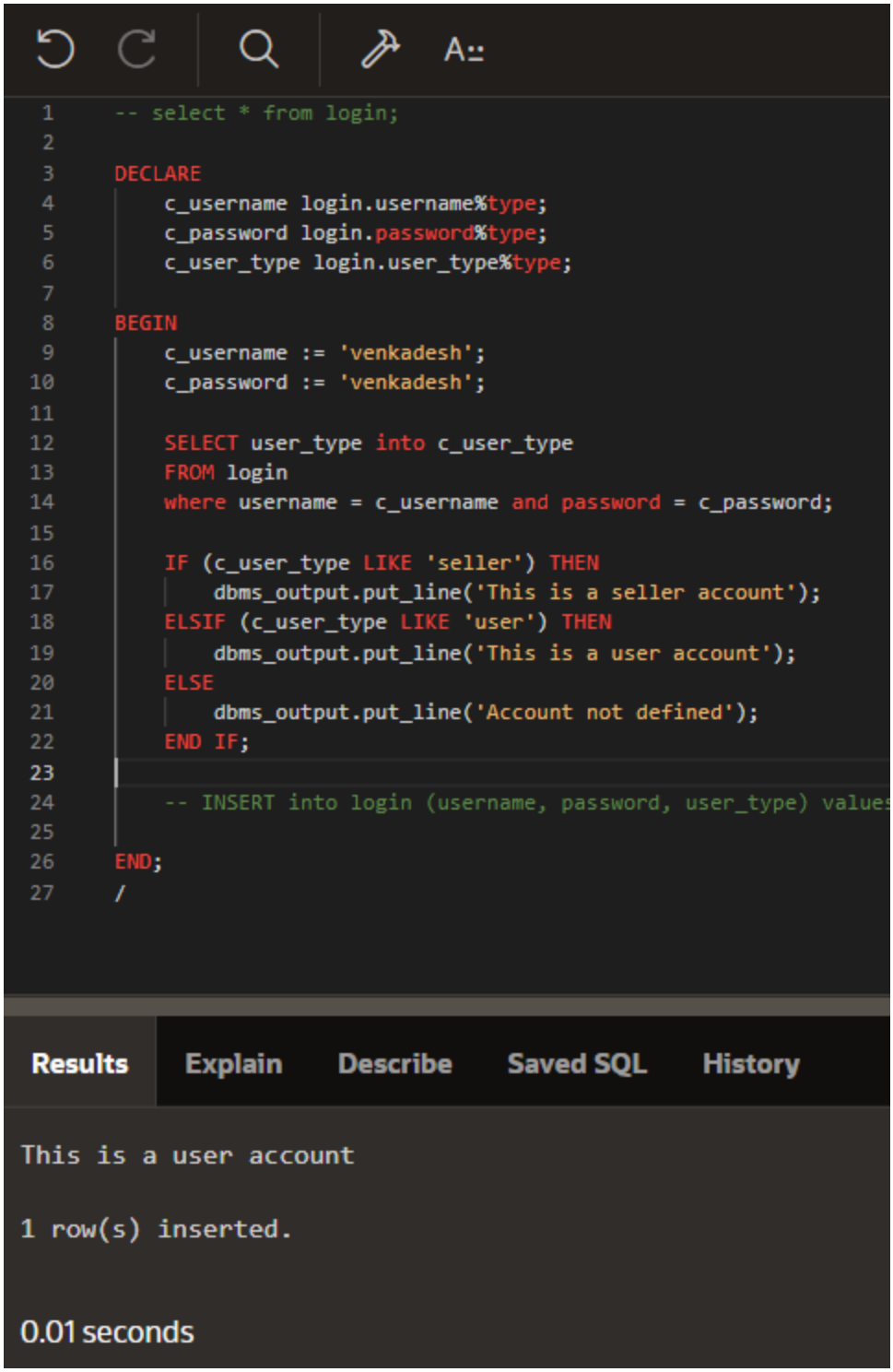
1. **To identify an account is a seller or user from the login tables**

