\*Create Database:

CREATE DATABASE Bookish;

1. **Create Author Table:**

CREATE TABLE Author

(

Author\_ID INT AUTO\_INCREMENT PRIMARY KEY,

Author\_Name VARCHAR(200) NOT NULL,

Birth\_Year INT NOT NULL,

No\_Of\_Books INT NULL,

No\_Of\_Awards INT NULL

);

**INSERT data into Author table:**

INSERT INTO Author VALUES (1, 'Rabindranath Thakur', 1861, 171, 50);

INSERT INTO Author VALUES (2, 'Zahir Raihan', 1935, 8, 5);

INSERT INTO Author VALUES (3, 'Satyajit Ray', 1921, 145, 30);

INSERT INTO Author VALUES (4, 'Sir Arthur Conan Doyle', 1859, 15, 12);

INSERT INTO Author VALUES (5, 'Anthony Mascarenhas', 1928, 3, null);

INSERT INTO Author VALUES (6, 'Jahanara Imam', 1929, 25, 10);

INSERT INTO Author VALUES (7, 'Sufia Kamal', 1911, 10, 3);

INSERT INTO Author VALUES (8, 'Robert Frost', 1874, null, null);

1. **Create Book Table:**

CREATE TABLE Book

(

Book\_No INT AUTO\_INCREMENT PRIMARY KEY,

Book\_Name VARCHAR(200) NOT NULL,

Genre VARCHAR(200) NOT NULL,

Language VARCHAR(200) NOT NULL

);

**Insert data into Book table:**

INSERT INTO Book VALUES (1, 'Shesher Kobita', 'Drama', 'Bangla');

INSERT INTO Book VALUES (2, 'Noukadubi', 'Drama', 'Bangla');

INSERT INTO Book VALUES (3, 'GolpoGuccho', 'Short Stories', 'Bangla');

INSERT INTO Book VALUES (4, 'Chokher Bali', 'Drama', 'Bangla');

INSERT INTO Book VALUES (5, 'Gitanjali', 'Poetry', 'Bangla');

INSERT INTO Book VALUES (6, 'Hajar Bochor Dhore', 'Drama', 'Bangla');

INSERT INTO Book VALUES (7, 'Borof Gola Nodi', 'Drama', 'Bangla');

INSERT INTO Book VALUES (8, 'Shesh Bikeler Meye', 'Drama', 'Bangla');

INSERT INTO Book VALUES (9, 'Shonku Samagra', 'Science Fiction', 'Bangla');

INSERT INTO Book VALUES (10, 'Golpo 101', 'Short Stories', 'Bangla');

INSERT INTO Book VALUES (11, 'Hottyapuri', 'Detective', 'Bangla');

INSERT INTO Book VALUES (12, 'Chinnomostar Ovishap', 'Detective', 'Bangla');

INSERT INTO Book VALUES (13, 'A study in Scarlet', 'Detective', 'English');

INSERT INTO Book VALUES (14, 'The Case-Book of Sherlock Holmes', 'Detective', 'English');

INSERT INTO Book VALUES (15, 'Bangladesh: A Legacy of Blood', 'History', 'English');

INSERT INTO Book VALUES (16, 'Ekattorer Dinguli', 'History', 'Bangla');

INSERT INTO Book VALUES (17, 'Ekattorer Diary', 'History', 'Bangla');

INSERT INTO Book VALUES (18, 'Kobita Somogro', 'Poetry', 'Bangla');

INSERT INTO Book VALUES (19, 'Mountain Interval', 'Poetry', 'English');

1. **Create Characters Table:**

CREATE TABLE Characters

(

Character\_ID INT AUTO\_INCREMENT PRIMARY KEY,

Character\_Name VARCHAR(200) NOT NULL,

Age INT NULL

);

**Insert data into Characters table:**

INSERT INTO Characters VALUES (1, 'Amit Ray', 26);

