The purpose of this assignment is to better acquaint you with Oracle9i and introduce you to Discoverer. It involves building and importing tables into your Oracle9i database, and creating two types of reports. The necessary dump file has been compressed into h2.zip.

Oracle promotes Discoverer as their online analytical processing (OLAP) tool for Oracle databases, and solution for decision support. In addition to reporting information from the database, Discoverer allows the user to perform multidimensional analyses and drills (drill-down, drill-up), and build graphs to better visualize trends and relationships. In contrast to report generators (e.g., Oracle’s Reports Designer) or other Windows-based application development packages (e.g., Power Builder, Forms Designer), Discoverer focuses on producing quick results in a dynamic and less structured environment. Thus, Discoverer will help demonstrate many of the DSS concepts presented in this class, and contrast them to the characteristics of reporting systems.

Four Critical Steps

To successfully perform the data analyses four critical steps must be followed:

1. Import the stores and CDsales_97_01 tables contained in h2.dmp into your database. You will also need the CDs, music_categories and record_labels tables from the previous assignment. View the column names and their data types with the DESCRIBE command in SQL Plus:

   DESCRIBE table-name;

2. Create an end-user layer (EUL) in Discoverer Administration Edition. Be sure your user has been assigned a DBA role. Otherwise, use any of the following users and passwords: sys/change_on_install, or system/manager.
3. Build a business area in your EUL, assign your user and add the five tables (CDs, CDsales_97_01, music_categories, record_labels, stores). Be sure to review and set the automatic options.
Create an End-User Layer and Business Area

Create an end-user layer (EUL) and business area in Discoverer Administration Edition. Assign your user to the administrator of the EUL.

After the EUL has been created, create a business area and add to it its various components including the tables/views (folders), joins, and date hierarchies. The latter two may be setup in the automatic options.

Refer to the DiscvrAdminIntro ScreenCam presentation for instructions on creating the EUL and business area.

Create the Reports

Create two reports using the page-detail table and page-detail crosstab display in Discoverer User Edition. Incorporate the folders (tables/views), items (columns) and joins you defined in your business area, and the date drill function. Although the content of the reports is left to your discretion, they should convey information (i.e., make sense) and meet the following requirements:

Page-Detail Table

A page-detail table is essentially a tabular report that presents information in columns and rows. Each row represents an entity (i.e., person, place, thing, time period, etc.) or group of entities that share a common attribute (value). The columns describe the entity (group) through its (their) attributes’ values. For example, a report could list the month, and sales revenue and volume (attributes) for all CDs (entities) by months and stores (for this assignment, this would be impractical since there are 9,630 rows). An alternative might be to group and list the CDs by their labels or categories.

The page item allows the user to focus the display on a particular group. For example, rather than viewing the monthly totals for all (six) stores, the user can place the city item into the page item box and have the totals displayed by selected cities. Thus, only the store for a selected city will then be displayed.

Page-detail tables can further be enhanced by the date drill feature which allows users to seek either greater levels of detail (drill-down) or aggregation (drill-up). The drills depend on the date
hierarchies defined in the business area. For example, the user might drill between monthly and quarterly totals for sales volume and revenue.

Requirements:

- Add a page-item to your table (report).
- Properly format (i.e., commas, decimal places) all numeric output.
- Use a date chain to drill down and up within your table
- Display descriptive titles throughout your table (rather than codes). Use the joins created for the business area to reference titles found in other tables.\(^1\)
- Print your page-detail table showing different levels of aggregation based on date drills (e.g., annual \(\rightarrow\) quarters \(\rightarrow\) months) and two different page items (i.e., six reports).

Page-Detail Crosstab

A page-detail crosstab display is often referred to as a matrix report. It consists of three parts: a vertical item, a horizontal item, and the intersection (item). The vertical and horizontal items usually represent categorical variables, such as a video category or time period (i.e., quarters, months). A numeric value is usually assigned to the intersection, such as the summed value of sales volume or revenue, or a count value, such as the number of products falling into both categories.

A page item allows information to be presented as a third dimension. For example, the music category code page item could focus the display of quarterly sales revenue for 1997 and 2001 by stores and for only jazz.

Another important feature of crosstab displays is pivoting. Pivoting allows the axes to be switched or swapped during the analysis (i.e., execution of the query).

Requirements:

- Add a page-item to the display (report).
- Create a calculation and add it to your display.
- Use a date chain to drill down and up within your table
- Properly format (i.e., commas, decimals) all numeric output.
- Use the joins created for the business area to display descriptive titles (see footnote 1).
- Print your page-detail crosstab display reflecting a multidimensional analysis (i.e., three dimensions should be present). Show different levels of aggregation based on the date drill for two different page items and swapped axes.

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\(^1\)This may not be possible if more than one master-detail relationship exists. In which case, this requirement will be waived for the second.
Tangibles

Submit the following items in a 9 × 12-inch manilla envelope. Be sure your name appears on your envelope, printed output, and diskette.

- Printed copies of your page-detail table and crosstab display (use the Print in the File menu).

Have fun!