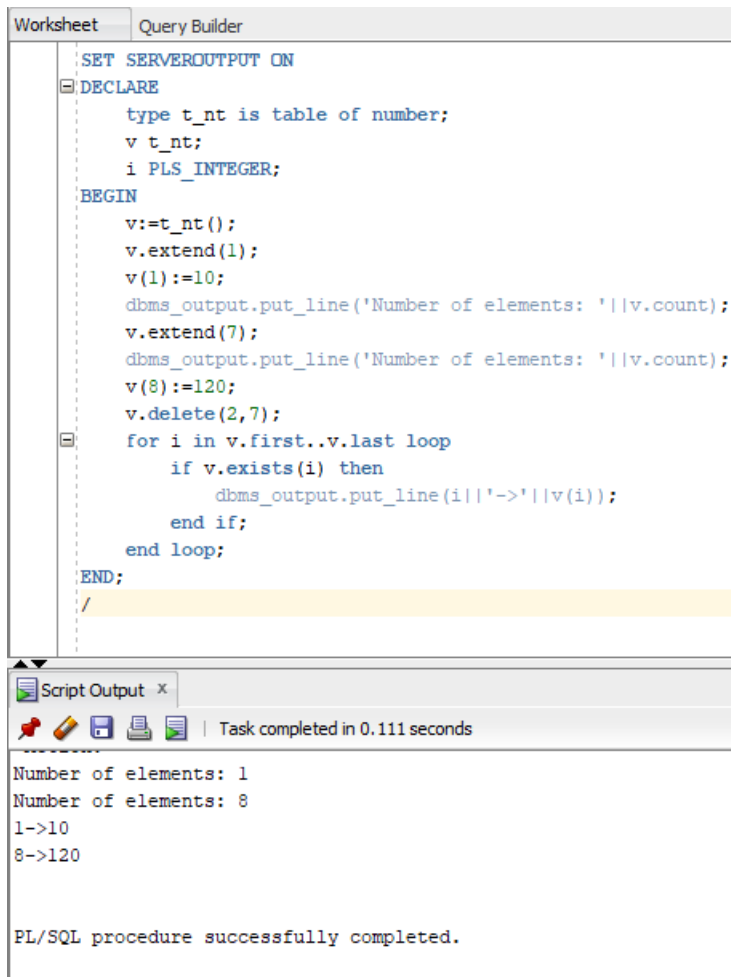
    end if;

end loop;

END;

/

```



The screenshot displays the Oracle SQL Developer interface. The top pane, titled 'Query Builder', contains a PL/SQL script. The script declares a table type, extends a collection, adds an element, deletes a range, and iterates through the collection to print each element. The bottom pane, titled 'Script Output', shows the execution results, including the number of elements at different stages and the specific values printed during the loop. The task completed successfully in 0.111 seconds.

```

SET SERVEROUTPUT ON
DECLARE
    type t_nt is table of number;
    v t_nt;
    i PLS_INTEGER;
BEGIN
    v:=t_nt();
    v.extend(1);
    v(1):=10;
    dbms_output.put_line('Number of elements: '||v.count);
    v.extend(7);
    dbms_output.put_line('Number of elements: '||v.count);
    v(8):=120;
    v.delete(2,7);
    for i in v.first..v.last loop
        if v.exists(i) then
            dbms_output.put_line(i||'->'||v(i));
        end if;
    end loop;
END;
/

```

Script Output x

Task completed in 0.111 seconds

```

Number of elements: 1
Number of elements: 8
1->10
8->120

PL/SQL procedure successfully completed.

```

3. Sa se afiseze denumirea si categoria produselor care au fost sterse

```
SET SERVEROUTPUT ON
```

```
DECLARE
```

```
TYPE tab_tari IS VARRAY(10) OF countries.country_name%type;
```

```
TYPE tab_produce IS table of product_information%rowtype;
```

```
v tab_tari;
```

```
p tab_produce;
```

```
BEGIN
```

```
SELECT country_name BULK COLLECT INTO v FROM countries WHERE REGION_ID=1;
```

```
for i in 1..v.count loop
```

```
    dbms_output.put_line(v(i));
```

```
end loop;
```

```
delete from PRODUCT_INFORMATION where product_id not in (select product_id from order_items)
```

```
returning product_id,product_name, product_description, category_id, weight_class, supplier_id,
```

```
    product_status, list_price, min_price, catalog_url
```

```
    BULK COLLECT INTO p;
```

```
dbms_output.put_line('There were '||p.count||' deleted products');
```

```
for i in p.first..p.last loop
```

```
    dbms_output.put_line('The name of the deleted product is '||p(i).product_name||' and the category ID is '||p(i).category_id);
```

```
end loop;
```

```
rollback;
```

```
END;
```

/

Worksheet

Query Builder






```
SET SERVEROUTPUT ON
DECLARE
TYPE tab_tari IS VARRAY(10) OF countries.country_name%type;
TYPE tab_produce IS table of product_information%rowtype;
v tab_tari;
p tab_produce;
BEGIN
SELECT country_name BULK COLLECT INTO v FROM countries WHERE REGION_ID=1;
for i in 1..v.count loop
    dbms_output.put_line(v(i));
end loop;

delete from PRODUCT_INFORMATION where product_id not in (select product_id from order_items)
returning product_id,product_name, product_description, category_id, weight_class, supplier_id,
product_status, list_price, min_price, catalog_url
BULK COLLECT INTO p;

dbms_output.put_line('There were '||p.count||' deleted products');

for i in p.first..p.last loop
    dbms_output.put_line('The name of the deleted product is '||p(i).product_name||' and the category ID is '||p(i).category_id);
end loop;
rollback;
END;
/
```

Script Output x

     Task completed in 0.134 seconds

The name of the deleted product is Web Browser - SB/S 2.1 and the category ID is 29
The name of the deleted product is Desk - S/V and the category ID is 31
The name of the deleted product is Desk - W/48/R and the category ID is 31
The name of the deleted product is Desk - OS/O/F and the category ID is 31
The name of the deleted product is Mobile Web Phone and the category ID is 31
The name of the deleted product is Paper Tablet LW 8 1/2 x 11 and the category ID is 32
The name of the deleted product is Card Organizer Cover and the category ID is 32
The name of the deleted product is Business Cards Box - 250 and the category ID is 32
The name of the deleted product is Card Organizer - 1000 and the category ID is 32

PL/SQL procedure successfully completed.