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Advanced Database Applications [DSCI 32012]

PL/SQL Tutorial – Composite Data Types – Collection & Record

1. Write a PL/SQL program to accomplish the following tasks.
 - a. Declare a collection type to store numbers (indices are going to be numbers)
 - b. Store the square numbers from 1 to 100 as values in a collection type variable which is of above type (indices will be from 1 to 10).
 - c. Display all the values in the collection variable.
 - d. Remove the elements with values 25, 36 and 49.
 - e. Display all the values in the collection variable.
 - f. Add new element 36 to index 6.
 - g. Display all the values in the collection variable (observe the order).
2. Write a PL/SQL program to store the full names of the first 5 employees (when ordered in ascending order) using Associative arrays. Take the employee id as the key of the array and if the employee id is odd then take the negative values of it as the key.
 - a. Display the full names with employee ids.
 - b. Delete record with employee id 100.
 - c. Display the remaining employee ids and their full names.
3.
 - a. Define a VARRAY collection type which can store department names.
 - b. Store the department names into the collection variable which is of above type.
 - c. Display the stored values.
4. Using user-defined record type variable store and display the employee id, first name and salary of each employee.

5. Write a PL/SQL program to store and display employee_id, first_name, old salary, salary increment value, new salary and service period in years. Use **collection of records** by taking the key of the collection as employee id. Salary increment is calculated as follows:

Service Years	Salary increments as a % of old salary
<20	0.1%
>=20 and <=24	0.2%
>=25	0.3%