INSERT INTO Characters VALUES (2, 'KetakI', 22);

INSERT INTO Characters VALUES (3, 'Labanya', 20);

INSERT INTO Characters VALUES (4, 'Ramesh', 27);

INSERT INTO Characters VALUES (5, 'Hemnalini', 24);

INSERT INTO Characters VALUES (6, 'Nalinaksha', 30);

INSERT INTO Characters VALUES (7, 'Kamala', 20);

INSERT INTO Characters VALUES (8, 'Nirupoma', 15);

INSERT INTO Characters VALUES (9, 'Postmaster', 24);

INSERT INTO Characters VALUES (10, 'Ratan', 10);

INSERT INTO Characters VALUES (11, 'Fotik', 10);

INSERT INTO Characters VALUES (12, 'Kadombini', 18);

INSERT INTO Characters VALUES (13, 'Mahendra', 25);

INSERT INTO Characters VALUES (14, 'Binodini', 18);

INSERT INTO Characters VALUES (15, 'Bihari', 23);

INSERT INTO Characters VALUES (16, 'Tuni', 18);

INSERT INTO Characters VALUES (17, 'Montu', 21);

INSERT INTO Characters VALUES (18, 'Mokbul', 45);

INSERT INTO Characters VALUES (19, 'Moriyom', 23);

INSERT INTO Characters VALUES (20, 'Mahmud', 28);

INSERT INTO Characters VALUES (21, 'Kashed', 27);

INSERT INTO Characters VALUES (22, 'Jahanara', 24);

INSERT INTO Characters VALUES (23, 'Professor Shonku', 59);

INSERT INTO Characters VALUES (24, 'Nokur Chandra Biswas', 49);

INSERT INTO Characters VALUES (25, 'Abinash Chandra Majumder', 53);

INSERT INTO Characters VALUES (26, 'Tarini Charan Banerjee', 65);

INSERT INTO Characters VALUES (27, 'Nyapla', 11);

INSERT INTO Characters VALUES (28, 'Bonku Babu', 48);

INSERT INTO Characters VALUES (29, 'Professor Hijibijbij', null);

INSERT INTO Characters VALUES (30, 'Feluda', 26);

INSERT INTO Characters VALUES (31, 'Jotayu', 48);

INSERT INTO Characters VALUES (32, 'Topshe', 16);

INSERT INTO Characters VALUES (33, 'Lakshman Bhattacharya', 35);

INSERT INTO Characters VALUES (34, 'Mahesh Choudhury', 70);

INSERT INTO Characters VALUES (35, 'Sherlock Holmes', 30);

INSERT INTO Characters VALUES (36, 'Dr. Watson', 32);

INSERT INTO Characters VALUES (37, 'Brigham Young', 33);

INSERT INTO Characters VALUES (38, 'Adelbert Gruner', 35);

INSERT INTO Characters VALUES (39, 'Grace Dunbar', 27);

INSERT INTO Characters VALUES (40, 'Rumi', 21);

INSERT INTO Characters VALUES (41, 'Sharif', 40);

1. Book\_Character\_Relationship Table:

CREATE TABLE Book\_Character\_Relationship

(

Character\_ID INT NULL,

Book\_No INT NULL,

CONSTRAINT Book\_Character\_Relationship\_\_fk

FOREIGN KEY (Character\_ID) REFERENCES Characters (Character\_ID),

FOREIGN KEY (Book\_No) REFERENCES Book (Book\_No),

CONSTRAINT CombinePrimaryKey PRIMARY KEY (Character\_ID,Book\_No)

);

**Insert data into Book\_Character\_Relationship:**

INSERT INTO Book\_Character\_Relationship VALUES (1, 1);

INSERT INTO Book\_Character\_Relationship VALUES (2, 1);

INSERT INTO Book\_Character\_Relationship VALUES (3, 1);

INSERT INTO Book\_Character\_Relationship VALUES (4, 2);

