**Building the DataBase, tables and entering the data:**

/\*Creating the database\*/

CREATE DATABASE Library;

/\*Creating the Author Table \*/

CREATE TABLE AUTHOR(

AuthorID int PRIMARY KEY,

AuthorFirstName VARCHAR(30),

AuthorLastName VARCHAR(30),

AuthorNationality VARCHAR(30)

);

/\*Inseting values into the columns of Author table\*/

INSERT INTO AUTHOR (AuthorID, AuthorFirstName, AuthorLastName, AuthorNationality)

VALUES ('1', 'Sofia', 'Smith', 'Canada'),

('2', 'Maria', 'Brown', 'Brazil'),

('3', 'Elena', 'Martin', 'Mexico'),

('4', 'Zoe', 'Roy', 'France'),

('5', 'Sebastian', 'Lavoie', 'Canada'),

('6', 'Dylan', 'Garcia', 'Spain'),

('7', 'Ian', 'Cruz', 'Mexico'),

('8', 'Lucas', 'Smith', 'USA'),

('9', 'Fabian', 'Wilson', 'USA'),

('10', 'Liam', 'Taylor', 'Canada'),

('11', 'William', 'Thomas', 'Great Britain'),

('12', 'Logan', 'Moore', 'Canada'),

('13', 'Oliver', 'Martin', 'France'),

('14', 'Alysha', 'Thompson', 'Canada'),

('15', 'Isabelle', 'Lee', 'Canada'),

('16', 'Emily', 'Clark', 'USA'),

('17', 'John', 'Young', 'China'),

('18', 'David', 'Wright', 'Canada'),

('19', 'Thomas', 'Scott', 'Canada'),

('20', 'Helena', 'Adams', 'Canada'),

('21', 'Sofia', 'Carter', 'USA'),

('22', 'Liam', 'Parker', 'Canada'),

('23', 'Emily', 'Murphy', 'USA' );

/\*Creating the Book Table \*/

CREATE TABLE BOOK(

BookID INT Primary KEY,

BookTitle VARCHAR(100),

AuthorID INT,

Genre VARCHAR(50)

);

/\*Inserting the values into the book table \*/

INSERT INTO BOOK(BookID, BookTitle, AuthorID, Genre)

VALUES('1', 'Build your database system', '1', 'Science'),

('2', 'The red wall', '2', 'Fiction'),

('3', 'The perfect match', '3', 'Fiction'),

('4', 'Digital Logic', '4', 'Science'),

('5', 'How to be a great lawyer', '5', 'Law'),

('6', 'Manage successful negotiations', '6', 'Society'),

('7', 'Pollution today', '7', 'Science'),

('8', 'A gray park', '2', 'Fiction'),

('9', 'How to be rich in one year', '8', 'Humor'),

('10', 'Their bright fate', '9', 'Fiction'),

('11', 'Black lines', '10', 'Fiction'),

('12', 'History of theater', '11', 'Literature'),

('13', 'Electrical transformers', '12', 'Science'),

('14', 'Build your big data system', '1', 'Science'),

('15', 'Right and left', '13', 'Children'),

('16', 'Programming using Python', '1', 'Science'),

('17', 'Computer networks', '14', 'Science'),

('18', 'Performance evaluation', '15', 'Science'),

('19', 'Daily exercise', '16', 'Well being'),

('20', 'The silver uniform', '17', 'Fiction'),

('21', 'Industrial revolution', '18', 'History'),

('22', 'Green nature', '19', 'Well being'),

('23', 'Perfect football', '20', 'Well being'),

('24', 'The chocolate love', '21', 'Humor'),

('25', 'Director and leader', '22', 'Society'),

('26', 'Play football every week', '20', 'well being'),

('27', 'Maya the bee', '13', 'Children'),

('28', 'Perfect rugby', '20', 'Well being'),

('29', 'The end', '23', 'Fiction'),

('30', 'Computer security', '1', 'Science'),

('31', 'Participate', '22', 'Society'),

('32', 'Positive figures', '3', 'Fiction');