   Program:

```
DECLARE
   c_username login.username%type;
   c_password login.password%type;
   c_user_type login.user_type%type;

BEGIN
   c_username := 'venkadesh';
   c_password := 'venkadesh';

   SELECT user_type into c_user_type
   FROM login
   where username = c_username and password = c_password;

   IF (c_user_type LIKE 'seller') THEN
      dbms_output.put_line('This is a seller account');
   ELSIF (c_user_type LIKE 'user') THEN
      dbms_output.put_line('This is a user account');
   ELSE
      dbms_output.put_line('Account not defined');
   END IF;

END;
/
```

   Output:



```
-- select * from login;

DECLARE
    c_username login.username%type;
    c_password login.password%type;
    c_user_type login.user_type%type;

BEGIN
    c_username := 'venkadesh';
    c_password := 'venkadesh';

    SELECT user_type into c_user_type
    FROM login
    where username = c_username and password = c_password;

    IF (c_user_type LIKE 'seller') THEN
        dbms_output.put_line('This is a seller account');
    ELSIF (c_user_type LIKE 'user') THEN
        dbms_output.put_line('This is a user account');
    ELSE
        dbms_output.put_line('Account not defined');
    END IF;

    -- INSERT into login (username, password, user_type) values

END;
/
```


2. **From the array of users find who the sellers and users**

   Program:

   DECLARE

```
    type c_username IS VARRAY(5) OF login.username%type;
    users_list c_username;
    total_count integer;
    c_user_type login.user_type%type;

BEGIN
    users_list := c_username('venkadesh', 'rithick', 'sabarish', 'dinesh', 'prasanna');
    total_count := users_list.count;

    dbms_output.put_line('Total users: ' || total_count);

    FOR i in 1 .. total_count LOOP
        SELECT user_type INTO c_user_type
        FROM login
        WHERE username = users_list(i);

        IF (c_user_type = 'seller') THEN
            dbms_output.put_line('The user ' || users_list(i) || ' is a Seller.');
        ELSIF (c_user_type = 'user') THEN
            dbms_output.put_line('The user ' || users_list(i) || ' is a User.');
        ELSE
            dbms_output.put_line('The user ' || users_list(i) || ' is Unknown.');
        END IF;

    END LOOP;

END;
/
```

Output:

```
DECLARE
    type c_username IS VARRAY(5) OF login.username%type;
    users_list c_username;
    total_count integer;
    c_user_type login.user_type%type;

BEGIN
    users_list := c_username('venkadesh', 'rithick', 'sabarish', 'dinesh', 'prasanna');
    total_count := users_list.count;

    dbms_output.put_line('Total users: ' || total_count);

    FOR i in 1 .. total_count LOOP
        SELECT user_type INTO c_user_type
        FROM login
        WHERE username = users_list(i);

        IF (c_user_type = 'seller') THEN
            dbms_output.put_line('The user ' || users_list(i) || ' is a Seller.');
        ELSIF (c_user_type = 'user') THEN
            dbms_output.put_line('The user ' || users_list(i) || ' is a User.');
        ELSE
            dbms_output.put_line('The user ' || users_list(i) || ' is Unknown.');
        END IF;

    END LOOP;

END;
/
```

Results | Explain | Describe | Saved SQL | History

```
Total users: 5
The user venkadesh is a User.
The user rithick is a Seller.
The user sabarish is a User.
The user dinesh is a Seller.
The user prasanna is a Seller.

Statement processed.
```

