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| EPAM Systems, RD Dep.  MTN.\*NIX.07 Oracle DB. Introduction to DWH |
| MTN.\*NIX.07 Labs - Access and Join Methods Part 2 |

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| --- | --- | --- | --- | --- | --- |
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| Ver. | Description of Change | Author | Date | Approved | |
| Name | Effective Date |
| 1.0 | Initial status of document | [**Kiryl Bucha**](mailto:Kiryl_bucha@epam.com) | 16-JAN-2012 |  |  |
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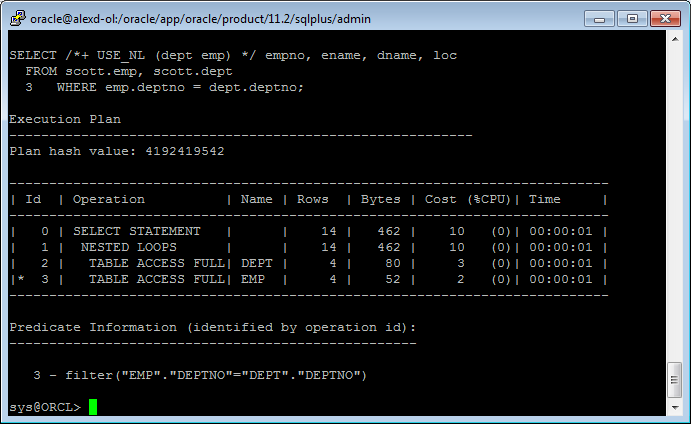
# Auto Trace & Explain Plan

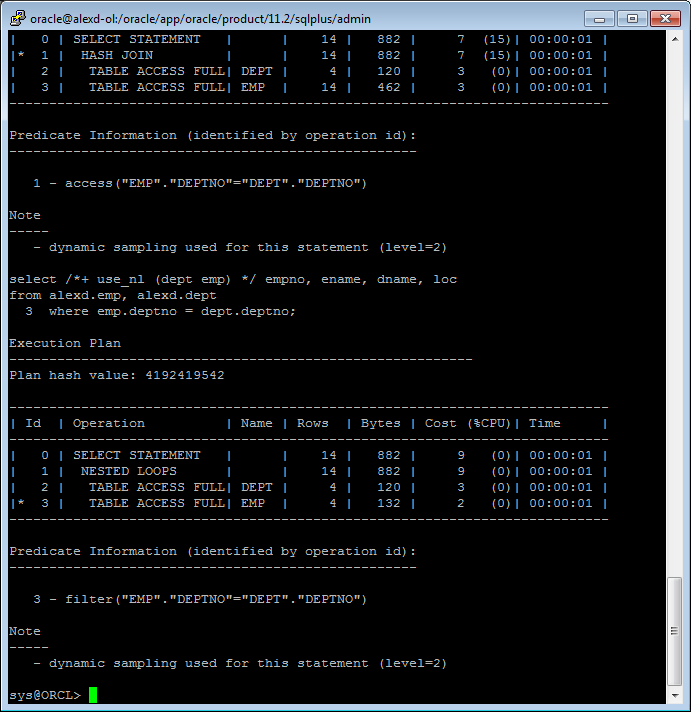
## Task 1: Auto Trace configuration training

|  |  |  |  |
| --- | --- | --- | --- |
| № | Auto Trace Configuration Options | Expected Results | Description |
|  | set autotrace off | No AUTOTRACE report is generated |  |
|  | set autotrace on | The AUTOTRACE report includes both the optimizer execution path and the SQL statement execution statistics |  |
|  | set autotrace traceonly | Like SET AUTOTRACE ON, but suppresses the printing of the user's query  output, if any |  |
|  | set autotrace on explain | The AUTOTRACE report shows only the optimizer execution path. |  |
|  | set autotrace on statistics | The AUTOTRACE report shows only the SQL statement execution  statistics. |  |