/\* Creating the Client table \*/

CREATE TABLE CLIENT(

ClientID INT PRIMARY KEY,

ClientFirstName VARCHAR(40),

ClientLastName VARCHAR(40),

ClientDOB INT,

Occupation VARCHAR(50)

);

/\* Inserting data into Client table \*/

INSERT INTO CLIENT(ClientID, ClientFirstName, CLientLastName, ClientDOB, Occupation)

VALUES('1', 'Kaiden', 'Hill', '2006', 'Student'),

('2', 'Alina', 'Morton', '2010', 'Student'),

('3', 'Fania', 'Brooks', '1983', 'Food Scientist'),

('4', 'Courtney', 'Jensen', '2006', 'Student'),

('5', 'Brittany', 'Hill', '1983', 'Firefighter'),

('6', 'Max', 'Rogers', '2005', 'Student'),

('7', 'Margaret', 'McCarthy', '1981', 'School Psychologist'),

('8', 'Julie', 'McCarthy', '1973', 'Professor'),

('9', 'Ken', 'McCarthy', '1974', 'Securities Clerk'),

('10', 'Britany', 'OQuinn', '1984', 'Violinist'),

('11', 'Conner', 'Gardner', '1998', 'Licensed Massage Therapist'),

('12', 'Mya', 'Austin', '1960', 'Parquet Floor Layer'),

('13', 'Thierry', 'Rogers', '2004', 'Student'),

('14', 'Eloise', 'Rogers', '1984', 'Computer Security Manager'),

('15', 'Gerard', 'Jackson', '1979', 'Oil Exploration Engineer'),

('16', 'Randy', 'Day', '1986', 'Aircraft Electrician'),

('17', 'Jodie', 'Page', '1990', 'Manufacturing Director'),

('18', 'Coral', 'Rice', '1996', 'Window Washer'),

('19', 'Ayman', 'Austin', '2002', 'Student'),

('20', 'Jaxson', 'Austin', '1999', 'Repair Worker'),

('21', 'Joel', 'Austin', '1973', 'Police Officer'),

('22', 'Alina', 'Austin', '2010', 'Student'),

('23', 'Elin', 'Austin', '1962', 'Payroll Clerk'),

('24', 'Ophelia', 'Wolf', '2004', 'Student'),

('25', 'Eliot', 'McGuire', '1967', 'Dentist'),

('26', 'Peter', 'McKinney', '1968', 'Professor'),

('27', 'Annabella', 'Henry', '1974', 'Nurse'),

('28', 'Anastasia', 'Baker', '2001', 'Student'),

('29', 'Tyler', 'Baker', '1984', 'Police Officer'),

('30', 'Lilian', 'Ross', '1983', 'Insurance Agent'),

('31', 'Thierry', 'Arnold', '1975', 'Bus Driver'),

('32', 'Angelina', 'Rowe', '1979', 'Firefighter'),

('33', 'Marcia', 'Rowe', '1974', 'Health Educator'),

('34', 'Martin', 'Rowe', '1976', 'Ship Engineer'),

('35', 'Adeline', 'Rowe', '2005', 'Student'),

('36', 'Colette', 'Rowe', '1963', 'Professor'),

('37', 'Diane', 'Clark', '1975', 'Payroll Clerk'),

('38', 'Caroline', 'Clark', '1960', 'Dentist'),

('39', 'Dalton', 'Clayton', '1982', 'Police Officer'),

