Primary Key

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DNAME	LOC
7369	SMITH	CLERK	ANALYST A CHIEF	17-DEC-80	800		RESEARCH	DALLAS
7499	ALLEN	SALESMAN	SALES MANAGER	20-FEB-81	1600	300	SALES	CHICAGO
7521	WARD	SALESMAN	SALES MANAGER	22-FEB-81	1250	500	SALES	CHICAGO
7566	JONES	MANAGER	PRESIDENT	02-APR-81	2975		RESEARCH	DALLAS
7654	MARTIN	SALESMAN	SALES MANAGER	28-SEP-81	1250	1400	SALES	CHICAGO
7698	BLAKE	MANAGER	PRESIDENT	01-MAY-81	2850		SALES	CHICAGO
7782	CLARK	MANAGER	PRESIDENT	09-JUN-81	2450		ACCOUNTING	NEW YORK
7788	SCOTT	ANALYST B CHIEF	RESEARCH MANAGER	19-APR-87	3000		RESEARCH	DALLAS
7839	KING	PRESIDENT		17-NOV-81	5000		ACCOUNTING	NEW YORK
7844	TURNER	SALESMAN	SALES MANAGER	08-SEP-81	1500	0	SALES	CHICAGO
7876	ADAMS	CLERK	ANALYST B CHIEF	23-MAY-87	1100		RESEARCH	DALLAS
7900	JAMES	CLERK	SALES MANAGER	03-DEC-81	950		SALES	CHICAGO
7902	FORD	ANALYST A CHIEF	RESEARCH MANAGER	03-DEC-81	3000		RESEARCH	DALLAS
7934	MILLER	CLERK	ACCOUNTING MANAGER	23-JAN-82	1300		ACCOUNTING	NEW YORK

EMP

EMPNO

- İlişkilendirme yapılacak tablelarda mutlaka Primary Key konulmalıdır. Primary Key Unique ve hiç bir Field'ı boş yada NULL olmamalıdır.
  (EMPNO)
- İndexsiz columnlar olablir.
  (ENAME, JOB, MGR, HIREDATE, SAL, COMM, DNAME, LOC)
- Bazı fieldların içi boş görünebilir. Aslında bunlar boş değil, NULL değerlerdir.
  (MGR, COMM)
- Bazı columların data tipleri değiştirilerek daha küçük boyutta bilgi saklamaları sağlanabilir.
  (MGR Character data tipinden Number data tipine çevrilirse çok daha az yer kaplar)

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DNAME	LOC
7369	SMITH	CLERK	7902	17-DEC-80	800		RESEARCH	DALLAS
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	SALES	CHICAGO
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	SALES	CHICAGO
7566	JONES	MANAGER	7839	02-APR-81	2975		RESEARCH	DALLAS
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	SALES	CHICAGO
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		SALES	CHICAGO
7782	CLARK	MANAGER	7839	09-JUN-81	2450		ACCOUNTING	NEW YORK
7788	SCOTT	ANALYST B CHIEF	7566	19-APR-87	3000		RESEARCH	DALLAS
7839	KING	PRESIDENT		17-NOV-81	5000		ACCOUNTING	NEW YORK
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	SALES	CHICAGO
7876	ADAMS	CLERK	7788	23-MAY-87	1100		RESEARCH	DALLAS
7900	JAMES	CLERK	7698	03-DEC-81	950		SALES	CHICAGO
7902	FORD	ANALYST A CHIEF	7566	03-DEC-81	3000		RESEARCH	DALLAS
7934	MILLER	CLERK	7782	23-JAN-82	1300		ACCOUNTING	NEW YORK

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DNAME	LOC
7369	SMITH	CLERK	7902	17-DEC-80	800		RESEARCH	DALLAS
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	SALES	CHICAGO
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	SALES	CHICAGO
7566	JONES	MANAGER	7839	02-APR-81	2975		RESEARCH	DALLAS
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	SALES	CHICAGO
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		SALES	CHICAGO
7782	CLARK	MANAGER	7839	09-JUN-81	2450		ACCOUNTING	NEW YORK
7788	SCOTT	ANALYST B CHIEF	7566	19-APR-87	3000		RESEARCH	DALLAS
7839	KING	PRESIDENT		17-NOV-81	5000		ACCOUNTING	NEW YORK
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	SALES	CHICAGO
7876	ADAMS	CLERK	7788	23-MAY-87	1100		RESEARCH	DALLAS
7900	JAMES	CLERK	7698	03-DEC-81	950		SALES	CHICAGO
7902	FORD	ANALYST A CHIEF	7566	03-DEC-81	3000		RESEARCH	DALLAS
7934	MILLER	CLERK	7782	23-JAN-82	1300		ACCOUNTING	NEW YORK