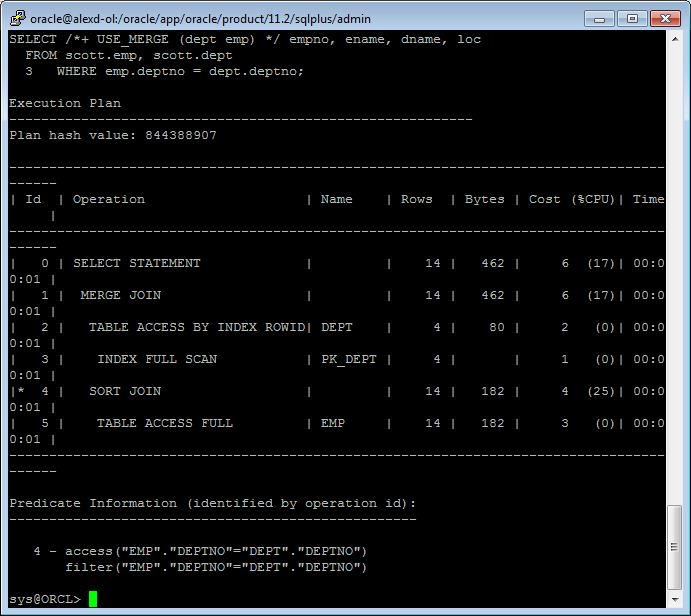
# Join Methods

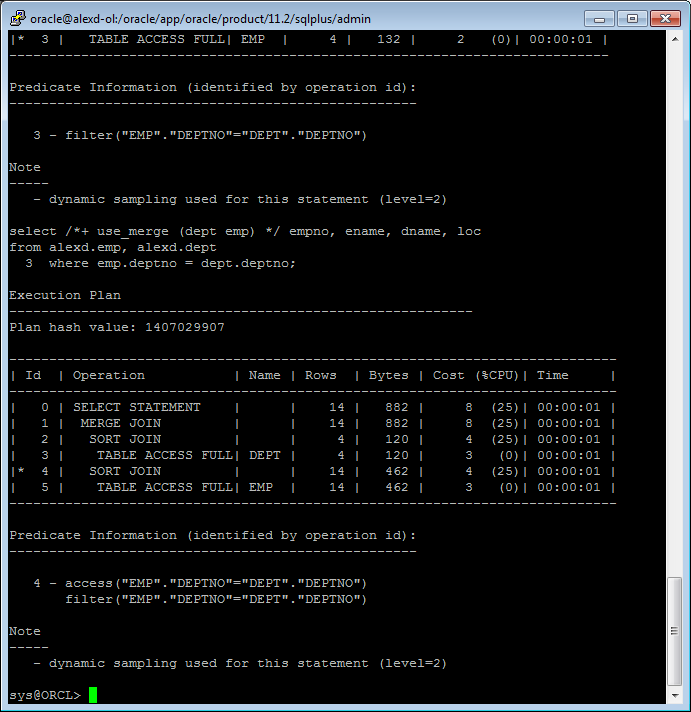
## Task 2: Nested Loops Joins



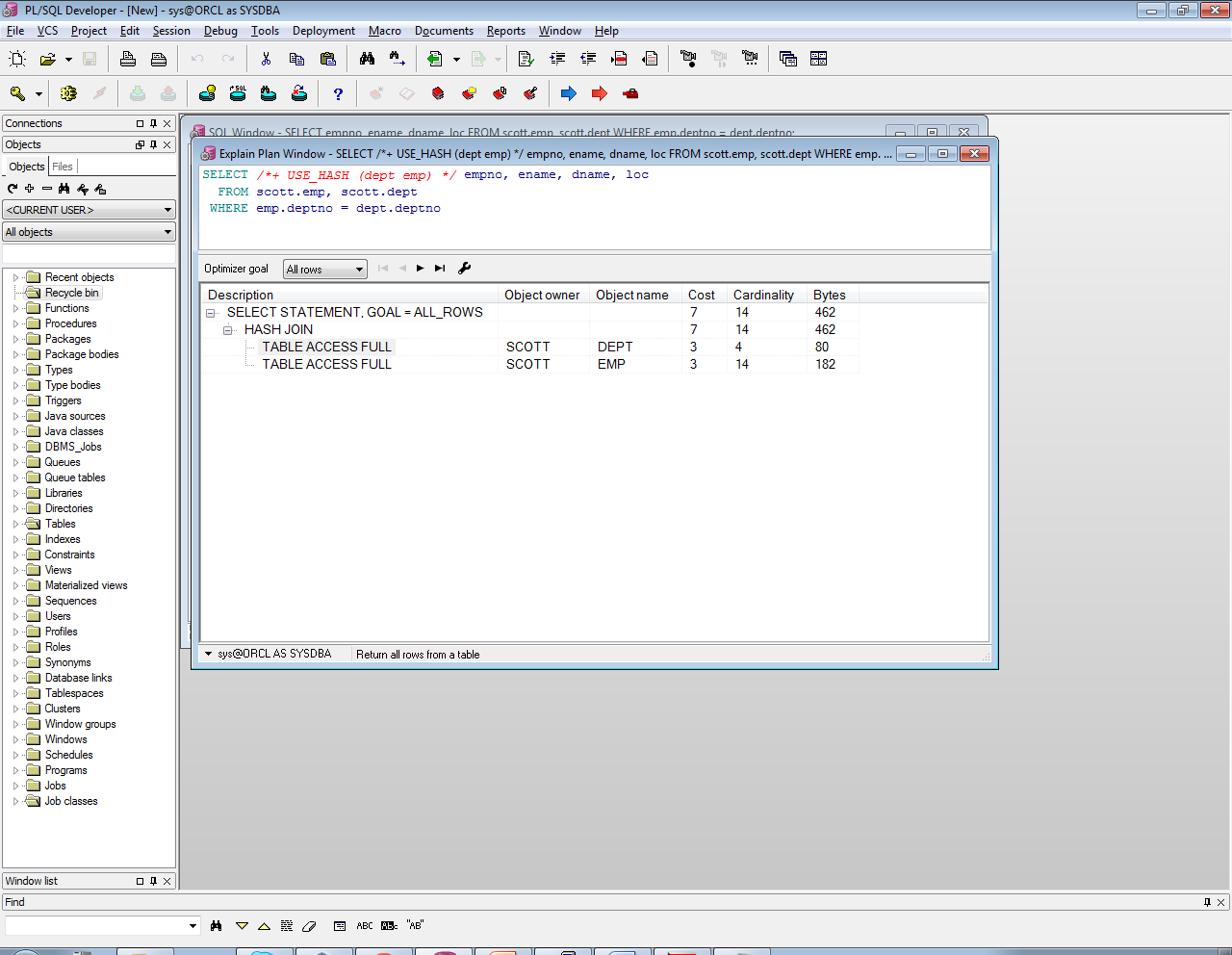