('40', 'Steve', 'Clayton', '1990', 'Bus Driver'),

('41', 'Melanie', 'Clayton', '1987', 'Computer Engineer'),

('42', 'Alana', 'Wilson', '2007', 'Student'),

('43', 'Carson', 'Byrne', '1995', 'Food Scientist'),

('44', 'Conrad', 'Byrne', '2007', 'Student'),

('45', 'Ryan', 'Porter', '2008', 'Student'),

('46', 'Elin', 'Porter', '1978', 'Computer Programmer'),

('47', 'Tyler', 'Harvey', '2007', 'Student'),

('48', 'Arya', 'Harvey', '2008', 'Student'),

('49', 'Serena', 'Harvey', '1978', 'School Teacher'),

('50', 'Lilly', 'Franklin', '1976', 'Doctor'),

('51', 'Mai', 'Franklin', '1994', 'Dentist'),

('52', 'John', 'Franklin', '1999', 'Firefighter'),

('53', 'Judy', 'Franklin', '1995', 'Firefighter'),

('54', 'Katy', 'Lloyd', '1992', 'School Teacher'),

('55', 'Tamara', 'Allen', '1963', 'Ship Engineer'),

('56', 'Maxim', 'Lyons', '1985', 'Police Officer'),

('57', 'Allan', 'Lyons', '1983', 'Computer Engineer'),

('58', 'Marc', 'Harris', '1980', 'School Teacher'),

('59', 'Elin', 'Young', '2009', 'Student'),

('60', 'Diana', 'Young', '2008', 'Student'),

('61', 'Diane', 'Young', '2006', 'Student'),

('62', 'Alana', 'Bird', '2003', 'Student'),

('63', 'Anna', 'Becker', '1979', 'Security' 'Agent'),

('64', 'Katie', 'Grant', '1977', 'Manager'),

('65', 'Joan', 'Grant', '2010', 'Student'),

('66', 'Bryan', 'Bell', '2001', 'Student'),

('67', 'Belle', 'Miller', '1970', 'Professor'),

('68', 'Peggy', 'Stevens', '1990', 'Bus Driver'),

('69', 'Steve', 'Williamson', '1975', 'HR Clerk'),

('70', 'Tyler', 'Williamson', '1999', 'Doctor'),

('71', 'Izabelle', 'Williamson', '1990', 'Systems Analyst'),

('72', 'Annabel', 'Williamson', '1960', 'Cashier'),

('73', 'Mohamed', 'Waters', '1966', 'Insurance Agent'),

('74', 'Marion', 'Newman', '1970', 'Computer Programmer'),

('75', 'Ada', 'Williams', '1986', 'Computer Programmer'),

('76', 'Sean', 'Scott', '1983', 'Bus Driver'),

('77', 'Farrah', 'Scott', '1974', 'Ship Engineer'),

('78', 'Christine', 'Lambert', '1973', 'School Teacher'),

('79', 'Alysha', 'Lambert', '2007', 'Student'),

('80', 'Maia', 'Grant', '1984', 'School Teacher');

/\* Creating Borrower table \*/

CREATE TABLE BORROWER(

BorrowerID INT PRIMARY KEY,

ClientID INT,

BookID INT,

BorrowDate DATE);

/\* Inserting data into Borrower table \*/

INSERT INTO BORROWER (BorrowerID, ClientID, BookID, BorrowDate)

