**SCRIPT**

**CREATE** **TABLE** DEPT (

DEPTNO **integer** **NOT** **NULL**,

DNAME **character** **varying**(14),

LOC **character** **varying**(13)

);

**ALTER** **TABLE** **ONLY** DEPT

**ADD** **CONSTRAINT** DEPT\_pkey **PRIMARY** **KEY** (DEPTNO);

**CREATE** **TABLE** EMP (

EMPNO **integer** **NOT** **NULL**,

ENAME **character** **varying**(10),

JOB **character** **varying**(9),

MGR **integer**,

HIREDATE **timestamp** **without** **time** **zone**,

SAL **real**,

COMM **real**,

DEPTNO **integer**

);

**ALTER** **TABLE** **ONLY** EMP

**ADD** **CONSTRAINT** EMP\_pkey **PRIMARY** **KEY** (EMPNO);

**ALTER** **TABLE** **ONLY** EMP

**ADD** **CONSTRAINT** FK\_DEPTNO **FOREIGN** **KEY** (DEPTNO) **REFERENCES** DEPT(DEPTNO);

**INSERT** **INTO** DEPT **VALUES** (10, 'ACCOUNTING', 'NEW YORK');

**INSERT** **INTO** DEPT **VALUES** (20, 'RESEARCH', 'DALLAS');

**INSERT** **INTO** DEPT **VALUES** (30, 'SALES', 'CHICAGO');

**INSERT** **INTO** DEPT **VALUES** (40, 'OPERATIONS', 'BOSTON');

**INSERT** **INTO** EMP **VALUES** (7369, 'SMITH', 'CLERK', 7902, '1980-12-17 00:00:00', 1200, **NULL**, 20);

**INSERT** **INTO** EMP **VALUES** (7499, 'ALLEN', 'SALESMAN', 7698, '1981-02-20 00:00:00', 2200, 300, 30);

**INSERT** **INTO** EMP **VALUES** (7521, 'WARD', 'SALESMAN', 7698, '1981-02-22 00:00:00', 1250, 500, 30);

**INSERT** **INTO** EMP **VALUES** (7566, 'JONES', 'MANAGER', 7839, '1981-04-02 00:00:00', 2975, **NULL**, 20);

**INSERT** **INTO** EMP **VALUES** (7654, 'MARTIN', 'SALESMAN', 7698, '1981-09-28 00:00:00', 1250, 1400, 30);

**INSERT** **INTO** EMP **VALUES** (7698, 'BLAKE', 'MANAGER', 7839, '1981-05-01 00:00:00', 2850, **NULL**, 30);

**INSERT** **INTO** EMP **VALUES** (7782, 'CLARK', 'MANAGER', 7839, '1981-06-09 00:00:00', 2450, **NULL**, 10);

**INSERT** **INTO** EMP **VALUES** (7788, 'SCOTT', 'ANALYST', 7566, '1987-04-19 00:00:00', 3000, **NULL**, 20);

**INSERT** **INTO** EMP **VALUES** (7839, 'KING', 'PRESIDENT', **NULL**, '1981-11-17 00:00:00', 5000, **NULL**, 10);

**INSERT** **INTO** EMP **VALUES** (7844, 'TURNER', 'SALESMAN', 7698, '1981-09-08 00:00:00', 1500, 0, 30);

**INSERT** **INTO** EMP **VALUES** (7876, 'ADAMS', 'CLERK', 7788, '1987-05-23 00:00:00', 1100, **NULL**, 20);

**INSERT** **INTO** EMP **VALUES** (7900, 'JAMES', 'CLERK', 7698, '1981-12-03 00:00:00', 950, **NULL**, 30);

**INSERT** **INTO** EMP **VALUES** (7902, 'FORD', 'ANALYST', 7566, '1981-12-03 00:00:00', 3000, **NULL**, 20);

**INSERT** **INTO** EMP **VALUES** (7934, 'MILLER', 'CLERK', 7782, '1982-01-23 00:00:00', 1300, **NULL**, 10);

**DATA**

DEPT

|  |  |  |
| --- | --- | --- |
| **DEPTNO** | **DNAME** | **LOC** |
| 10 | ACCOUNTING | NEW YORK |
| 20 | RESEARCH | DALLAS |
| 30 | SALES | CHICAGO |
| 40 | OPERATIONS | BOSTON |