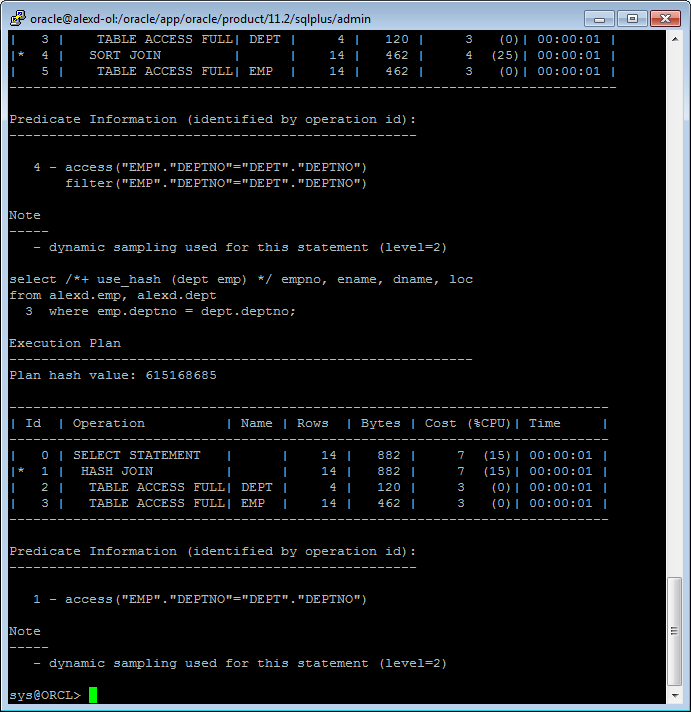
## Task 3: Sort-Merge Joins



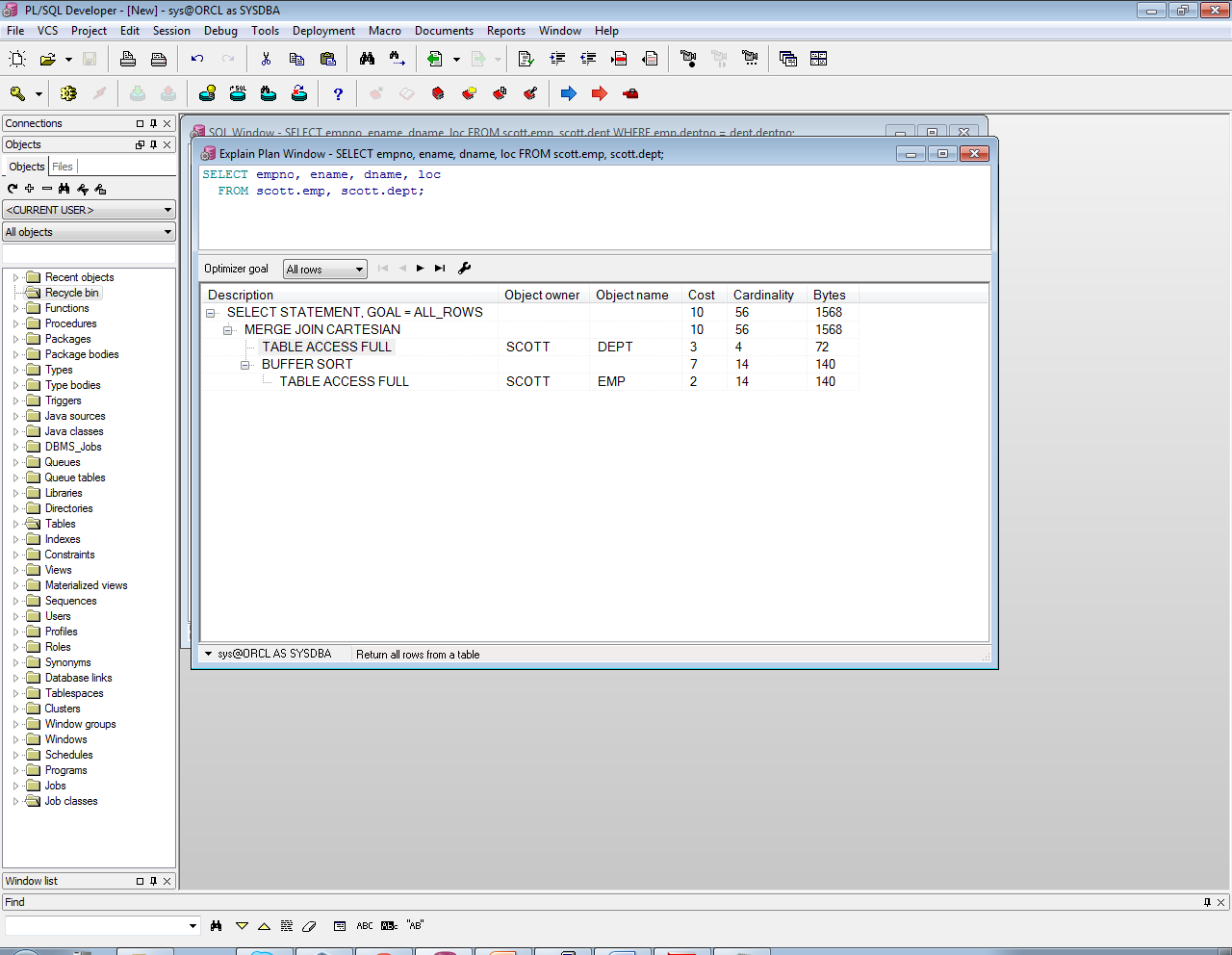


