

8.1

-
-
-
-
-
-

2

8.2

- DBMS
 - I/O
 -
 - I/O
 - log file
- -

I/O buffer cache
redo log buffer cache
Oracle10.2

redo
0.5MB

DBA

4

8.4

-
-
-
-

EXPLAIN PLAN

6

8.4

-
-
-
-
-

table query Delphi

7

8.4

- SQL
- DBMS SQL
-
- --
-
-

8

8.5 SQL

8.5.1 SQL

- " " " "
-
-

9

" "

- FROM
-
- OR
- UNION ALL
- SELECT *
- FROM STUDENT
- WHERE YEAR(BDATE)=1980 OR
- HEIGHT =1.80

10

" "

- SQL HEIGHT YEAR
- BDATE
- SELECT *
- FROM STUDENT
- WHERE YEAR(BDATE)=1980
- UNION ALL
- SELECT *
- FROM STUDENT
- WHERE HEIGHT =1.80
- " " EXPLAIN
- PLAN

11

" "

-
- --
- --
- --
- --
-
-

12



```

SELECT /*+FIRST_ROW 3
          3 FULL S S */
SNAME HEIGHT
FROM STUDENTS
WHERE SEX=' '

```

13



```

SELECT /*+INDEX EMP EMP_EDNO_IX */
ENO ENAME
FROM EMP
WHERE EDNO=100

```

14



```

SELECT /*+ USE_NL_WITH_INDEX E
          EMP_ENO_IX */
D.DND D.MENO E.ENAME
FROM DEPT D EMP E
WHERE D.MENO=E.ENO;

```

15



8.5.2 SQL

- SQL

SQL

- SQL
DBMS

16



8.5.2 SQL

1.

- > DISTINCT
- > UNION INTERSECTION EXCEPT
MINUS
- > GROUP BY ORDER BY
- >
- >

17



8.5.2 SQL

2.

- > WHERE
 - > HAVING
 - >
- ```

SELECT C.CNO AVG SC.GRADE MAX
SC.GRADE
FROM SC COURSE C
WHERE C.CNO=SC.CNO
GROUP BY C.CNO
HAVING C.CNO='CS%'

```

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**8.5.2 SQL**

- > SELECT C.CNO AVG SCGRADE MAX SC.GRADE
- FROM SC COURSE C
- WHERE C.CNO='CS%' AND C.CNO=SC.CNO
- GROUP BY C.CNO

>

>

FROM

19

**8.5.2 SQL**

- 3. INSERT Oracle SQL\*Loader
- >
- 4. EXISTS IN IN EXISTS
- >
- 5. >
- >

FROM

20

**8.5.2 SQL**

- 6. > " " " IS NULL"
- SQL
- "

21

**8.6**

- " "
- 3 session

22

- --- CPU
- ---

23

- --- I/O CPU
- wait events --

24



- history Oracle 10g session sampling
- (Active Session History) ASH
- 1 ASH Automatic Workload Repository AWR
- Oracle ASH AWR

25



### Oracle ADDM

Oracle Automatic Database Diagnostic Monitor

- tablespace 97% AWR
- ADDM AWR advisor DBA

26



### Oracle ADDM

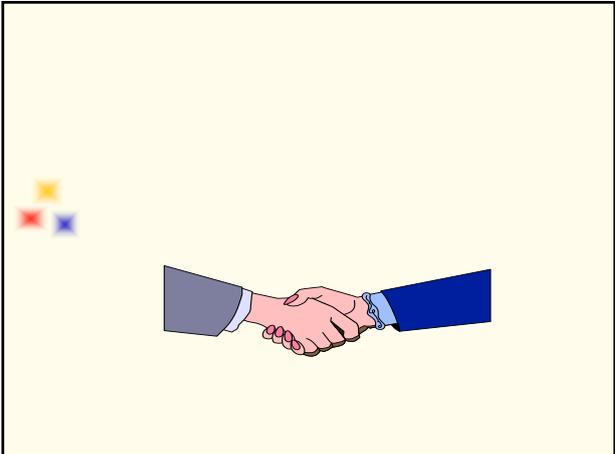
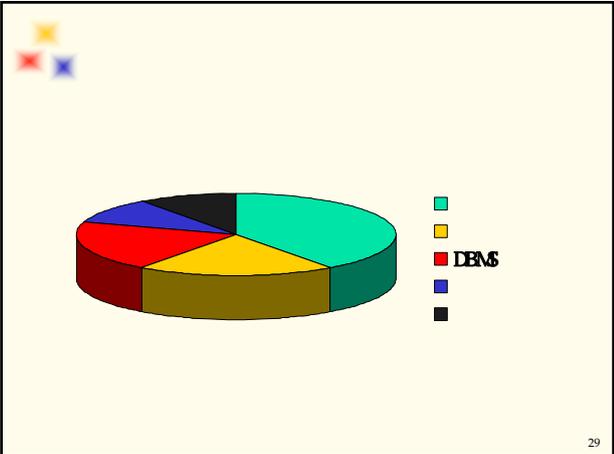
- SQL Oracle / SQL /
- areas “ ” non-problem
- -

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- DBMS
- DBA

28



### Oracle SQL sharing

- SQL SQL
- Oracle SQL
- SQL

```

SELECT *
FROM STUDENT
WHERE SNO=0708123
SNO

```

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### Oracle SQL sharing

- Oracle SQL 3
- EXACT
- SIMILAR
- FORCE
- Oracle SQL Oracle
- EXACT
- match ratio

32

- IBM HP
- SAN
- LINUX WINDOWS IBM HP
- 50%
- 1Gbps
- 4/8

33

1 : Zeus  
2 :  
3 : Oracle 9i RAC  
OA

34

