

SQL Implementation:

Create and Insert operations:

#Creating a Database and using it:

```
CREATE DATABASE BASE;  
USE BASE;
```

#Creating table MEDIA:

```
CREATE TABLE MEDIA (  
MEDIA_ID varchar (32) PRIMARY KEY,  
MNAME VARCHAR (32),  
YEAR_RELEASED INT,  
GENRE VARCHAR (15) NOT NULL);
```

```
DESC MEDIA;
```

	Field	Type	Null	Key	Default	Extra
►	MEDIA_ID	varchar(32)	NO	PRI	NULL	
	NAME	varchar(32)	YES		NULL	
	YEAR_RELEASED...	int(11)	YES		NULL	
	GENRE	varchar(15)	NO		NULL	

#Inserting the values into table MEDIA:

```
INSERT INTO MEDIA VALUES ("54", "FOX", 1999, "ANIMATION");
```

```
SELECT * FROM MEDIA;
```

	MEDIA_ID	MNAME	YEAR_RELEASED	GENRE	
►	54	FOX	1999	ANIMATION	
	NULL	NULL	NULL	NULL	

#Creating table TVSHOWS:

```
CREATE TABLE TVSHOWS (  
  MEDIA_ID varchar (32) NOT NULL,  
  SHOW_NAME VARCHAR (32),  
  SEASONS INT,  
  foreign key (MEDIA_ID) references MEDIA(MEDIA_ID));  
  
DESC TVSHOWS;
```

	Field	Type	Null	Key	Default	Extra
▶	MEDIA_ID	varchar(32)	NO	MUL	NULL	
	SHOW_NAME	varchar(32)	YES		NULL	
	SEASONS	int(11)	YES		NULL	

#Inserting the values into table TVSHOWS:

```
INSERT INTO TVSHOWS VALUES ("54", "FAMILY-GUY", 15);  
  
SELECT * FROM TVSHOWS;
```

	MEDIA_ID	SHOW_NAME	SEASONS
▶	54	FAMILY-GUY	15

#Creating table PEOPLE:

```
CREATE TABLE PEOPLE (  
  PERSON_ID varchar (32) NOT NULL PRIMARY KEY,  
  GENDER VARCHAR (7),  
  PNAME VARCHAR (32),  
  AGE INT);
```

DESC PEOPLE;

	Field	Type	Null	Key	Default	Extra	
▶	PERSON_ID	varchar(32)	NO	PRI	NULL		
	GENDER	varchar(7)	YES		NULL		
	PNAME	varchar(32)	YES		NULL		
	AGE	int(11)	YES		NULL		

#Inserting the values into table PEOPLE:

INSERT INTO PEOPLE VALUES ("US123", "FEMALE", "PRIYANKA K", 21);

SELECT * FROM PEOPLE;

	PERSON_ID	GENDER	PNAME	AGE
▶	US123	FEMALE	PRIYANKA K	21
	NULL	NULL	NULL	NULL

#Creating table USERS:

```
CREATE TABLE USERS (  
  USER_ID VARCHAR (32) NOT NULL PRIMARY KEY,  
  FULLNAME VARCHAR (32),  
  USERNAME VARCHAR (32) NOT NULL,  
  PASS_WORD VARCHAR (32));
```

DESC USERS;

	Field	Type	Null	Key	Default	Extra
►	USER_ID	varchar(32)	NO	PRI	NULL	
	FULLNAME	varchar(32)	YES		NULL	
	USERNAME	varchar(32)	NO		NULL	
	PASSWORD	varchar(32)	YES		NULL	

#Inserting the values into table USERS:

```
INSERT INTO USERS VALUES ("UTV567", "MEGHNA SANGTANI", "MEGHS", "QWERTY");
```

```
SELECT * FROM USERS;
```

	USER_ID	FULLNAME	USERNAME	PASS_WORD
►	UTV567	MEGHNA SANGTANI	MEGHS	QWERTY
	NULL	NULL	NULL	NULL

#Creating table STUDIOS:

```
CREATE TABLE STUDIOS (
STUDIO_ID VARCHAR (32) NOT NULL PRIMARY KEY,
SNAME VARCHAR (32));
```

```
DESC STUDIOS;
```

	Field	Type	Null	Key	Default	Extra
►	STUDIO_ID	varchar(32)	NO	PRI	NULL	
	SNAME	varchar(32)	YES		NULL	

#Inserting the values into table STUDIOS:

```
INSERT INTO STUDIOS VALUES ("S670", "CENTURY FOX TELEVISION,  
LA");
```

```
SELECT * FROM STUDIOS;
```

	STUDIO_ID	SNAME
▶	S670	CENTURY FOX TELEVISION,...

#Creating table NETWORKS:

```
CREATE TABLE NETWORKS (  
NETWORK_ID VARCHAR (15) NOT NULL PRIMARY KEY,  
NNAME VARCHAR (32));
```

```
DESC NETWORKS;
```

	Field	Type	Null	Key	Default	Extra
▶	NETWORK_ID	varchar(15)	NO	PRI	NULL	
	NNAME	varchar(32)	YES		NULL	

#Inserting the values into table NETWORKS:

```
INSERT INTO NETWORKS VALUES ("N2585", "FX NETWORKS");
```

```
SELECT * FROM NETWORKS;
```

	NETWORK_ID	NNAME
▶	N345	FX NETWORK...
	NULL	NULL

#Creating table EPISODES:

```
CREATE TABLE EPISODES (  
  EPISODE_ID VARCHAR (32) NOT NULL PRIMARY KEY,  
  TITLE VARCHAR (32),  
  LENGTH INT);
```

```
DESC EPISODES;
```

	Field	Type	Null	Key	Default	Extra
▶	EPISODE_ID	varchar(32)	NO	PRI	NULL	
	TITLE	varchar(32)	YES		NULL	
	LENGTH	int(11)	YES		NULL	

#Inserting the values into table EPISODES:

```
INSERT INTO EPISODES VALUES ("S15E09", "How the Griffin Stole Christmas",  
21.38);
```

```
SELECT * FROM EPISODES;
```

	EPISODE_ID	TITLE	LENGTH
▶	S15E09	How the Griffin Stole Christmas	21
	NULL	NULL	NULL

#Implementing Relational Algebra Operations:

Projection:

```
SELECT MEDIA_ID, GENRE FROM MEDIA WHERE YEAR_RELEASED = 1999;
```

	MEDIA_ID	GENRE
▶	54	ANIMATION

Rename:

```
RENAME TABLE TVSHOWS TO TV_SHOWS;
```

Union:

```
SELECT TITLE FROM EPISODES  
UNION  
SELECT SHOW_NAME FROM TV_SHOWS;
```

	TITLE
►	How the Griffin Stole Christmas
	FAMILY-GUY

Cross-Product:

```
SELECT * FROM TV_SHOWS CROSS JOIN EPISODES;
```

	MEDIA_ID	SHOW_NAME	SEASONS	EPISODE_ID	TITLE	LENGTH
►	54	FAMILY-GUY	15	S15E09	How the Griffin Stole Christmas	21

Natural Join:

```
SELECT * FROM MEDIA NATURAL JOIN EPISODES;
```

	MEDIA_ID	NAME	YEAR_RELEASED	GENRE	EPISODE_ID	TITLE	LENGTH
►	54	FOX	1999	ANIMATION	S15E09	How the Griffin Stole Christmas	21