EMP

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **EMPNO** | **ENAME** | **JOB** | **MGR** | **HIREDATE** | **SAL** | **COMM** | **DEPTNO** |
| 7369 | SMITH | CLERK | 7902 | 1980-12-17 | 1200 | NULL | 20 |
| 7499 | ALLEN | SALESMAN | 7698 | 1981-02-20 | 2200 | 300 | 30 |
| 7521 | WARD | SALESMAN | 7698 | 1981-02-22 | 1250 | 500 | 30 |
| 7566 | JONES | MANAGER | 7839 | 1981-04-02 | 2975 | NULL | 20 |
| 7654 | MARTIN | SALESMAN | 7698 | 1981-09-28 | 1250 | 1400 | 30 |
| 7698 | BLAKE | MANAGER | 7839 | 1981-05-01 | 2850 | NULL | 30 |
| 7782 | CLARK | MANAGER | 7839 | 1981-06-09 | 2450 | NULL | 10 |
| 7788 | SCOTT | ANALYST | 7566 | 1987-04-19 | 3000 | NULL | 20 |
| 7839 | KING | PRESIDENT | NULL | 1981-11-17 | 5000 | NULL | 10 |
| 7844 | TURNER | SALESMAN | 7698 | 1981-09-08 | 1500 | 0 | 30 |
| 7876 | ADAMS | CLERK | 7788 | 1987-05-23 | 1100 | NULL | 20 |
| 7900 | JAMES | CLERK | 7698 | 1981-12-03 | 950 | NULL | 30 |
| 7902 | FORD | ANALYST | 7566 | 1981-12-03 | 3000 | NULL | 20 |
| 7934 | MILLER | CLERK | 7782 | 1982-01-23 | 1300 | NULL | 10 |

**LATIHAN**

Select semua kolom

**select** \* **from** dept;

**select** \* **from** emp;

Select spesifik kolom

**select** deptno, dname **from** dept;

**select** empno, ename, job, hiredate **from** emp;

Memberi alias pada kolom

**select** empno "No", ename Nama, job Pekerjaan, hiredate "Tanggal Mulai Kerja" **from** emp;

Operasi Aritmatika (+, -, \*, /)

**select** empno, ename, sal, comm, sal + comm **from** emp;

**select** empno, ename, sal, sal \* 12 **as** "Total Gaji" **from** emp;

Handling NULL value

**select** empno, ename, sal, comm, sal + **coalesce**(comm,0) **from** emp;

STRING functions

**select** **concat**(ename, ' adalah seorang ', job) **from** emp;

**select** ename, **substring**(ename,1,3) **from** emp;

**select** ename, **length**(ename) **from** emp;

Select DISTINCT

**select** **distinct** job **from** emp;

ORDER BY

**select** \* **from** emp **order** **by** ename;

**select** \* **from** emp **order** **by** hiredate **asc**;

**select** \* **from** emp **order** **by** sal **desc**;

WHERE clause

**select** \* **from** emp **where** deptno = 10;

**select** \* **from** emp **where** sal > 2000;

**select** \* **from** emp **where** job = 'MANAGER';

**select** \* **from** emp **where** hiredate **between** '1981-01-01' **and** '1981-12-31';

**select** \* **from** emp **where** job **in** ('MANAGER','SALESMAN');

**select** \* **from** emp **where** ename **like** 'A%';

**select** \* **from** emp **where** comm **is** **null**;

**select** \* **from** emp **where** comm **is** **not** **null**;

AGREGATE functions (MIN, MAX, AVERAGE, dll)

**select** **min**(sal) **from** emp;

**select** **max**(sal) **from** emp;

**select** **avg**(sal) **from** emp;

**select** **max**(sal) **from** emp **where** job = 'MANAGER';

**select** **min**(sal) **from** emp **where** deptno = 30;

GROUP BY

**select** job, **avg**(sal) **from** emp **group** **by** job;

**select** deptno, **max**(sal) **from** emp **group** **by** deptno **order** **by** deptno;

JOIN table

**select** empno, ename, dname **from** emp, dept

**where** emp.deptno = dept.deptno;

**select** empno, ename, e.deptno, d.dname **from** emp e, dept d

**where** e.deptno = d.deptno;

**select** empno, ename, dname **from** emp

**join** dept **on** emp.deptno = dept.deptno;

**select** empno, ename, e.deptno, dname **from** emp e

**join** dept d **on** e.deptno = d.deptno;