

# Project 1

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CSE 4701 - Fall 2023

DESCRIBE each table to show that attributes have proper data types.

```
mysql> DESCRIBE DEPARTMENT;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Dname          | varchar(15)   | NO   | UNI | NULL    |       |
| Dnumber        | int           | NO   | PRI | NULL    |       |
| Mgr_ssn        | char(9)       | NO   | MUL | NULL    |       |
| Mgr_start_date | date          | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

```
mysql> DESCRIBE DEPENDENT;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Essn           | char(9)       | NO   | PRI | NULL    |       |
| Dependent_name | varchar(15)   | NO   | PRI | NULL    |       |
| Sex            | char(1)       | YES  |     | NULL    |       |
| Bdate          | date          | YES  |     | NULL    |       |
| Relationship    | varchar(8)    | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql> DESCRIBE DEPT_LOCATIONS;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Dnumber        | int           | NO   | PRI | NULL    |       |
| Dlocation      | varchar(15)   | NO   | PRI | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> DESCRIBE EMPLOYEE;
```

Field	Type	Null	Key	Default	Extra
Fname	varchar(15)	NO		NULL	
Minit	char(1)	YES		NULL	
Lname	varchar(15)	NO		NULL	
Ssn	char(9)	NO	PRI	NULL	
Bdate	date	YES		NULL	
Address	varchar(30)	YES		NULL	
Sex	char(1)	YES		NULL	
Salary	decimal(10,2)	YES		NULL	
Super_ssn	char(9)	YES	MUL	NULL	
Dno	int	NO	MUL	NULL	

10 rows in set (0.00 sec)

```
mysql> DESCRIBE PROJECT;
```

Field	Type	Null	Key	Default	Extra
Pname	varchar(15)	NO	UNI	NULL	
Pnumber	int	NO	PRI	NULL	
Plocation	varchar(15)	YES		NULL	
Dnum	int	NO	MUL	NULL	

4 rows in set (0.00 sec)

```
mysql> DESCRIBE WORKS_ON;
```

Field	Type	Null	Key	Default	Extra
Essn	char(9)	NO	PRI	NULL	
Pno	int	NO	PRI	NULL	
Hours	decimal(3,1)	YES		NULL	

3 rows in set (0.00 sec)

SELECT appropriate rows and columns from system catalog tables (TABLE\_CONSTRAINTS & KEY\_COLUMN\_USAGE) to show that primary keys and foreign keys are properly set.

```
mysql> SELECT * FROM INFORMATION_SCHEMA.TABLE_CONSTRAINTS
-> WHERE TABLE_SCHEMA = "project_1";
```

CONSTRAINT_CATALOG	CONSTRAINT_SCHEMA	CONSTRAINT_NAME	TABLE_SCHEMA	TABLE_NAME	CONSTRAINT_TYPE	ENFORCED
def	project_1	Dname	project_1	department	UNIQUE	YES
def	project_1	PRIMARY	project_1	department	PRIMARY KEY	YES
def	project_1	fk_Mgr_ssn	project_1	department	FOREIGN KEY	YES
def	project_1	PRIMARY	project_1	dependent	PRIMARY KEY	YES
def	project_1	dependent_ibfk_1	project_1	dependent	FOREIGN KEY	YES
def	project_1	PRIMARY	project_1	dept_locations	PRIMARY KEY	YES
def	project_1	dept_locations_ibfk_1	project_1	dept_locations	FOREIGN KEY	YES
def	project_1	PRIMARY	project_1	employee	PRIMARY KEY	YES
def	project_1	fk_Dnumber	project_1	employee	FOREIGN KEY	YES
def	project_1	fk_Super_ssn	project_1	employee	FOREIGN KEY	YES
def	project_1	Pname	project_1	project	UNIQUE	YES
def	project_1	PRIMARY	project_1	project	PRIMARY KEY	YES
def	project_1	project_ibfk_1	project_1	project	FOREIGN KEY	YES
def	project_1	PRIMARY	project_1	works_on	PRIMARY KEY	YES
def	project_1	works_on_ibfk_1	project_1	works_on	FOREIGN KEY	YES
def	project_1	works_on_ibfk_2	project_1	works_on	FOREIGN KEY	YES

16 rows in set (0.00 sec)

