

## Trabalho 05: Laboratório Banco de Dados I

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### ARQUIVO .ddl

#### Questão 1)

```
select rowid, employee_id, first_name, last_name, salary
from employees
where rownum=1;
```

ROWID	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	SALARY
1 AAaw6AAAAAAAJqrAAA	196	Alana	Walsh	3100

```
select rowid, employee_id, first_name, last_name, salary
from employees
where rowid='AAaw6AAAAAAAJqrAAA';
```

OBJECT_NAME	OPTIONS	CARDINALITY	COST
		1	1
EMPLOYEES	BY USER ROWID	1	1

--Não é possível ter um plano de execução melhor que este, uma vez que este busca diretamente no endereço físico da linha, não precisando procurar todas.

#### Questão 2)

```
select * from employees where salary > 12000;
```

OPERATION	OBJECT_NAME	OPTIONS	CARDINALITY	COST
SELECT STATEMENT			5	2
TABLE ACCESS	EMPLOYEES	STORAGE FULL	5	2
Access Predicates				
SALARY > 12000				
Filter Predicates				
SALARY > 12000				
Other XML				
info type="derived_cpu_dop"				
1				
info type="derived_io_dop"				
2				

#### Questão 3)

Criando index:

```
create index SALARY_IDX on EMPLOYEES(SALARY);
```

Index SALARY\_IDX criado.

#### Questão 4)

--Refazendo a consulta, agora com index.

```
select * from employees where salary > 12000;
```

OPERATION	OBJECT_NAME	OPTIONS	CARDINALITY	COST
SELECT STATEMENT				2
TABLE ACCESS	EMPLOYEES	STORAGE FULL	5	2
Access Predicates				
SALARY > 12000				
Filter Predicates				
SALARY > 12000				
Other XML				
info type="derived_cpu_dop"				
1				
info type="derived_io_dop"				
2				

--Não houve nenhuma mudança no plano de execução.

#### Questão 5)

```
analyze table EMPLOYEES compute statistics;
```

--Este código cria as estatísticas da tabela employees.

```
analyze table EMPLOYEES compute statistics
```

```
for columns SALARY;
```

--Este código cria as estatísticas da tabela employees na linha salary.

```
Table EMPLOYEES analisado.
```

```
Table EMPLOYEES analisado.
```

#### Questão 6)

```
select TABLE_NAME, NUM_ROWS, EMPTY_BLOCKS, blocks
from USER_TABLES
where TABLE_NAME='EMPLOYEES';
```

	TABLE_NAME	NUM_ROWS	EMPTY_BLOCKS	BLOCKS
1	EMPLOYEES	107	3	5

--A tabela tem 107 linhas, 5 blocos com 3 blocos vazios

```
select * from USER_HISTOGRAMS
where table_name='EMPLOYEES' and column_name='SALARY';
```

	TABLE_NAME	COLUMN_NAME	ENDPOINT_NUMBER	ENDPOINT_VALUE	ENDPOINT_ACTUAL_VALUE	ENDPOINT_ACTUAL_VALUE_RAW	ENDPOINT_REPEAT_COUNT	SCOPE
1	EMPLOYEES	SALARY	1	2100 (null)	(null)		0	SHARED
2	EMPLOYEES	SALARY	3	2200 (null)	(null)		0	SHARED
3	EMPLOYEES	SALARY	5	2400 (null)	(null)		0	SHARED
4	EMPLOYEES	SALARY	11	2500 (null)	(null)		0	SHARED
5	EMPLOYEES	SALARY	15	2600 (null)	(null)		0	SHARED
6	EMPLOYEES	SALARY	17	2700 (null)	(null)		0	SHARED
7	EMPLOYEES	SALARY	21	2800 (null)	(null)		0	SHARED
8	EMPLOYEES	SALARY	24	2900 (null)	(null)		0	SHARED
9	EMPLOYEES	SALARY	26	3000 (null)	(null)		0	SHARED
10	EMPLOYEES	SALARY	30	3100 (null)	(null)		0	SHARED
11	EMPLOYEES	SALARY	34	3200 (null)	(null)		0	SHARED
12	EMPLOYEES	SALARY	36	3300 (null)	(null)		0	SHARED
13	EMPLOYEES	SALARY	37	3400 (null)	(null)		0	SHARED
14	EMPLOYEES	SALARY	38	3500 (null)	(null)		0	SHARED
15	EMPLOYEES	SALARY	40	3600 (null)	(null)		0	SHARED
16	EMPLOYEES	SALARY	41	3800 (null)	(null)		0	SHARED
17	EMPLOYEES	SALARY	42	3900 (null)	(null)		0	SHARED
18	EMPLOYEES	SALARY	43	4000 (null)	(null)		0	SHARED
19	EMPLOYEES	SALARY	44	4100 (null)	(null)		0	SHARED
20	EMPLOYEES	SALARY	46	4200 (null)	(null)		0	SHARED
21	EMPLOYEES	SALARY	47	4400 (null)	(null)		0	SHARED
22	EMPLOYEES	SALARY	49	4800 (null)	(null)		0	SHARED

+

## Questão 7)

select salary from employees where salary >= 12000;

OPERATION	OBJECT_NAME	OPTIONS	CARDINALITY	COST
SELECT STATEMENT				8
INDEX	SALARY_IDX	RANGE SCAN		8
Access Predicates				
SALARY >= 12000				
Other XML				
info type="derived_cpu_dop"				1
info type="derived_io_dop"				1

## Questão 8)

analyze table EMPLOYEES delete statistics;

## Questão 9)

select \* from employees natural join departments;

OPERATION	OBJECT_NAME	OPTIONS	CARDINALITY	COST
SELECT STATEMENT				11
HASH JOIN				11
Access Predicates				
AND				
EMPLOYEES.DEPARTMENT_ID=DEPARTMENTS.DEPARTMENT_ID				
EMPLOYEES.MANAGER_ID=DEPARTMENTS.MANAGER_ID				
JOIN FILTER	SYS:BF0000	CREATE		11
TABLE ACCESS	DEPARTMENTS	STORAGE FULL		11
Access Predicates				
DEPARTMENTS.MANAGER_ID IS NOT NULL				
Filter Predicates				
DEPARTMENTS.MANAGER_ID IS NOT NULL				
JOIN FILTER	SYS:BF0000	USE		107
TABLE ACCESS	EMPLOYEES	STORAGE FULL		107
Access Predicates				
SYS_OP_BLOOM_FILTER(:BF0000,EMPLOYEES.MANAGER_ID)				
Filter Predicates				
SYS_OP_BLOOM_FILTER(:BF0000,EMPLOYEES.MANAGER_ID)				
Other XML				
info type="derived_cpu_dop"				1
info type="derived_io_dop"				2