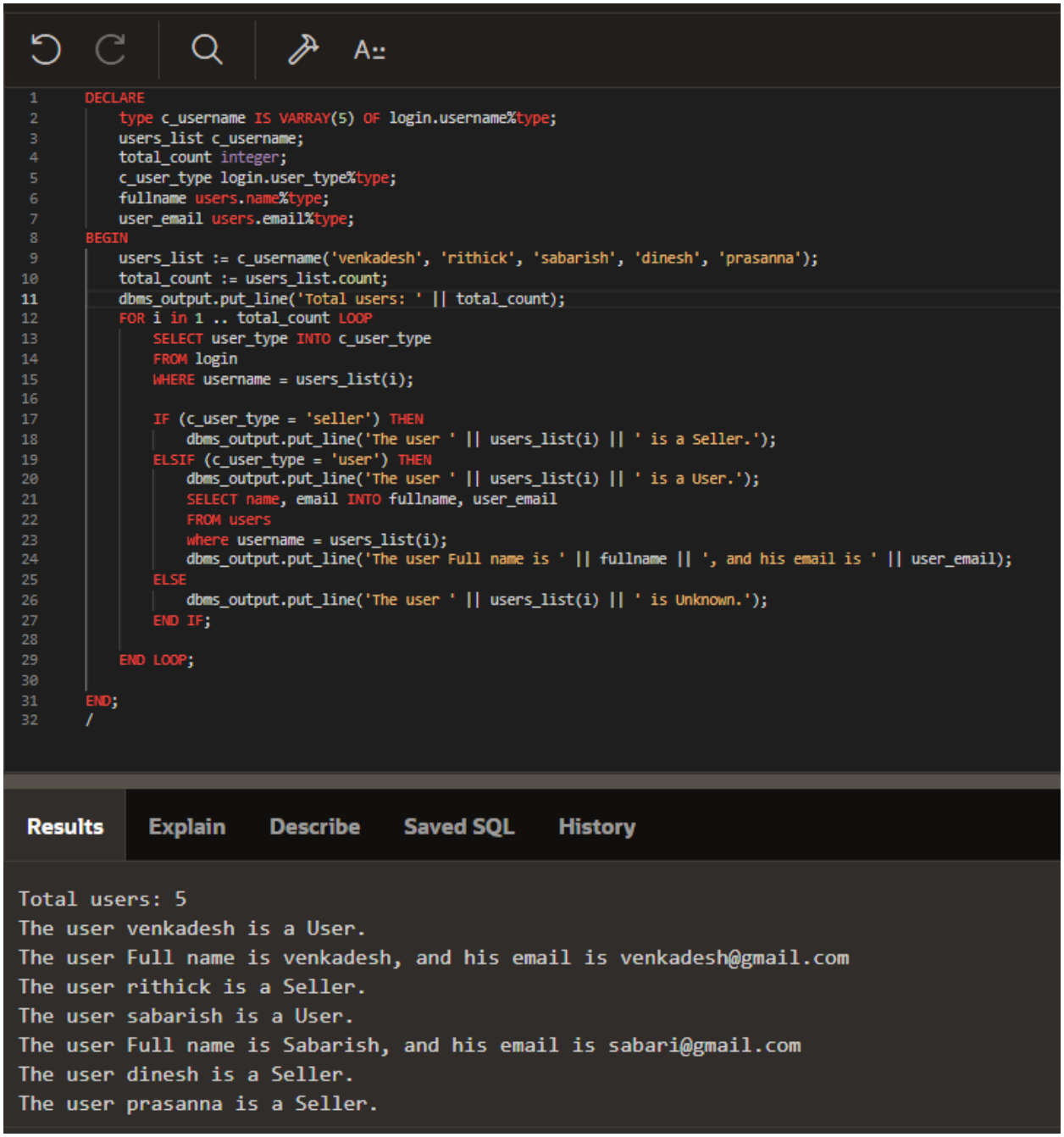
3. **From the array of users find those who are users and print their full name and email from the users table**

   Program:

   DECLARE
   type c_username IS VARRAY(5) OF login.username%type;
   users_list c_username;

```
    total_count integer;
    c_user_type login.user_type%type;

    fullname users.name%type;
    user_email users.email%type;

BEGIN
    users_list := c_username('venkadesh', 'rithick', 'sabarish', 'dinesh', 'prasanna');
    total_count := users_list.count;

    dbms_output.put_line('Total users: ' || total_count);

    FOR i in 1 .. total_count LOOP
        SELECT user_type INTO c_user_type
        FROM login
        WHERE username = users_list(i);

        IF (c_user_type = 'seller') THEN
            dbms_output.put_line('The user ' || users_list(i) || ' is a Seller.');
        ELSIF (c_user_type = 'user') THEN
            dbms_output.put_line('The user ' || users_list(i) || ' is a User.');

            SELECT name, email INTO fullname, user_email
            FROM users
            where username = users_list(i);

            dbms_output.put_line('The user Full name is ' || fullname || ', and his email is ' ||
user_email);
        ELSE
            dbms_output.put_line('The user ' || users_list(i) || ' is Unknown.');
        END IF;

    END LOOP;

END;
/
```

