# Chapter 6: Data Definition Language

## Exercise 6.1: Table Management

Connect to the `HR` account.

In this exercise, you will create a new table, a sequence, and a view. Using these, you will explore various DDL commands and their effects.

1. Create a table called `benefits`.
   a. Use the following columns definitions:

```
benefit_id              NUMBER(3)     NOT NULL
benefit_name            VARCHAR2(25)
benefit_type            VARCHAR2(20)  DEFAULT 'HEALTH CARE'
benefit_effective_date  DATE
benefit_max_allowance   NUMBER(8,2)
```

   b. Make `benefit_id` the primary key.

2. Describe the `benefits` table to verify the definition.

3. Create a sequence called `seq_benefits`. Make its starting and incremental values 1.

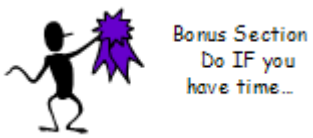
4. Insert a row into the `benefits` table *without* a column list.
   a. Use the sequence for the `benefit_id`.
   b. Make the name "401k", the type "Retirement", set the effective date to Jan. 1, 2010, and the max allowance to 250,000.

5. Insert another row into the `benefits` table *with* a column list, specifying *all* columns.
   a. Use the sequence for the `benefit_id`.
   b. Make the name "Medical PPO", the type "Health", set the effective date to Jan. 1, 2011, and the max allowance to 100,000.

6. Insert another row into the `benefits` table *with* a column list, specifying *all* columns.
   a. Use the sequence for the `benefit_id`.
   b. Set the type to the reserved word `DEFAULT`.
   c. Make the name "Medical Ins", set the effective date to Jan. 1, 2012, and the max allowance to 125,000.

7. Display all the rows in the `benefits` table. What is the value of type for the 3rd row?

8. Insert another row into the `benefits` table with a column list. Specify all column names except for `benefit_type`.
   a. Use the sequence for the `benefit_id`.
   b. Make the name "No default name provided", set the effective date to Jan. 1, 2013, and the max allowance to 150,000.
9. Display all the rows in the `benefits` table. What is the value of type for the 4th row?
10. Update all benefits rows whose type value begins with "H" to the table `DEFAULT`.
11. Display all the rows in the `benefits` table. What is the value of the type columns?
12. `COMMIT` the changes.
13. Create a view called "`vw_h_b`" that contains the benefit ID, name, type, and max allowance from the `benefits` table. Only allow the rows whose value for type begins with "HEALTH".
14. Describe this view.
15. Display all the rows through the view.
16. Try to add a new, numeric, mandatory column to the `benefits` table: `max_dependents`. Why did the attempt fail?
17. Try to add the column again, this time specifying a `DEFAULT` value of 0.
18. Display the `benefits` table: what value is in the max_dependents column?
19. Re-run the select through the view. Does it include the new column?




20. Modify the maximum size of the `benefit_name` column to be 50. Does this succeed?
    a. Describe the benefits table to see the impact of the command.
21. Try to modify the maximum size of the `benefit_name` column to be 20. Why does this fail?
22. Insert into the `benefits` table by selecting all the rows from the benefits table.
    a. Use the row values for all columns except for the `benefit_id`: use the sequence number for this value.
23. Display all the rows in the `benefits` table. How many are there now?

24. Issue a `ROLLBACK`.

25. Rerun the previous set insert.
    a. Insert into the `benefits` table by selecting all the rows from the `benefits` table.
    b. Use the row values for all columns except for the `benefit_id`: use the sequence number for this value.

26. Display all the rows in the `benefits` table. How many are there now? What are the benefit IDs? Can you explain their values?

Congratulations!
You have finished
this lab exercise!

# Chapter 7: Data Manipulation Language

## Exercise 7.1: Manipulating Data

Connect to the `HR` account.

27. Display all the rows in the regions table.
28. Add a new row for Central America. Make it ID 5.
29. Display all the rows in the regions table.
30. Add a new row for South America. Make it ID 6.
31. Display all the rows in the regions table.
32. Update all regions rows with the name, Central America. Change their name to South and Central America.
33. Display all the rows in the regions table.
34. Delete the regions row whose ID is 6.
35. Display all the rows in the regions table.
36. Issue a ROLLBACK and re-display the regions table.