## Task 4: Hash Joins

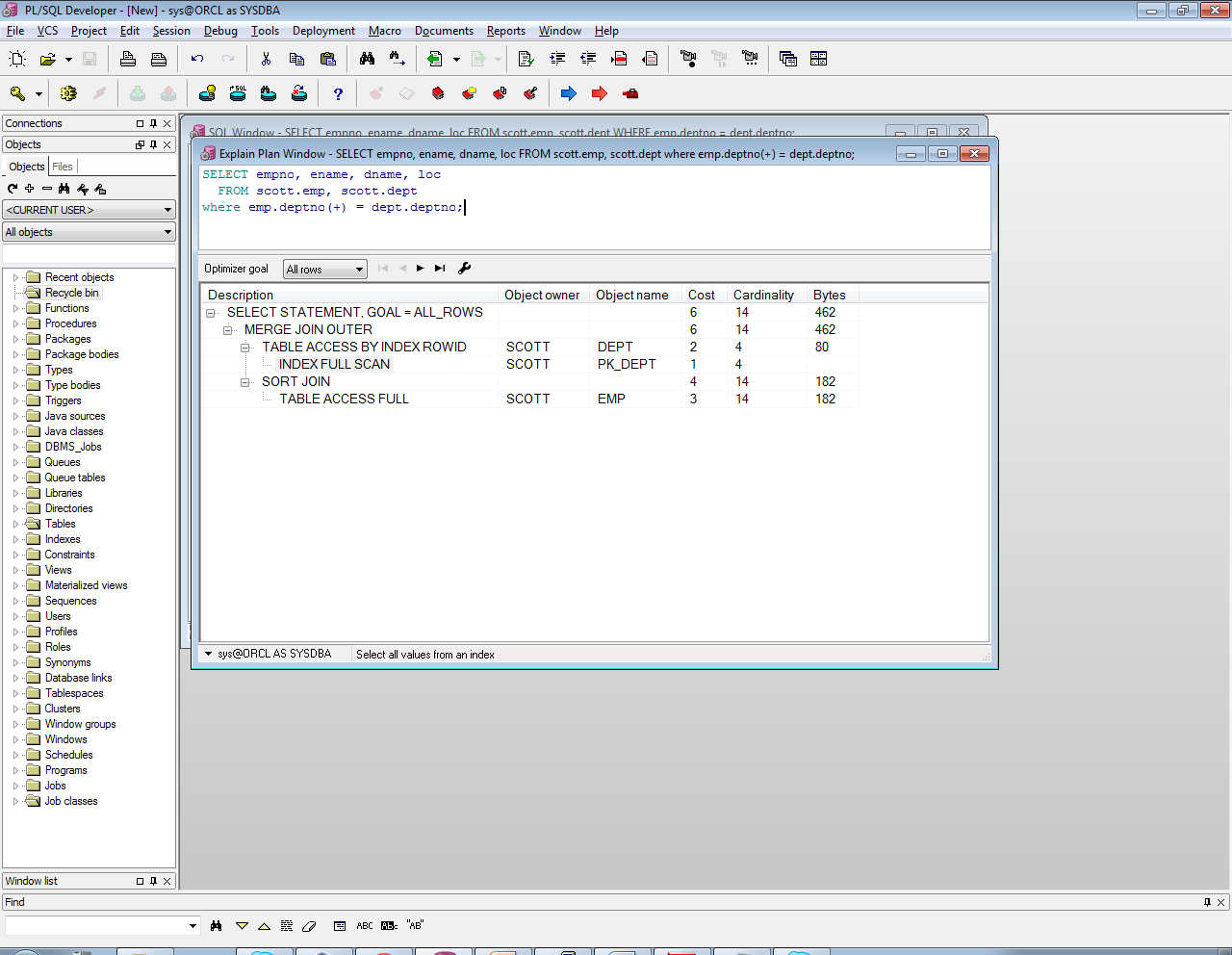


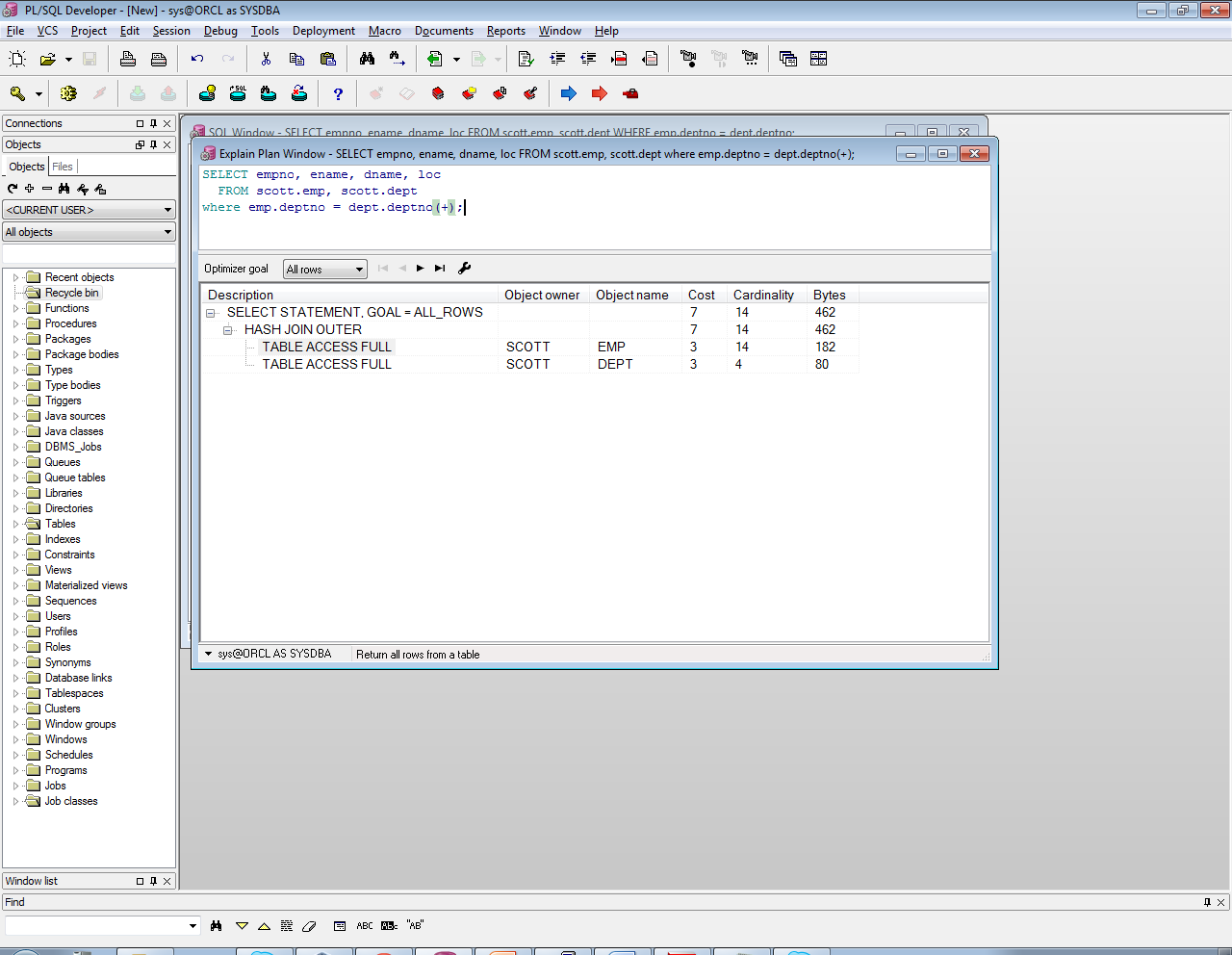


## Task 5: Cartesian Joins

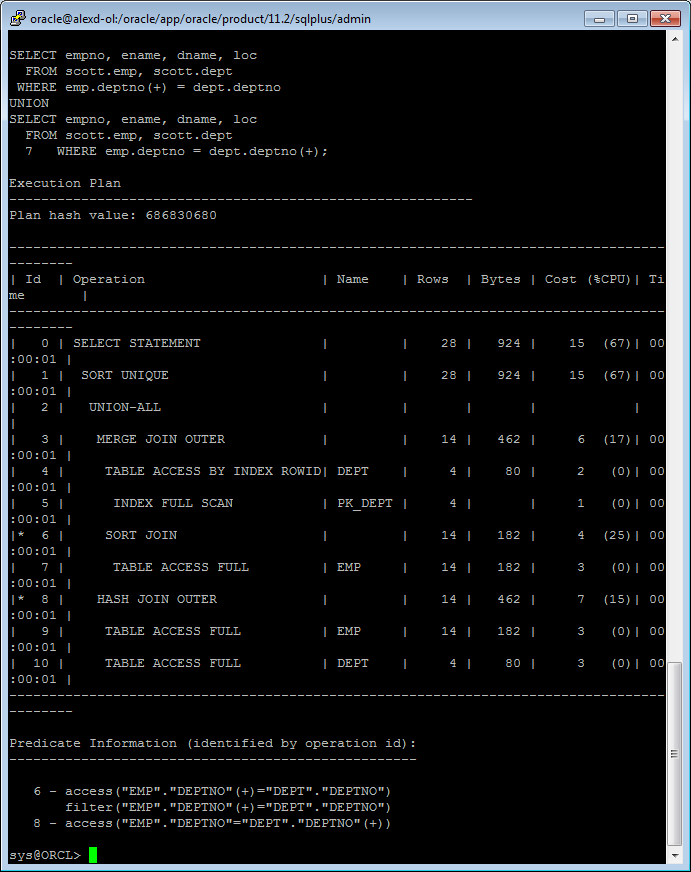


