About this Assignment

This is a Database Programming course. This course covers advanced topics in databases. It starts by reviewing basic knowledge on databases and ends with advanced database concepts like security.

In this project, you will use the knowledge you acquired throughout the course to build a simple database and query it to extract information from it. You will create tables and relationships among them, in addition to the necessary keys and indexes. The next step will be to populate the database with suitable data. Populating the tables with sufficient and appropriate example data is an important step in testing and validating your design. When your database is ready, you will write SQL queries to retrieve information.

Upon completion of this project, you will be able to:

* Write SQL queries to create tables
* Write SQL queries to create relationships among tables
* Identify indexes and create them in a database
* Write queries to extract important information from a database

Prompt

In this project you will build a database for a public library. This database is aimed to collect and analyze information about the clients' reading interests. The project concentrates only on books and the clients' interests in books. The analyses that will result from this project will be used by the library's management to decide on the future purchasing policy.

A. Write the SQL statements in order to create the tables for the database. Use the Entity Relationship Diagram (ERD) of the database shown in Figure 1. For simplicity, we are assuming in this project that a book cannot be written by more than one author. You need to create the tables as well as the required constraints, including the keys (primary and foreign), and the relationships between tables.

Figure 1: ERD for Library Database

|  |
| --- |
| ERD diagram |

B. Populate your database with the sample set of data given to you in the tables below the assignment prompts.

C. Write the following queries to retrieve the information detailed below.

1. Display all contents of the Clients table
2. First names, last names, ages and occupations of all clients
3. First and last names of clients that borrowed books in March 2018
4. First and last names of the top 5 authors clients borrowed in 2017
5. Least 5 author nationalities clients borrowed during the years 2015-2017
6. The book that was most borrowed during the years 2015-2017
7. Top borrowed genres for client born in years 1970-1980
8. Top 5 occupations that borrowed the most in 2016
9. Average number of borrowed books by job title
10. Create a VIEW and display the titles that were borrowed by at least 20% of clients
11. The top month of borrows in 2017
12. Average number of borrows by age
13. The oldest and the youngest clients of the library
14. First and last names of authors that wrote books in more than one genre

As you work on these queries, create indexes that will increase your queries' performance.

You must include comments in your code that address the purpose of your query and explains each step. Save your queries and results in a plain-text file that you will submit as your assignment.

Author table:

|  |  |  |  |
| --- | --- | --- | --- |
| **AuthorId** | **AuthorFirstName** | **AuthorLastName** | **AuthorNationality** |
| 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 |

Book table:

|  |  |  |  |
| --- | --- | --- | --- |
| **BookID** | **BookTitle** | **BookAuthor** | **Genre** |
| 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 |

Client table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ClientId** | **ClientFirstName** | **ClientLastName** | **ClientDoB** | **Occupation** |
| 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 | O'Quinn | 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 |

Borrower table:

|  |  |  |  |
| --- | --- | --- | --- |
| **BorrowId** | **ClientId** | **BookId** | **BorrowDate** |
| 1 | 35 | 17 | 20/07/2016 |
| 2 | 1 | 3 | 19/04/2017 |
| 3 | 42 | 8 | 03/10/2016 |
| 4 | 62 | 16 | 05/04/2016 |
| 5 | 53 | 13 | 17/01/2017 |
| 6 | 33 | 15 | 26/11/2015 |
| 7 | 40 | 14 | 21/01/2015 |
| 8 | 64 | 2 | 10/09/2017 |
| 9 | 56 | 30 | 02/08/2017 |
| 10 | 23 | 2 | 28/06/2018 |
| 11 | 46 | 19 | 18/11/2015 |
| 12 | 61 | 20 | 24/11/2015 |
| 13 | 58 | 7 | 17/06/2017 |
| 14 | 46 | 16 | 12/02/2017 |
| 15 | 80 | 21 | 18/03/2018 |
| 16 | 51 | 23 | 01/09/2015 |
| 17 | 49 | 18 | 28/07/2015 |
| 18 | 43 | 18 | 04/11/2015 |
| 19 | 30 | 2 | 10/08/2018 |
| 20 | 48 | 24 | 13/05/2015 |
| 21 | 71 | 5 | 05/09/2016 |
| 22 | 35 | 3 | 03/07/2016 |
| 23 | 57 | 1 | 17/03/2015 |
| 24 | 23 | 25 | 16/08/2017 |
| 25 | 20 | 12 | 24/07/2018 |
| 26 | 25 | 7 | 31/01/2015 |
| 27 | 72 | 29 | 10/04/2016 |
| 28 | 74 | 20 | 31/07/2017 |
| 29 | 53 | 14 | 20/02/2016 |
| 30 | 32 | 10 | 24/07/2017 |
| 31 | 12 | 15 | 25/04/2018 |
| 32 | 77 | 13 | 09/06/2017 |
| 33 | 30 | 4 | 24/10/2017 |
| 34 | 37 | 24 | 14/01/2016 |
| 35 | 27 | 26 | 05/06/2017 |
| 36 | 1 | 16 | 06/05/2018 |
| 37 | 21 | 9 | 19/03/2016 |
| 38 | 69 | 28 | 29/03/2017 |
| 39 | 17 | 19 | 14/03/2017 |
| 40 | 8 | 9 | 22/04/2016 |
| 41 | 63 | 18 | 25/01/2015 |
| 42 | 65 | 20 | 10/10/2016 |
| 43 | 51 | 19 | 28/07/2015 |
| 44 | 23 | 12 | 25/01/2017 |
| 45 | 17 | 4 | 18/04/2017 |
| 46 | 68 | 5 | 06/09/2016 |
| 47 | 46 | 13 | 30/09/2017 |
| 48 | 15 | 13 | 05/07/2017 |
| 49 | 11 | 19 | 14/12/2017 |
| 50 | 78 | 15 | 26/01/2017 |
| 51 | 47 | 9 | 03/03/2015 |
| 52 | 68 | 7 | 26/05/2016 |
| 53 | 37 | 26 | 06/02/2017 |
| 54 | 48 | 27 | 30/12/2015 |
| 55 | 9 | 21 | 21/10/2017 |
| 56 | 29 | 8 | 01/04/2018 |
| 57 | 64 | 18 | 29/08/2017 |
| 58 | 61 | 26 | 21/02/2018 |
| 59 | 39 | 28 | 26/07/2016 |
| 60 | 73 | 18 | 22/08/2018 |
| 61 | 11 | 13 | 17/01/2018 |
| 62 | 45 | 6 | 20/07/2016 |
| 63 | 33 | 13 | 18/03/2018 |
| 64 | 10 | 17 | 06/06/2016 |
| 65 | 28 | 18 | 17/02/2017 |
| 66 | 51 | 3 | 09/12/2016 |
| 67 | 29 | 2 | 18/09/2015 |
| 68 | 28 | 30 | 14/09/2017 |
| 69 | 74 | 20 | 12/12/2015 |
| 70 | 15 | 22 | 14/01/2015 |
| 71 | 57 | 8 | 20/08/2017 |
| 72 | 2 | 5 | 18/01/2015 |
| 73 | 74 | 12 | 14/04/2018 |
| 74 | 51 | 10 | 25/02/2016 |
| 75 | 25 | 17 | 24/02/2015 |
| 76 | 45 | 21 | 10/02/2017 |
| 77 | 27 | 25 | 03/08/2016 |
| 78 | 32 | 28 | 15/06/2016 |
| 79 | 71 | 21 | 21/05/2017 |
| 80 | 75 | 26 | 03/05/2016 |
| 81 | 56 | 32 | 23/12/2015 |
| 82 | 26 | 32 | 16/05/2015 |
| 83 | 66 | 32 | 30/05/2015 |
| 84 | 57 | 18 | 15/09/2017 |
| 85 | 40 | 15 | 02/09/2016 |
| 86 | 65 | 4 | 17/08/2017 |