Output:



```
DECLARE
    type c_username IS VARRAY(5) OF login.username%type;
    users_list c_username;
    total_count integer;
    c_user_type login.user_type%type;
    fullname users.name%type;
    user_email users.email%type;
BEGIN
    users_list := c_username('venkadesh', 'rithick', 'sabarish', 'dinesh', 'prasanna');
    total_count := users_list.count;
    dbms_output.put_line('Total users: ' || total_count);
    FOR i in 1 .. total_count LOOP
        SELECT user_type INTO c_user_type
        FROM login
        WHERE username = users_list(i);

        IF (c_user_type = 'seller') THEN
            dbms_output.put_line('The user ' || users_list(i) || ' is a Seller.');
        ELSIF (c_user_type = 'user') THEN
            dbms_output.put_line('The user ' || users_list(i) || ' is a User.');
            SELECT name, email INTO fullname, user_email
            FROM users
            where username = users_list(i);
            dbms_output.put_line('The user Full name is ' || fullname || ', and his email is ' || user_email);
        ELSE
            dbms_output.put_line('The user ' || users_list(i) || ' is Unknown.');
        END IF;

    END LOOP;

END;
/
```

Results | Explain | Describe | Saved SQL | History

```
Total users: 5
The user venkadesh is a User.
The user Full name is venkadesh, and his email is venkadesh@gmail.com
The user rithick is a Seller.
The user sabarish is a User.
The user Full name is Sabarish, and his email is sabari@gmail.com
The user dinesh is a Seller.
The user prasanna is a Seller.
```

4. **Convert the following above program with the help of Procedures**

Program:

```
DECLARE
    type c_username IS VARRAY(5) OF login.username%type;
    users_list c_username;
    total_count integer;
```

```
    c_user_type login.user_type%type;
    fullname users.name%type;
    user_email users.email%type;

PROCEDURE findType(username_val IN login.username%type, c_user_type OUT
login.user_type%type) IS
BEGIN
    SELECT user_type INTO c_user_type
    FROM login
    WHERE username = username_val;
END;

PROCEDURE getData(username_val IN login.username%type) IS
BEGIN
    SELECT name, email INTO fullname, user_email
    FROM users
    where username = username_val;
    dbms_output.put_line('The user Full name is ' || fullname || ', and his email is ' ||
user_email);
END;

BEGIN
    users_list := c_username('venkadesh', 'rithick', 'sabarish', 'dinesh', 'prasanna');
    total_count := users_list.count;
    dbms_output.put_line('Total users: ' || total_count);
    FOR i in 1 .. total_count LOOP
        findType(users_list(i), c_user_type);

        IF (c_user_type = 'seller') THEN
            dbms_output.put_line('The user ' || users_list(i) || ' is a Seller.');
        ELSIF (c_user_type = 'user') THEN
            dbms_output.put_line('The user ' || users_list(i) || ' is a User.');
            getData(users_list(i));
        ELSE
            dbms_output.put_line('The user ' || users_list(i) || ' is Unknown.');
        END IF;

    END LOOP;

END;
/
```

Output:

```
DECLARE
    type c_username IS VARRAY(5) OF login.username%type;
    users_list c_username;
    total_count integer;
    c_user_type login.user_type%type;
    fullname users.name%type;
    user_email users.email%type;

PROCEDURE findType(username_val IN login.username%type, c_user_type OUT login.user_type%type) IS
BEGIN
    SELECT user_type INTO c_user_type
    FROM login
    WHERE username = username_val;
END;

PROCEDURE getData(username_val IN login.username%type) IS
BEGIN
    SELECT name, email INTO fullname, user_email
    FROM users
    where username = username_val;
    dbms_output.put_line('The user Full name is ' || fullname || ', and his email is ' || user_email);
END;

BEGIN
    users_list := c_username('venkadesh', 'rithick', 'sabarish', 'dinesh', 'prasanna');
    total_count := users_list.count;
    dbms_output.put_line('Total users: ' || total_count);
    FOR i in 1 .. total_count LOOP
        findType(users_list(i), c_user_type);

        IF (c_user_type = 'seller') THEN
            dbms_output.put_line('The user ' || users_list(i) || ' is a Seller.');
        ELSIF (c_user_type = 'user') THEN
            dbms_output.put_line('The user ' || users_list(i) || ' is a User.');
            getData(users_list(i));
        ELSE
            dbms_output.put_line('The user ' || users_list(i) || ' is Unknown.');
```