## Task 6: Left/Right Outer Joins



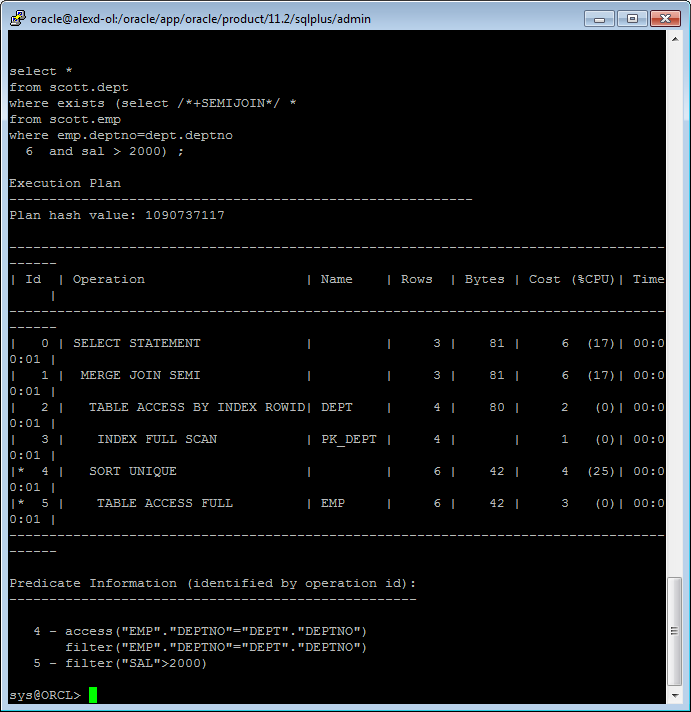


## Task 7: Full Outer Join

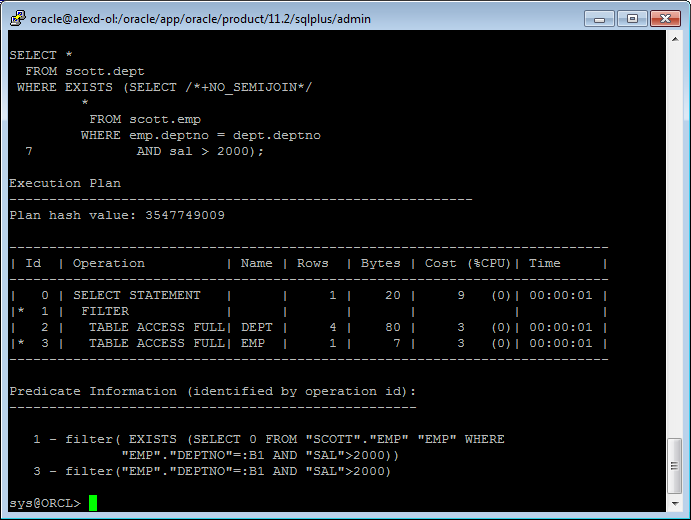


## Task 8: Semi Joins

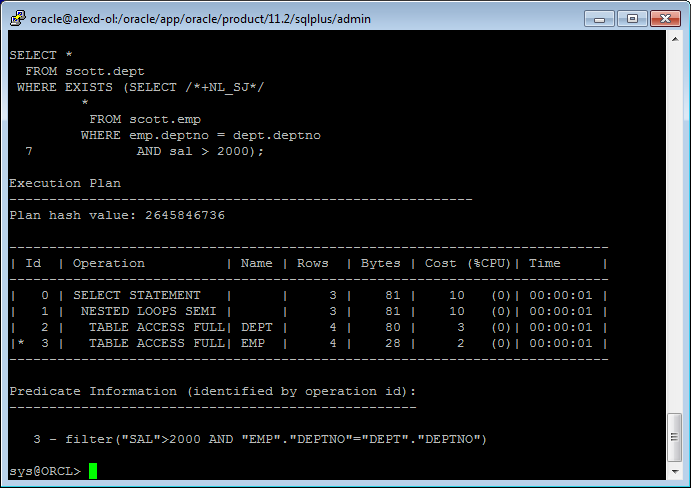
1. SEMIJOIN – perform a semi-join (the optimizer gets to pick which kind)