VALUES

(1, 35, 17, '2016-07-20'),

(2, 1, 3, '2017-04-19'),

(3, 42, 8, '2016-10-03'),

(4, 62, 16, '2016-04-05'),

(5, 53, 13, '2017-01-17'),

(6, 33, 15, '2015-11-26'),

(7, 40, 14, '2015-01-21'),

(8, 64, 2, '2017-09-10'),

(9, 56, 30, '2017-08-02'),

(10, 23, 2, '2018-06-28'),

(11, 46, 19, '2015-11-18'),

(12, 61, 20, '2015-11-24'),

(13, 58, 7, '2017-06-17'),

(14, 46, 16, '2017-02-12'),

(15, 80, 21, '2018-03-18'),

(16, 51, 23, '2015-09-01'),

(17, 49, 18, '2015-07-28'),

(18, 43, 18, '2015-11-04'),

(19, 30, 2, '2018-08-10'),

(20, 48, 24, '2015-05-13'),

(21, 71, 5, '2016-09-05'),

(22, 35, 3, '2016-07-03'),

(23, 57, 1, '2015-03-17'),

(24, 23, 25, '2017-08-16'),

(25, 20, 12, '2018-07-24'),

(26, 25, 7, '2015-01-31'),

(27, 72, 29, '2016-04-10'),

(28, 74, 20, '2017-07-31'),

(29, 53, 14, '2016-02-20'),

(30, 32, 10, '2017-07-24'),

(31, 12, 15, '2018-04-25'),

(32, 77, 13, '2017-06-09'),

(33, 30, 4, '2017-10-24'),

(34, 37, 24, '2016-01-14'),

(35, 27, 26, '2017-06-05'),

(36, 1, 16, '2018-05-06'),

(37, 21, 9, '2016-03-19'),

(38, 69, 28, '2017-03-29'),

(39, 17, 19, '2017-03-14'),

(40, 8, 9, '2016-04-22'),

(41, 63, 18, '2015-01-25'),

(42, 65, 20, '2016-10-10'),

(43, 51, 19, '2015-07-28'),

(44, 23, 12, '2017-01-25'),

(45, 17, 4, '2017-04-18'),

(46, 68, 5, '2016-09-06'),

(47, 46, 13, '2017-09-30'),

(48, 15, 13, '2017-07-05'),

(49, 11, 19, '2017-12-14'),

(50, 78, 15, '2017-01-26'),

(51, 47, 9, '2015-03-03'),

(52, 68, 7, '2016-05-26'),

(53, 37, 26, '2017-02-06'),

(54, 48, 27, '2015-12-30'),

(55, 9, 21, '2017-10-21'),

(56, 29, 8, '2018-04-01'),

(57, 64, 18, '2017-08-29'),

(58, 61, 26, '2018-02-21'),

(59, 39, 28, '2016-07-26'),

(60, 73, 18, '2018-08-22'),

(61, 11, 13, '2018-01-17'),

(62, 45, 6, '2016-07-20'),

(63, 33, 13, '2018-03-18'),

(64, 10, 17, '2016-06-06'),

(65, 28, 18, '2017-02-17'),

(66, 51, 3, '2016-12-09'),

(67, 29, 2, '2015-09-18'),

(68, 28, 30, '2017-09-14'),

(69, 74, 20, '2015-12-12'),

(70, 15, 22, '2015-01-14'),

(71, 57, 8, '2017-08-20'),

(72, 2, 5, '2015-01-18'),

(73, 74, 12, '2018-04-14'),

(74, 51, 10, '2016-02-25'),

(75, 25, 17, '2015-02-24'),

(76, 45, 21, '2017-02-10'),

(77, 27, 25, '2016-08-03'),

(78, 32, 28, '2016-06-15'),

(79, 71, 21, '2017-05-21'),

(80, 75, 26, '2016-05-03'),

(81, 56, 32, '2015-12-23'),

(82, 26, 32, '2015-05-16'),

(83, 66, 32, '2015-05-30'),

(84, 57, 18, '2017-09-15'),

(85, 40, 15, '2016-09-02'),

(86, 65, 4, '2017-08-17'),

(87, 54, 7, '2015-12-19'),

(88, 29, 4, '2017-07-22'),

(89, 44, 9, '2017-12-31'),

(90, 56, 31, '2015-06-13'),

(91, 17, 4, '2015-04-01'),

(92, 35, 16, '2018-07-19'),

(93, 22, 18, '2017-06-22'),

(94, 39, 24, '2015-05-29'),

(95, 63, 14, '2018-01-20'),

(96, 53, 21, '2016-07-31'),

(97, 40, 9, '2016-07-10'),

(98, 52, 4, '2017-04-05'),

(99, 27, 20, '2016-09-04'),

(100, 72, 29, '2015-12-06'),

(101, 49, 16, '2017-12-19'),

(102, 6, 12, '2016-12-04'),

(103, 74, 31, '2016-07-27'),

(104, 48, 32, '2016-06-29'),

(105, 69, 2, '2016-12-27'),

(106, 60, 32, '2017-10-29'),

(107, 45, 22, '2017-06-12'),

(108, 42, 15, '2017-05-14'),

(109, 79, 8, '2016-10-13'),

(110, 70, 18, '2016-12-04'),