```
mysql> SELECT
-> TABLE_SCHEMA, TABLE_NAME, COLUMN_NAME, POSITION_IN_UNIQUE_CONSTRAINT, REFERENCED_TABLE_SCHEMA, REFERENCED_TABLE_NAME
-> FROM INFORMATION_SCHEMA.KEY_COLUMN_USAGE
-> WHERE TABLE_SCHEMA = "project_1";
```

TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	POSITION_IN_UNIQUE_CONSTRAINT	REFERENCED_TABLE_SCHEMA	REFERENCED_TABLE_NAME
project_1	department	Dname	NULL	NULL	NULL
project_1	department	Dnumber	NULL	NULL	NULL
project_1	department	Mgr_ssn	1	project_1	employee
project_1	dependent	Essn	NULL	NULL	NULL
project_1	dependent	Dependent_name	NULL	NULL	NULL
project_1	dependent	Essn	1	project_1	employee
project_1	dept_locations	Dnumber	NULL	NULL	NULL
project_1	dept_locations	Dlocation	NULL	NULL	NULL
project_1	dept_locations	Dnumber	1	project_1	department
project_1	employee	Ssn	NULL	NULL	NULL
project_1	employee	Dno	1	project_1	department
project_1	employee	Super_ssn	1	project_1	employee
project_1	project	Pname	NULL	NULL	NULL
project_1	project	Pnumber	NULL	NULL	NULL
project_1	project	Dnum	1	project_1	department
project_1	works_on	Essn	NULL	NULL	NULL
project_1	works_on	Pno	NULL	NULL	NULL
project_1	works_on	Essn	1	project_1	employee
project_1	works_on	Pno	1	project_1	project

19 rows in set (0.00 sec)

SELECT all rows from each of the tables and take screenshots.

```
mysql> SELECT * FROM DEPARTMENT;
```

Dname	Dnumber	Mgr_ssn	Mgr_start_date
Headquarters	1	888665555	1981-06-19
Administration	4	987654321	1995-01-01
Research	5	333445555	1988-05-22

3 rows in set (0.00 sec)

```
mysql> SELECT * FROM DEPENDENT;
```

Essn	Dependent_name	Sex	Bdate	Relationship
123456789	Alice	F	1988-12-30	Daughter
123456789	Elizabeth	F	1967-05-05	Spouse
123456789	Michael	M	1988-01-04	Son
333445555	Alice	F	1986-04-05	Daughter
333445555	Joy	F	1958-05-03	Spouse
333445555	Theodore	M	1983-10-25	Son
987654321	Abner	M	1942-02-28	Spouse

```
7 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM DEPT_LOCATIONS;
```

Dnumber	Dlocation
1	Houston
4	Stafford
5	Bellaire
5	Houston
5	Sugarland

```
5 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM PROJECT;
```

Pname	Pnumber	Plocation	Dnum
ProductX	1	Bellaire	5
ProductY	2	Sugarland	5
ProductZ	3	Houston	5
Computerization	10	Stafford	4
Reorginzation	20	Houston	1
Newbenefits	30	Stafford	4

```
6 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM WORKS_ON;
```

Essn	Pno	Hours
123456789	1	32.5
123456789	2	7.5
333445555	2	10.0
333445555	3	10.0
333445555	10	10.0
333445555	20	10.0
453453453	1	20.0
453453453	2	20.0
666884444	3	40.0
888665555	20	NULL
987654321	20	15.0
987654321	30	20.0
987987987	10	35.0
987987987	30	5.0
999887777	10	10.0
999887777	30	30.0

```
16 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM EMPLOYEE;
```

Fname	Minit	Lname	Ssn	Bdate	Address	Sex	Salary	Super_ssn	Dno
John	B	Smith	123456789	1965-01-09	731 Fondren, Houston, TX	M	30000.00	333445555	5
Franklin	T	Wong	333445555	1955-12-08	638 Voss, Houston, TX	M	40000.00	888665555	5
Joyce	A	English	453453453	1972-07-31	5631 Rice, Houston, TX	F	25000.00	333445555	5
Ramesh	K	Narayan	666884444	1962-09-15	975 Fire Oak, Humble, TX	M	38000.00	333445555	5
James	E	Borg	888665555	1937-11-10	450 Stone, Houston, TX	M	55000.00	NULL	1
Jennifer	S	Wallace	987654321	1941-06-20	291 Berry, Bellaire, TX	F	43000.00	888665555	4
Ahmad	V	Jabbar	987987987	1969-03-29	980 Dallas, Houston, TX	M	25000.00	987654321	4
Alicia	J	Zelaya	999887777	1968-01-19	3321 Castle, Spring, TX	F	25000.00	987654321	4

```
8 rows in set (0.00 sec)
```