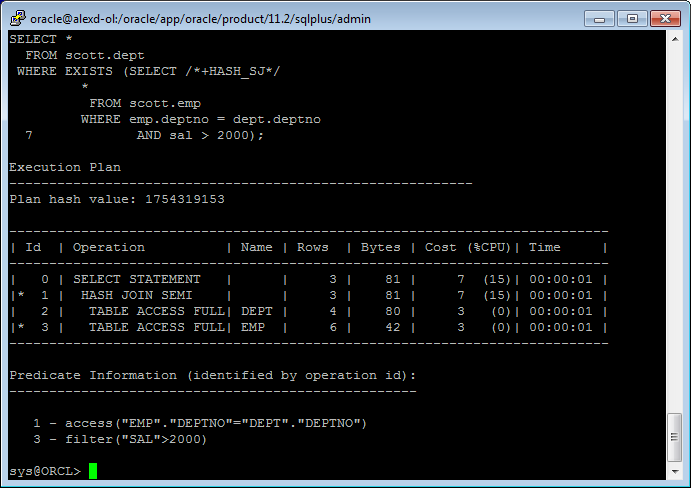
1. NO\_SEMIJOIN – obviously means don’t perform a semi-join



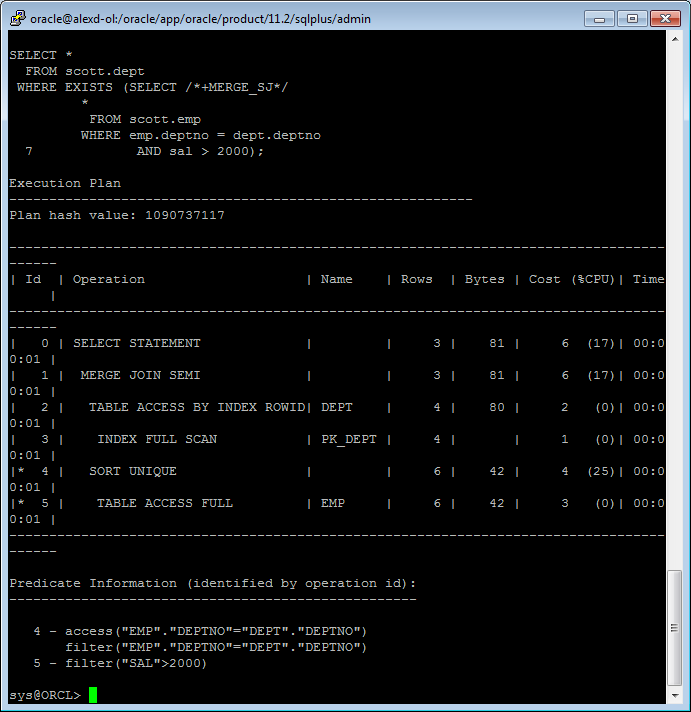
1. NL\_SJ – perform a nested loops semi-join (deprecated as of 10g)