(111, 34, 8, '2016-03-06'),

(112, 43, 8, '2015-12-19'),

(113, 42, 32, '2016-04-20'),

(114, 67, 5, '2017-03-06'),

(115, 80, 25, '2015-06-23'),

(116, 54, 11, '2017-05-03'),

(117, 34, 28, '2017-08-30'),

(118, 65, 20, '2017-08-26'),

(119, 61, 19, '2018-01-05'),

(120, 38, 12, '2018-01-17'),

(121, 51, 4, '2016-05-13'),

(122, 7, 16, '2016-03-17'),

(123, 46, 16, '2016-11-25'),

(124, 75, 30, '2018-08-12'),

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(126, 44, 17, '2015-06-15'),

(127, 68, 15, '2016-02-21'),

(128, 21, 1, '2016-06-19'),

(129, 14, 25, '2016-10-10'),

(130, 68, 21, '2016-05-27'),

(131, 35, 20, '2015-03-19'),

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(133, 79, 31, '2018-03-07'),

(134, 14, 17, '2018-04-28'),

(135, 29, 28, '2018-03-11'),

(136, 41, 4, '2018-08-08'),

(137, 42, 3, '2016-02-23'),

(138, 45, 3, '2017-07-10'),

(139, 36, 16, '2018-07-19'),

(140, 36, 30, '2015-08-07'),

(141, 54, 32, '2018-03-14'),

(142, 61, 15, '2017-03-28'),

(143, 1, 13, '2018-05-17'),

(144, 43, 1, '2015-05-14'),

(145, 37, 14, '2015-07-30'),

(146, 62, 17, '2015-09-19'),

(147, 50, 22, '2016-12-02'),

(148, 45, 1, '2016-07-24'),

(149, 32, 17, '2018-03-10'),

(150, 13, 28, '2016-02-14'),

(151, 15, 9, '2018-08-11'),

(152, 10, 19, '2018-08-29'),

(153, 66, 3, '2016-11-27'),

(154, 68, 29, '2017-07-12'),

(155, 21, 14, '2018-06-27'),

(156, 35, 9, '2016-01-22'),

(157, 17, 24, '2016-08-25'),

(158, 40, 21, '2015-07-09'),

(159, 1, 24, '2016-03-28'),

(160, 70, 27, '2015-07-10'),

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(167, 40, 8, '2017-10-02'),

(168, 68, 9, '2016-01-03'),

(169, 32, 5, '2016-11-13'),

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(172, 80, 30, '2016-10-13'),

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(175, 78, 12, '2018-06-27'),

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(182, 70, 13, '2016-09-16'),

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(184, 45, 12, '2017-10-12'),

(185, 30, 27, '2016-11-23'),

(186, 26, 3, '2016-08-13'),

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(188, 47, 15, '2016-02-10'),

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(196, 14, 13, '2018-05-23'),

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(199, 69, 30, '2017-04-29'),

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(203, 16, 8, '2017-05-06'),

(204, 41, 20, '2015-09-09'),

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(207, 54, 9, '2016-10-27'),

(208, 46, 20, '2016-01-09'),

(209, 53, 15, '2016-04-02'),

(210, 32, 9, '2016-03-22'),

(211, 78, 5, '2016-11-07'),

(212, 38, 25, '2018-07-14'),

(213, 49, 26, '2017-03-24'),

(214, 14, 30, '2017-08-12'),

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(216, 38, 23, '2016-04-27'),

(217, 18, 17, '2015-04-22'),

(218, 65, 14, '2016-12-12'),

(219, 62, 31, '2017-03-29'),

(220, 14, 18, '2017-12-09'),

(221, 78, 12, '2017-02-24'),

(222, 27, 8, '2017-08-21'),

(223, 18, 23, '2016-08-14'),

(224, 54, 1, '2017-02-23'),

(225, 9, 11, '2015-11-01'),

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(228, 16, 23, '2016-05-13'),