Results | Explain | Describe | Saved SQL | History

```
Total users: 5
The user venkadesh is a User.
The user Full name is venkadesh, and his email is venkadesh@gmail.com
The user rithick is a Seller.
The user sabarish is a User.
The user Full name is Sabarish, and his email is sabari@gmail.com
```

5. **To fetch the users in the login table using Cursors**

Program:

```
DECLARE
   username login.username%type;
   CURSOR login_data IS
      SELECT username FROM login;

BEGIN
```

```
    OPEN login_data;
    LOOP
    FETCH login_data into username;
        EXIT WHEN login_data%notfound;
        dbms_output.put_line(username);
    END LOOP;
    CLOSE login_data;

END;
/
```

Output:

```
-- select * from users;

DECLARE
    username login.username%type;
    CURSOR login_data IS
        SELECT username FROM login;

BEGIN
    OPEN login_data;
    LOOP
    FETCH login_data into username;
        EXIT WHEN login_data%notfound;
        dbms_output.put_line(username);
    END LOOP;
    CLOSE login_data;

END;
/
```

Results | Explain | Describe | Saved SQL | History

```
dinesh
prasanna
rithick
sabarish
venkadesh
```

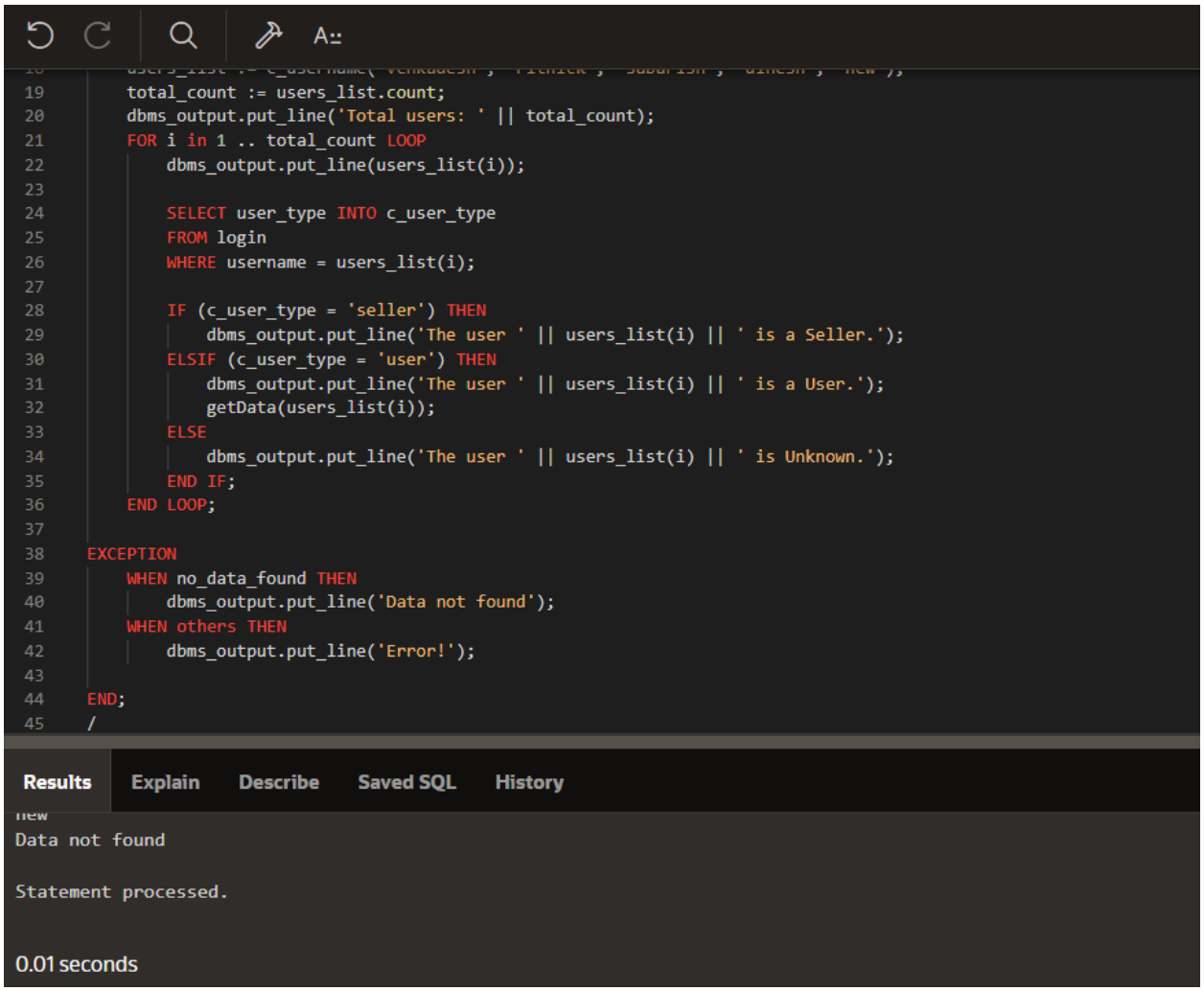
6. **For the 4th problem handle the exception on no data found**