INSERT INTO Book\_Character\_Relationship VALUES (5, 2);

INSERT INTO Book\_Character\_Relationship VALUES (6, 2);

INSERT INTO Book\_Character\_Relationship VALUES (7, 2);

INSERT INTO Book\_Character\_Relationship VALUES (8, 3);

INSERT INTO Book\_Character\_Relationship VALUES (9, 3);

INSERT INTO Book\_Character\_Relationship VALUES (10, 3);

INSERT INTO Book\_Character\_Relationship VALUES (11, 3);

INSERT INTO Book\_Character\_Relationship VALUES (12, 3);

INSERT INTO Book\_Character\_Relationship VALUES (13, 4);

INSERT INTO Book\_Character\_Relationship VALUES (14, 4);

INSERT INTO Book\_Character\_Relationship VALUES (15, 4);

INSERT INTO Book\_Character\_Relationship VALUES (16, 6);

INSERT INTO Book\_Character\_Relationship VALUES (17, 6);

INSERT INTO Book\_Character\_Relationship VALUES (18, 6);

INSERT INTO Book\_Character\_Relationship VALUES (19, 7);

INSERT INTO Book\_Character\_Relationship VALUES (20, 7);

INSERT INTO Book\_Character\_Relationship VALUES (21, 8);

INSERT INTO Book\_Character\_Relationship VALUES (22, 8);

INSERT INTO Book\_Character\_Relationship VALUES (23, 9);

INSERT INTO Book\_Character\_Relationship VALUES (24, 9);

INSERT INTO Book\_Character\_Relationship VALUES (25, 9);

INSERT INTO Book\_Character\_Relationship VALUES (26, 10);

INSERT INTO Book\_Character\_Relationship VALUES (27, 10);

INSERT INTO Book\_Character\_Relationship VALUES (28, 10);

INSERT INTO Book\_Character\_Relationship VALUES (29, 10);

INSERT INTO Book\_Character\_Relationship VALUES (30, 11);

INSERT INTO Book\_Character\_Relationship VALUES (31, 11);

INSERT INTO Book\_Character\_Relationship VALUES (32, 11);

INSERT INTO Book\_Character\_Relationship VALUES (33, 11);

INSERT INTO Book\_Character\_Relationship VALUES (30, 12);

INSERT INTO Book\_Character\_Relationship VALUES (31, 12);

INSERT INTO Book\_Character\_Relationship VALUES (32, 12);

INSERT INTO Book\_Character\_Relationship VALUES (34, 12);

INSERT INTO Book\_Character\_Relationship VALUES (35, 13);

INSERT INTO Book\_Character\_Relationship VALUES (36, 13);

INSERT INTO Book\_Character\_Relationship VALUES (37, 13);

INSERT INTO Book\_Character\_Relationship VALUES (35, 14);

INSERT INTO Book\_Character\_Relationship VALUES (36, 14);

INSERT INTO Book\_Character\_Relationship VALUES (38, 14);

INSERT INTO Book\_Character\_Relationship VALUES (39, 14);

INSERT INTO Book\_Character\_Relationship VALUES (40, 16);

INSERT INTO Book\_Character\_Relationship VALUES (41, 16);

1. **Create Publisher Table:**

create table Publisher

(

Publisher\_ID INT AUTO\_INCREMENT PRIMARY KEY,

Publisher\_Name VARCHAR(200) NOT NULL,

Country VARCHAR(200) NOT NULL

);

**Insert data into Publisher Table:**

INSERT INTO Publisher VALUES (1, 'Baatighar', 'Bangladesh');

INSERT INTO Publisher VALUES (2, 'Suchoyoni Publishers', 'Bangladesh');

INSERT INTO Publisher VALUES (3, 'Bishwasahitto Vobon', 'Bangladesh');

INSERT INTO Publisher VALUES (4, 'The Sky Publishers', 'Bangladesh');