| 87 | 54 | 7 | 19/12/2015 |
| 88 | 29 | 4 | 22/07/2017 |
| 89 | 44 | 9 | 31/12/2017 |
| 90 | 56 | 31 | 13/06/2015 |
| 91 | 17 | 4 | 01/04/2015 |
| 92 | 35 | 16 | 19/07/2018 |
| 93 | 22 | 18 | 22/06/2017 |
| 94 | 39 | 24 | 29/05/2015 |
| 95 | 63 | 14 | 20/01/2018 |
| 96 | 53 | 21 | 31/07/2016 |
| 97 | 40 | 9 | 10/07/2016 |
| 98 | 52 | 4 | 05/04/2017 |
| 99 | 27 | 20 | 04/09/2016 |
| 100 | 72 | 29 | 06/12/2015 |
| 101 | 49 | 16 | 19/12/2017 |
| 102 | 6 | 12 | 04/12/2016 |
| 103 | 74 | 31 | 27/07/2016 |
| 104 | 48 | 32 | 29/06/2016 |
| 105 | 69 | 2 | 27/12/2016 |
| 106 | 60 | 32 | 29/10/2017 |
| 107 | 45 | 22 | 12/06/2017 |
| 108 | 42 | 15 | 14/05/2017 |
| 109 | 79 | 8 | 13/10/2016 |
| 110 | 70 | 18 | 04/12/2016 |
| 111 | 34 | 8 | 06/03/2016 |
| 112 | 43 | 8 | 19/12/2015 |
| 113 | 42 | 32 | 20/04/2016 |
| 114 | 67 | 5 | 06/03/2017 |
| 115 | 80 | 25 | 23/06/2015 |
| 116 | 54 | 11 | 03/05/2017 |
| 117 | 34 | 28 | 30/08/2017 |
| 118 | 65 | 20 | 26/08/2017 |
| 119 | 61 | 19 | 05/01/2018 |
| 120 | 38 | 12 | 17/01/2018 |
| 121 | 51 | 4 | 13/05/2016 |
| 122 | 7 | 16 | 17/03/2016 |
| 123 | 46 | 16 | 25/11/2016 |
| 124 | 75 | 30 | 12/08/2018 |
| 125 | 72 | 32 | 12/03/2015 |
| 126 | 44 | 17 | 15/06/2015 |
| 127 | 68 | 15 | 21/02/2016 |
| 128 | 21 | 1 | 19/06/2016 |
| 129 | 14 | 25 | 10/10/2016 |
| 130 | 68 | 21 | 27/05/2016 |
| 131 | 35 | 20 | 19/03/2015 |
| 132 | 16 | 27 | 08/08/2016 |
| 133 | 79 | 31 | 07/03/2018 |
| 134 | 14 | 17 | 28/04/2018 |
| 135 | 29 | 28 | 11/03/2018 |
| 136 | 41 | 4 | 08/08/2018 |
| 137 | 42 | 3 | 23/02/2016 |
| 138 | 45 | 3 | 10/07/2017 |
| 139 | 36 | 16 | 19/07/2018 |
| 140 | 36 | 30 | 07/08/2015 |
| 141 | 54 | 32 | 14/03/2018 |
| 142 | 61 | 15 | 28/03/2017 |
| 143 | 1 | 13 | 17/05/2018 |
| 144 | 43 | 1 | 14/05/2015 |
| 145 | 37 | 14 | 30/07/2015 |
| 146 | 62 | 17 | 19/09/2015 |
| 147 | 50 | 22 | 02/12/2016 |
| 148 | 45 | 1 | 24/07/2016 |
| 149 | 32 | 17 | 10/03/2018 |
| 150 | 13 | 28 | 14/02/2016 |
| 151 | 15 | 9 | 11/08/2018 |
| 152 | 10 | 19 | 29/08/2018 |
| 153 | 66 | 3 | 27/11/2016 |
| 154 | 68 | 29 | 12/07/2017 |
| 155 | 21 | 14 | 27/06/2018 |
| 156 | 35 | 9 | 22/01/2016 |
| 157 | 17 | 24 | 25/08/2016 |
| 158 | 40 | 21 | 09/07/2015 |
| 159 | 1 | 24 | 28/03/2016 |
| 160 | 70 | 27 | 10/07/2015 |
| 161 | 80 | 26 | 24/04/2016 |
| 162 | 29 | 5 | 18/10/2015 |
| 163 | 76 | 12 | 25/04/2018 |
| 164 | 22 | 4 | 24/12/2016 |
| 165 | 2 | 2 | 26/10/2017 |
| 166 | 35 | 13 | 28/02/2016 |
| 167 | 40 | 8 | 02/10/2017 |
| 168 | 68 | 9 | 03/01/2016 |
| 169 | 32 | 5 | 13/11/2016 |
| 170 | 34 | 17 | 15/09/2016 |
| 171 | 34 | 16 | 13/04/2018 |
| 172 | 80 | 30 | 13/10/2016 |
| 173 | 20 | 32 | 17/11/2015 |