Program:

DECLARE

```
   type c_username IS VARRAY(5) OF login.username%type;
   users_list c_username;
   total_count integer;
   c_user_type login.user_type%type;
   fullname users.name%type;
   user_email users.email%type;

PROCEDURE getData(username_val IN login.username%type) IS
BEGIN
   SELECT name, email INTO fullname, user_email
   FROM users
   where username = username_val;
   dbms_output.put_line('The user Full name is ' || fullname || ', and his email is ' || user_email);
END;

BEGIN
   users_list := c_username('venkadesh', 'rithick', 'sabarish', 'dinesh', 'new');
   total_count := users_list.count;
   dbms_output.put_line('Total users: ' || total_count);
   FOR i in 1 .. total_count LOOP
      dbms_output.put_line(users_list(i));

      SELECT user_type INTO c_user_type
      FROM login
      WHERE username = users_list(i);

      IF (c_user_type = 'seller') THEN
         dbms_output.put_line('The user ' || users_list(i) || ' is a Seller.');
      ELSIF (c_user_type = 'user') THEN
         dbms_output.put_line('The user ' || users_list(i) || ' is a User.');
         getData(users_list(i));
      ELSE
         dbms_output.put_line('The user ' || users_list(i) || ' is Unknown.');
      END IF;
   END LOOP;

EXCEPTION
   WHEN no_data_found THEN
      dbms_output.put_line('Data not found');
   WHEN others THEN
      dbms_output.put_line('Error!');

END;
/
```

Output:



```
    total_count := users_list.count;
    dbms_output.put_line('Total users: ' || total_count);
    FOR i in 1 .. total_count LOOP
        dbms_output.put_line(users_list(i));

        SELECT user_type INTO c_user_type
        FROM login
        WHERE username = users_list(i);

        IF (c_user_type = 'seller') THEN
            dbms_output.put_line('The user ' || users_list(i) || ' is a Seller.');
        ELSIF (c_user_type = 'user') THEN
            dbms_output.put_line('The user ' || users_list(i) || ' is a User.');
            getData(users_list(i));
        ELSE
            dbms_output.put_line('The user ' || users_list(i) || ' is Unknown.');
        END IF;
    END LOOP;

EXCEPTION
    WHEN no_data_found THEN
        dbms_output.put_line('Data not found');
    WHEN others THEN
        dbms_output.put_line('Error!');

END;
/
```

Results | Explain | Describe | Saved SQL | History

```
new
Data not found

Statement processed.

0.01 seconds
```