Homework Lab #3

(This lab should be consistent with the level of difficulty in the midterm exam)

Please use our "Project Funding" tables course schema as I added rows to the

"bc\_funding" table and made related changes to the budget table.

1/ USe CASE to display each budget and expand the bud\_type field to a

more descriptive term (e.g. "CAP" becomes "Capital

select bud\_num, case Bud\_type

when 'OPS' then 'Operations'

when 'CAP' then 'Capital'

when 'EXT' then 'Extension'

else 'Unknown'

end "BUDGET TYPE", bud\_mgr, bud\_amt\_orig, bud\_amt\_avail, bud\_name from BC\_budget

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| --- | --- | --- | --- | --- | --- |
| **BUD\_NUM** | **BUDGET TYPE** | **BUD\_MGR** | **BUD\_AMT\_ORIG** | **BUD\_AMT\_AVAIL** | **BUD\_NAME** |
| 1 | Operations | 3 | 50000 | 50000 | Promotions |
| 2 | Capital | 9 | 75000 | 75000 | Technology |
| 3 | Capital | 12 | 40000 | 40000 | Research |
| 4 | Operations | 2 | 60000 | 60000 | Consulting |
| 5 | Operations | 2 | 80000 | 80000 | Training |
| 6 | Extension | 9 | 50000 | 50000 | Services |
| 7 | Operations | 3 | 45000 | 45000 | Marketing |
| 8 | Capital | 12 | 75000 | 75000 | EBusiness |
| 999 | Unknown | 1 | 0 | 0 | Emergency |

2/ Use the EXISTS function to deterimine if any depts have no one

making over $45,000.

select \* from bc\_dept d where exists (select emp\_dept, max(emp\_salary) from bc\_employee e group by e.emp\_dept having max(emp\_salary) < 45001 and d.dept\_num = e.emp\_dept )

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| --- | --- | --- | --- |
| **DEPT\_NUM** | **DEPT\_NAME** | **DEPT\_PARENT** | **DEPT\_MGR** |
| 2 | Sales | 3 | 1 |
| 3 | Service | 4 | 2 |
| 5 | Production | 8 | 1 |

3/ Which department managers are also budget managers? Display

their name and title. Use the intersect option to determine it.

select emp\_name, emp\_title from bc\_dept, BC\_employee

where emp\_id = dept\_mgr

intersect

select emp\_name, emp\_title from Bc\_budget, BC\_employee

where emp\_id = bud\_mgr

|  |  |
| --- | --- |
| **EMP\_NAME** | **EMP\_TITLE** |
| Smith,Linda | Vice President |

4/ Which budgets and projects does Linda Smith (employee # 2) manage.

Show the budget/project number and name, and whether it is a budget

or project.

select 'Budget' "TYPE", bud\_num "Number", bud\_name "Name" from bc\_budget where bud\_mgr = 2

union

select 'Project', proj\_id, proj\_title from bc\_project where proj\_mgr = 2

|  |  |  |
| --- | --- | --- |
| **TYPE** | **Number** | **Name** |
| Budget | 4 | Consulting |
| Budget | 5 | Training |
| Project | 3 | New Storage |

5/ Who manages more than 3 people? Show their name, title and department name.

(remember to use the bc\_dept table as a link between employee and manager)

select t1.emp\_name, t1.emp\_title, t1.dept\_name from

(select distinct d.dept\_num, e.emp\_name, e.emp\_title, d.dept\_name from bc\_dept d, BC\_employee e

where e.emp\_id = d.dept\_mgr) t1, (select emp\_dept, count(emp\_dept) Emp\_Count from bc\_employee e

group by e.emp\_dept

) t2

where t1.dept\_num = t2.emp\_dept and Emp\_Count > 3

order by dept\_num ASC

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| --- | --- | --- |
| **EMP\_NAME** | **EMP\_TITLE** | **DEPT\_NAME** |
| Jones,Ed | President | Sales |
| Smith,Linda | Vice President | Service |
| Jones,Ed | President | Finance |
| Jones,Ed | President | InfoTech |

6/ List EVERY dept, and how many projects are managed by the dept's employees.

select dept\_num, sum(t2.numProjManaged) from (select \* from bc\_dept d, bc\_employee e

where d.dept\_num = e.emp\_dept) t1 left join

(select proj\_mgr, count(proj\_id) numProjManaged from bc\_project group by proj\_mgr

) t2 on t2.proj\_mgr = t1.emp\_id

group by dept\_num

|  |  |
| --- | --- |
| **DEPT\_NUM** | **SUM(T2.NUMPROJMANAGED)** |
| 1 | 1 |
| 6 | 5 |
| 2 | 2 |
| 4 | - |
| 5 | - |
| 3 | 1 |
| 7 | 1 |

7/ List the name and job title of people who are budget managers, but not

department managers. Use the 'minus' function in your logic.

select emp\_name, emp\_title from bc\_budget b, bc\_employee e

where b.bud\_mgr = e.emp\_id

minus

select emp\_name, emp\_title from bc\_employee e2, bc\_dept d

where d.dept\_mgr = e2.emp\_id

|  |  |
| --- | --- |
| **EMP\_NAME** | **EMP\_TITLE** |
| Ames,Sally | Sales Mgr |
| Early,Alan | Research Mgr |
| Sawyer,Michelle | TVP |

8/ Which projects have been active for more than 4 weeks? Active projects

should use 'sysdate' to determine their duration.

select \* from bc\_project

where sysdate - proj\_start > 28

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PROJ\_ID** | **PROJ\_MGR** | **PROJ\_START** | **PROJ\_END** | **PROJ\_TITLE** |
| 1 | 10 | 10/17/2016 | 12/31/2016 | LAN Upgrade |
| 2 | 11 | 11/06/2016 | 01/30/2017 | DBMS Upgrade |
| 4 | 4 | 12/21/2016 | 02/23/2017 | CRM Training |
| 5 | 17 | 01/25/2017 | 02/11/2017 | Inventory Mgmt |

9/ Show the total funding for each project, use UNION to include a grand

total of all funding at the end. Use a 'literal' to denote

the grand total. Display just the project number and funding amount.

s

select to\_Char(proj\_id, 00 ), sum(fund\_amt) from mi257.bc\_funding f, bc\_project p

where fund\_proj = proj\_id

group by proj\_id

union

select 'Total', sum(fund\_amt) from mi257.bc\_funding f, bc\_project p

where fund\_proj = proj\_id

|  |  |
| --- | --- |
| **TO\_CHAR(PROJ\_ID,00)** | **SUM(FUND\_AMT)** |
| 1 | 8000 |
| 2 | 12000 |
| 3 | 3000 |
| 5 | 5000 |
| 7 | 28000 |
| 8 | 35000 |
| Total | 91000 |

10) Who makes the lowest salary in each department. Use a dependent

subquery in the where clause to find the low salary for each person's

department and see if the current employee matches that salary.

select emp\_dept, emp\_name, emp\_salary from bc\_employee e where

e.emp\_salary in (select min(emp\_salary) from bc\_employee e2 group by emp\_dept having e.emp\_dept = e2.emp\_dept)

order by emp\_dept

|  |  |  |
| --- | --- | --- |
| **EMP\_DEPT** | **EMP\_NAME** | **EMP\_SALARY** |
| 1 | Smith,Linda | 51000 |
| 2 | Cerrino,Dan | 36000 |
| 3 | Geiger,Roy | 30500 |
| 4 | Jones,Gary | 33000 |
| 5 | Robertson,Mark | 29000 |
| 6 | Kelly,Colleen | 42500 |
| 7 | Riser,Sandy | 28000 |