1. HASH\_SJ – perform a hash semi-join (deprecated as of 10g)

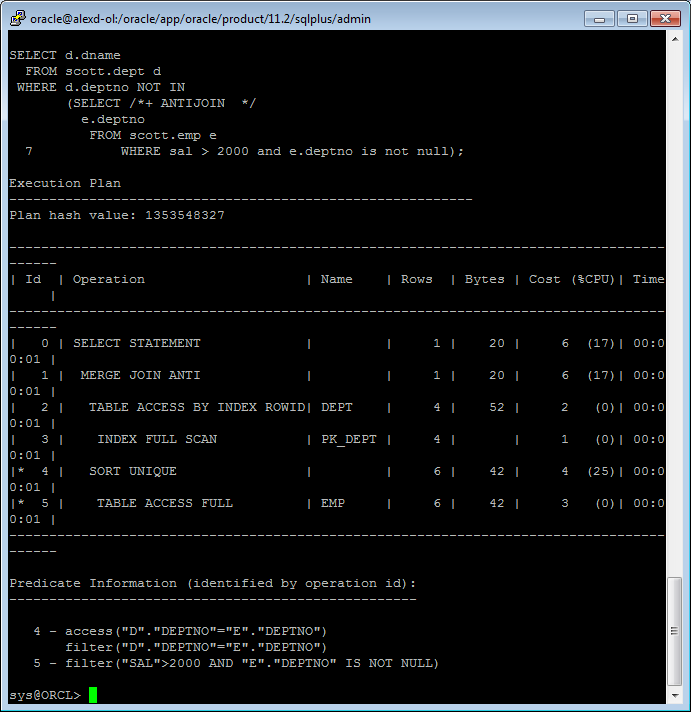


1. MERGE\_SJ – perform a merge semi-join (deprecated as of 10g)

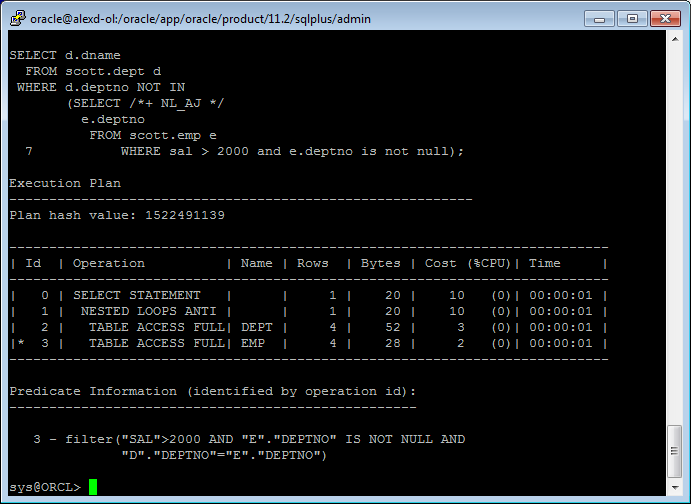


## Task 9: Anti Joins

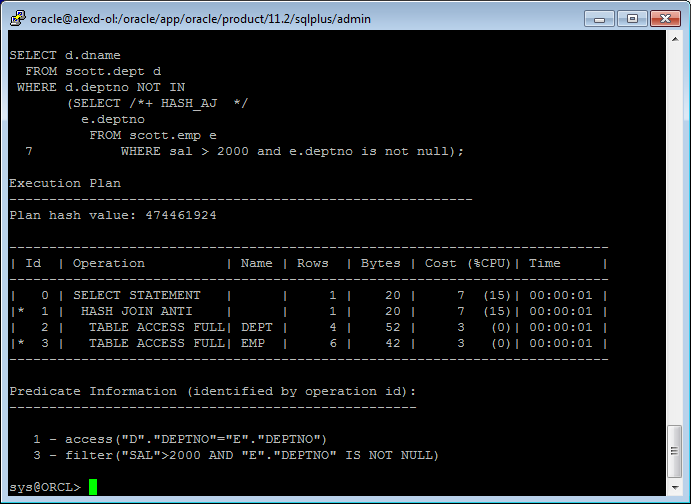
1. ANTIJOIN – perform an anti-join (the optimizer gets to pick which kind)



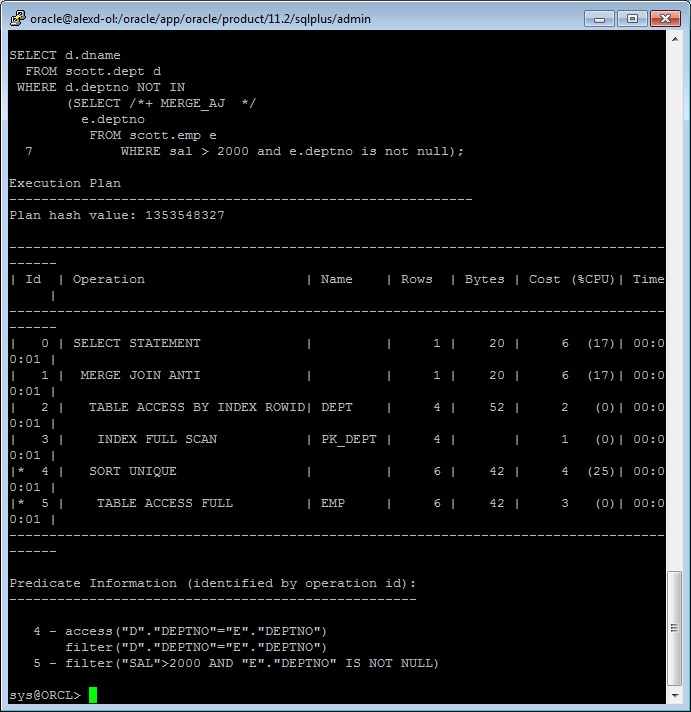
1. NL\_AJ – perform a NESTED LOOPS anti-join (deprecated as of 10g)



1. HASH\_AJ – perform a HASH anti-join (deprecated as of 10g)



1. MERGE\_AJ – perform a MERGE anti-join (deprecated as of 10g)



## Task 10: Prepare summary table

**Task:** Make comparison of all possible variant of join methods and join access methods and fill the table below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Join Access “A” | Join Access “B” | Nested Loop | Hash Join | Sort-Merge Join |
| Small Table | Small Table | 23 | 20 | 30 |
| Small Table | Indexed Small Table | 25 | 20 | 22 |
| … |  |  |  |  |