Bir columun fieldleri aynı bilgileri içeriyorsa buna normalizasyon uygulanmalıdır. Many to One.
(DNAME ve LOC columnları aynı bilgileri içeren bir gruptur. Bunlar tableda fazla yer kaplarlar. Bu iki column kaldırılarak yerine DEPTNO adında Foreign Key'i olan Number data tipinde yeni bir column konulur. Bir DEPT tablei yaratılarak içine DEPTNO, DNAME, LOC columları konulur. DEPT tableındaki DEPTNO Primary Key olmalıdır. Böylece;

1) EMP tablosunun record sizei düşürülmüş olur
2) Yeni personel eklenirken/düzeltme yapılırken lüzumsuz yere iki field doldurulmamış olur
3) Yeni personel eklenirken/düzeltme yapılırken hatalı bilgi girilmesi engellenmis olur

EMP (Detail)

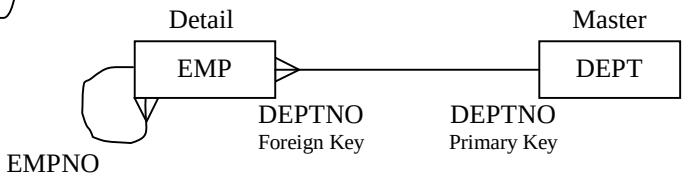
EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7788	SCOTT	ANALYST B CHIEF	7566	19-APR-87	3000		20
7839	KING	PRESIDENT		17-NOV-81	5000		10
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7876	ADAMS	CLERK	7788	23-MAY-87	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7902	FORD	ANALYST A CHIEF	7566	03-DEC-81	3000		20
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

DEPT (Master)

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

Primary Key

Foreign Key



EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7788	SCOTT	ANALYST B CHIEF	7566	19-APR-87	3000		20
7839	KING	PRESIDENT		17-NOV-81	5000		10
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7876	ADAMS	CLERK	7788	23-MAY-87	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7902	FORD	ANALYST A CHIEF	7566	03-DEC-81	3000		20
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

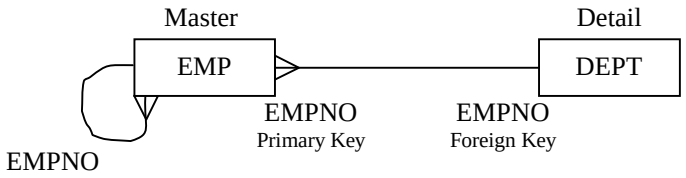
EMP (Master)

EMPNO	ENAME	JOB	MGR	HIREDATE	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	20
7499	ALLEN	SALESMAN	7698	20-FEB-81	30
7521	WARD	SALESMAN	7698	22-FEB-81	30
7566	JONES	MANAGER	7839	02-APR-81	20
7654	MARTIN	SALESMAN	7698	28-SEP-81	30
7698	BLAKE	MANAGER	7839	01-MAY-81	30
7782	CLARK	MANAGER	7839	09-JUN-81	10
7788	SCOTT	ANALYST B CHIEF	7566	19-APR-87	20
7839	KING	PRESIDENT		17-NOV-81	10
7844	TURNER	SALESMAN	7698	08-SEP-81	30
7876	ADAMS	CLERK	7788	23-MAY-87	20
7900	JAMES	CLERK	7698	03-DEC-81	30
7902	FORD	ANALYST A CHIEF	7566	03-DEC-81	20
7934	MILLER	CLERK	7782	23-JAN-82	10

Primary Key

SAL (Detail)

EMPNO	SAL	COMM
7369	800	
7499	1600	300
7521	1250	500
7566	2975	
7654	1250	1400
7698	2850	
7782	2450	
7788	3000	
7839	5000	
7844	1500	0
7876	1100	
7900	950	
7902	3000	
7934	1300	

Foreign Key

Normalizasyon sonucunda bazı columnların ana table yerine yardımcı tablelarda tutulması gerekebilir. One to One.
(SAL ve COMM)