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(238, 25, 21, '2018-07-02'),

(239, 59, 25, '2018-02-12'),

(240, 51, 19, '2016-12-15'),

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(242, 71, 21, '2016-03-31'),

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(244, 58, 12, '2017-12-08'),

(245, 79, 20, '2016-09-14'),

(246, 29, 15, '2016-11-18'),

(247, 32, 14, '2018-02-05'),

(248, 24, 9, '2015-07-21'),

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(252, 60, 14, '2017-10-12'),

(253, 28, 18, '2017-03-19'),

(254, 76, 1, '2017-07-04'),

(255, 38, 26, '2015-08-10'),

(256, 23, 20, '2018-06-03'),

(257, 54, 11, '2017-11-27'),

(258, 20, 13, '2017-07-19'),

(259, 51, 2, '2018-07-25'),

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(262, 18, 22, '2017-06-29'),

(263, 12, 13, '2016-04-01'),

(264, 28, 11, '2016-12-13'),

(265, 41, 25, '2016-06-07'),

(266, 61, 21, '2018-05-29'),

(267, 18, 31, '2017-02-26'),

(268, 58, 9, '2016-12-29'),

(269, 59, 24, '2016-09-21'),

(270, 41, 26, '2016-08-24'),

(271, 13, 8, '2018-02-09'),

(272, 27, 4, '2016-11-30'),

(273, 54, 8, '2017-03-05'),

(274, 21, 24, '2016-06-29'),

(275, 77, 14, '2017-08-01'),

(276, 71, 9, '2017-01-15'),

(277, 62, 26, '2017-10-27'),

(278, 64, 23, '2016-07-26'),

(279, 47, 1, '2015-11-13'),

(280, 22, 11, '2015-05-19'),

(281, 77, 17, '2017-11-05'),

(282, 52, 24, '2017-02-02'),

(283, 63, 21, '2015-08-08'),

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(285, 78, 19, '2015-08-31'),

(286, 32, 10, '2017-08-27'),

(287, 73, 30, '2016-01-25'),

(288, 70, 17, '2017-06-18'),

(289, 68, 11, '2018-05-04'),

(290, 53, 31, '2015-06-17'),

(291, 15, 10, '2017-02-11'),

(292, 58, 15, '2016-10-08'),

(293, 71, 11, '2016-01-14'),

(294, 45, 27, '2017-11-03'),

(295, 51, 17, '2016-02-17'),

(296, 29, 17, '2016-07-10'),

(297, 79, 3, '2016-06-13'),

(298, 16, 21, '2017-07-16'),

(299, 17, 30, '2017-08-31'),

(300, 39, 10, '2015-06-02');

**Queries to retrieve the data:**

/\*1.Display all contents of the Clients table \*/

SELECT \*

FROM Client;

/\*2.First names, last names, ages and occupations of all clients\*/

SELECT ClientFirstName, ClientLastName, ClientDOB, Occupation

FROM Client;

/\*3.First and last names of clients that borrowed books in March 2018\*/

SELECT client.ClientFirstName, client.ClientLastName

FROM client

JOIN borrower ON client.ClientID = borrower.ClientID

WHERE MONTH(borrower.BorrowDate) = 3 AND YEAR(borrower.BorrowDate) = 2018;

/\*4.First and last names of the top 5 authors clients borrowed in 2017\*/

SELECT Author.AuthorFirstName, Author.AuthorLastName

FROM Author

JOIN BOOK ON Author.AuthorID = Book.AuthorID

JOIN Borrower on BOOK.BookID = BORROWER.BookID

WHERE YEAR(borrower.BorrowDate) = 2017

GROUP BY author.AuthorID

LIMIT 5

;

/\*5.Nationalities of the least 5 authors that clients borrowed during the years 2015-2017\*/

SELECT Author.AuthorNationality

FROM Author

JOIN BOOK on Author.AuthorID = Book.AuthorID

JOIN Borrower on BOOK.BookID = Borrower.BookID

WHERE YEAR(borrower.BorrowDate) BETWEEN '2015' AND '2017'