INSERT INTO Publisher VALUES (5, 'Muktodhara', 'Bangladesh');

INSERT INTO Publisher VALUES (6, 'Dip Prokason', 'India');

INSERT INTO Publisher VALUES (7, 'Kalantor Prokashani', 'Bangladesh');

INSERT INTO Publisher VALUES (8, 'Anupom Prokashani', 'Bangladesh');

INSERT INTO Publisher VALUES (9, 'Ananda Publishers', 'India');

INSERT INTO Publisher VALUES (10, 'Nowroze Kitabistan', 'Bangladesh');

INSERT INTO Publisher VALUES (11, 'Little Scholarz Books', 'India');

INSERT INTO Publisher VALUES (12, 'Rupa Publications', 'India');

INSERT INTO Publisher VALUES (13, 'Hodder And Stoughton', 'India');

INSERT INTO Publisher VALUES (14, 'Charulipi Prokashon', 'Bangladesh');

INSERT INTO Publisher VALUES (15, 'Sondhani Prokashoni', 'Bangladesh');

INSERT INTO Publisher VALUES (16, 'Hawlder Prokashoni', 'Bangladesh');

INSERT INTO Publisher VALUES (17, 'Henry Holt', 'America');

1. **Create Author\_Book\_Relationship Table:**

CREATE TABLE Author\_Book\_Relationship

(

Book\_No INT NULL,

Author\_ID INT NULL,

CONSTRAINT Author\_Book\_Relationship\_\_fk

FOREIGN KEY (Book\_No) REFERENCES Book (Book\_No),

FOREIGN KEY (Author\_ID) REFERENCES Author (Author\_ID),

CONSTRAINT CombinePrimaryKey PRIMARY KEY(Book\_No,Author\_ID)

);

**Insert data into Author\_Book\_Relationship Table:**

INSERT INTO Author\_Book\_Relationship VALUES (1, 1);

INSERT INTO Author\_Book\_Relationship VALUES (2, 1);

INSERT INTO Author\_Book\_Relationship VALUES (3, 1);

INSERT INTO Author\_Book\_Relationship VALUES (4, 1);

INSERT INTO Author\_Book\_Relationship VALUES (5, 1);

INSERT INTO Author\_Book\_Relationship VALUES (6, 2);

INSERT INTO Author\_Book\_Relationship VALUES (7, 2);

INSERT INTO Author\_Book\_Relationship VALUES (8, 2);

INSERT INTO Author\_Book\_Relationship VALUES (9, 3);

INSERT INTO Author\_Book\_Relationship VALUES (10, 3);

INSERT INTO Author\_Book\_Relationship VALUES (11, 3);

INSERT INTO Author\_Book\_Relationship VALUES (12, 3);

INSERT INTO Author\_Book\_Relationship VALUES (13, 4);

INSERT INTO Author\_Book\_Relationship VALUES (14, 4);

INSERT INTO Author\_Book\_Relationship VALUES (15, 5);

INSERT INTO Author\_Book\_Relationship VALUES (16, 6);

INSERT INTO Author\_Book\_Relationship VALUES (17, 7);

INSERT INTO Author\_Book\_Relationship VALUES (18, 7);

INSERT INTO Author\_Book\_Relationship VALUES (19, 8);

1. Create Book\_Publisher\_Relationship table:

CREATE TABLE Book\_Publisher\_Relationship(

Book\_No int NOT NULL,

Publisher\_ID int NOT null,

Price int NOT null,

No\_of\_Pages int null,

FOREIGN KEY (Book\_No) REFERENCES Book(Book\_No),

FOREIGN KEY (Publisher\_ID) REFERENCES Publisher(Publisher\_ID)

);

Insert data into table:

INSERT into book\_publisher\_relationship VALUES

(1, 1 ,182, 134),

(1 ,2 ,90 ,78),

(2 ,3 ,150, 156),

(2 ,4 ,200 ,193),

(3, 3 ,300 ,720),

(3, 2 ,245, 704),

(3 ,4 ,413 ,668),

(4, 3 ,165, 156),

(4, 5 ,176, 184),

(5, 6, 360, 264),

(5, 7 ,238, 192),

(5 ,4 ,132, 95),

(6 ,8 ,90 ,64),

(7, 8 ,140, 110),

(8, 8 ,114 ,80),

(9, 9, 855, 645),

(10, 9, 1133, 768),

(11, 9, 180, 73),

(11, 10, 123, 79),

(12, 9 ,180, 90),

(12, 10, 90, 80),

(13, 11 ,233 ,120),

(14, 12, 270, 217),

(15, 13, 450, 186),

(16, 14, 298, 312),

(16, 15 ,255, 300),

(17 ,16 ,225, 208),

(18, 16, 375, 301),

(19, 17 ,390, null),

(6,15,123,90),

(7,15,150,112),

(8,14,165,100),

(13,13,255,150),

(17,12,238,205);

Update character table:

UPDATE characters SET Age=20 WHERE Character\_ID=17;

UPDATE characters SET Age=49 WHERE Character\_ID=18;

UPDATE characters SET Age=49 WHERE Character\_ID=28;

UPDATE characters SET Age=21 WHERE Character\_ID=30;

2.0:

SELECT book.Book\_Name,book.Genre FROM book WHERE Language='Bangla';

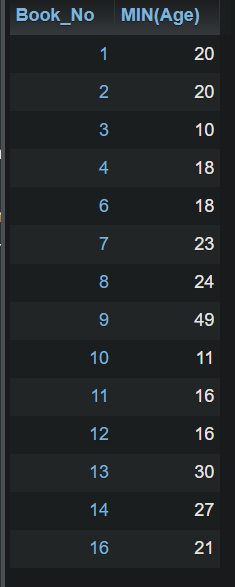
Output:



2.1:

SELECT Book\_No,MIN(Age) FROM book\_character\_relationship,characters WHERE book\_character\_relationship.Character\_ID=characters.Character\_ID GROUP BY Book\_No;

Output:



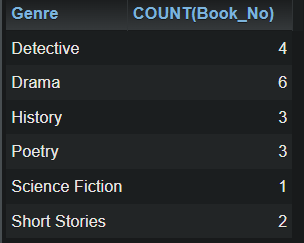
2.2:

SELECT Book\_Name,characters.Character\_Name,MIN(characters.Age) FROM book LEFT JOIN book\_character\_relationship ON book.Book\_No=book\_character\_relationship.Book\_No LEFT JOIN characters ON book\_character\_relationship.Character\_ID=characters.Character\_ID GROUP BY book\_character\_relationship.Book\_No;

Output:



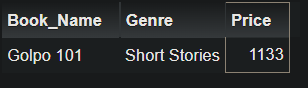
17.2(iii): Query: SELECT DISTINCT Genre,COUNT(Book\_No) FROM book GROUP BY Genre;



17.2(iv):

Query: SELECT Book\_Name,Genre,Price FROM book\_publisher\_relationship,book WHERE book\_publisher\_relationship.Book\_No=book.Book\_No AND book\_publisher\_relationship.Price=(SELECT MAX(Price) FROM book\_publisher\_relationship);

Ouput:



[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) book.Book\_Name, book.Genre, Table1.Price FROM ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) Genre, [MAX](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_max)(Price) AS Price from Book\_Publisher\_Relationship JOIN book WHERE book.Book\_No = Book\_Publisher\_Relationship.Book\_No GROUP BY Genre) as Table1 JOIN Book\_Publisher\_Relationship JOIN book WHERE Table1.Price = Book\_Publisher\_Relationship.Price [AND](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_and) Table1.Genre = book.Genre [AND](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_and) Book\_Publisher\_Relationship.Book\_No = book.Book\_No;