GROUP BY Author.AuthorNationality

ORDER BY COUNT(\*) ASC

LIMIT 5;

;

/\*6.The book that was most borrowed during the years 2015-2017\*/

SELECT BOOK.BookTitle, COUNT(\*) AS BorrowCount

FROM BOOK

JOIN borrower ON BOOK.BookID = BOrrower.BookID

WHERE YEAR(borrower.BorrowDate) BETWEEN '2015' AND '2017'

GROUp BY BOOK.BookTitle

ORDER BY BorrowCount DESC

LIMIT 5;

/\*7.Top borrowed genres for client born in years 1970-1980\*/

SELECT BOOK.Genre, COUNT(\*) AS TopGenre

FROM BOOK

JOIN BORROWER on BOOK.BookID = BORROWER.BookID

JOIN CLIENT ON BORROWER.ClientID = CLIENT.ClientID

WHERE (CLIENT.ClientDOB) BETWEEN '1970' AND '1980'

GROUP BY BOOK.GENRE

ORDER BY TopGenre DESC;

/\*8.Top 5 occupations that borrowed the most in 2016\*/

SELECT Client.Occupation, COUNT(\*) AS TopOccupation

FROM CLIENT

JOIN borrower ON CLIENT.ClientID = borrower.ClientID

WHERE (Borrower.BorrowDate) BETWEEN '2016-01-01' AND '2016-12-31'

GROUP BY Client.Occupation

ORDER BY TopOccupation DESC

LIMIT 5;

/\*9.Average number of borrowed books by job title\*/

SELECT Occupation, AVG(total\_books) AS average\_borrowed\_books

FROM (

SELECT client.Occupation, COUNT(\*) AS total\_books

FROM client

JOIN Borrower ON client.ClientID = Borrower.ClientID

GROUP BY client.Occupation, Borrower.ClientID

) AS subquery

GROUP BY Occupation;

/\*10.Create a VIEW and display the titles that were borrowed by at least 20% of clients\*/

CREATE VIEW MostBorrowedTitles1 AS

SELECT Book.BookTitle, COUNT(DISTINCT ClientID) AS TotalClients

FROM Book

JOIN Borrower ON Borrower.BookID = Book.BookID

GROUP BY BookTitle

HAVING (COUNT(DISTINCT ClientID) / (SELECT COUNT(DISTINCT ClientID) FROM Borrower)) >= 0.2;

SELECT \* FROM MostBorrowedTitles1;

/\*11.The top month of borrows in 2017\*/

SELECT MONTH(BorrowDate) AS BorrowMonth, COUNT(\*) AS BorrowCount

FROM Borrower

WHERE YEAR(BorrowDate) = 2017

GROUP BY MONTH(BorrowDate)

ORDER BY COUNT(\*) DESC

LIMIT 1;

/\*12.Average number of borrows by age\*/

SELECT Client.ClientDOB, AVG(BorrowerID) AS AverageBorrows

FROM Client

JOIN Borrower ON Client.ClientID = Borrower.ClientID

GROUP BY ClientDOB;

/\*13.The oldest and the youngest clients of the library\*/

SELECT ClientFirstName, ClientLastName, ClientDOB

FROM Client

ORDER BY CLIENTDOB ASC

LIMIT 1;

SELECT ClientFirstName, ClientLastName, ClientDOB

FROM Client

ORDER BY CLIENTDOB DESC

LIMIT 1;

/\*14.First and last names of authors that wrote books in more than one genre\*/

SELECT Client.ClientFirstName, Client.ClientLastName, BOOK.Genre, COUNT(\*) AS GenreCount

FROM Client

JOIN Borrower ON Client.ClientID = Borrower.ClientID

JOIN BOOK ON BOOK.BookID = Borrower.BookID

GROUP BY Client.ClientFirstName, Client.ClientLastName, BOOK.Genre

HAVING COUNT(\*) > 1;