| 174 | 36 | 10 | 01/09/2017 |
| 175 | 78 | 12 | 27/06/2018 |
| 176 | 57 | 8 | 22/03/2016 |
| 177 | 75 | 11 | 27/06/2017 |
| 178 | 71 | 10 | 01/08/2015 |
| 179 | 48 | 22 | 29/09/2015 |
| 180 | 19 | 16 | 21/02/2016 |
| 181 | 79 | 30 | 20/08/2018 |
| 182 | 70 | 13 | 16/09/2016 |
| 183 | 30 | 6 | 10/02/2017 |
| 184 | 45 | 12 | 12/10/2017 |
| 185 | 30 | 27 | 23/11/2016 |
| 186 | 26 | 3 | 13/08/2016 |
| 187 | 66 | 6 | 14/01/2017 |
| 188 | 47 | 15 | 10/02/2016 |
| 189 | 53 | 30 | 08/08/2018 |
| 190 | 80 | 16 | 31/03/2016 |
| 191 | 70 | 13 | 03/02/2018 |
| 192 | 14 | 25 | 27/03/2016 |
| 193 | 46 | 22 | 13/01/2016 |
| 194 | 30 | 32 | 06/08/2015 |
| 195 | 60 | 14 | 27/11/2016 |
| 196 | 14 | 13 | 23/05/2018 |
| 197 | 71 | 15 | 22/06/2016 |
| 198 | 38 | 21 | 27/12/2015 |
| 199 | 69 | 30 | 29/04/2017 |
| 200 | 49 | 31 | 03/06/2018 |
| 201 | 28 | 28 | 29/05/2015 |
| 202 | 49 | 3 | 30/08/2016 |
| 203 | 75 | 1 | 29/10/2015 |
| 204 | 78 | 3 | 12/05/2017 |
| 205 | 43 | 18 | 25/03/2015 |
| 206 | 27 | 21 | 22/02/2016 |
| 207 | 64 | 22 | 03/04/2015 |
| 208 | 21 | 11 | 09/12/2017 |
| 209 | 66 | 29 | 20/12/2016 |
| 210 | 45 | 13 | 15/04/2017 |
| 211 | 48 | 30 | 31/01/2015 |
| 212 | 20 | 25 | 20/12/2017 |
| 213 | 41 | 20 | 29/01/2018 |
| 214 | 51 | 12 | 05/07/2015 |
| 215 | 5 | 1 | 12/04/2015 |
| 216 | 40 | 3 | 24/02/2018 |
| 217 | 79 | 4 | 27/06/2018 |
| 218 | 15 | 10 | 01/11/2016 |
| 219 | 42 | 22 | 28/12/2016 |
| 220 | 17 | 9 | 29/01/2018 |
| 221 | 38 | 13 | 09/05/2016 |
| 222 | 79 | 2 | 06/12/2017 |
| 223 | 74 | 3 | 07/12/2015 |
| 224 | 46 | 8 | 05/06/2016 |
| 225 | 78 | 22 | 11/08/2018 |
| 226 | 45 | 2 | 20/04/2015 |
| 227 | 72 | 31 | 11/11/2015 |
| 228 | 18 | 17 | 21/03/2015 |
| 229 | 29 | 3 | 13/08/2017 |
| 230 | 66 | 11 | 05/06/2018 |
| 231 | 36 | 16 | 28/04/2016 |
| 232 | 26 | 2 | 23/10/2016 |
| 233 | 32 | 1 | 31/10/2017 |
| 234 | 62 | 14 | 25/07/2017 |
| 235 | 12 | 4 | 08/07/2015 |
| 236 | 38 | 32 | 24/02/2015 |
| 237 | 29 | 16 | 28/07/2016 |
| 238 | 36 | 25 | 07/05/2017 |
| 239 | 76 | 7 | 13/06/2015 |
| 240 | 28 | 16 | 15/08/2016 |
| 241 | 60 | 13 | 26/08/2016 |
| 242 | 8 | 3 | 28/07/2017 |
| 243 | 25 | 1 | 30/07/2016 |
| 244 | 62 | 29 | 24/08/2018 |
| 245 | 51 | 8 | 01/09/2016 |
| 246 | 27 | 23 | 08/02/2015 |
| 247 | 69 | 12 | 25/06/2018 |
| 248 | 51 | 12 | 04/07/2015 |
| 249 | 7 | 4 | 01/05/2015 |
| 250 | 31 | 15 | 29/10/2017 |
| 251 | 14 | 23 | 15/01/2015 |
| 252 | 14 | 1 | 21/05/2018 |
| 253 | 39 | 25 | 26/12/2015 |
| 254 | 79 | 24 | 31/05/2016 |
| 255 | 40 | 15 | 18/03/2016 |
| 256 | 51 | 13 | 13/04/2018 |
| 257 | 61 | 1 | 11/02/2015 |
| 258 | 15 | 24 | 02/03/2018 |
| 259 | 10 | 22 | 21/01/2018 |
| 260 | 67 | 10 | 08/07/2017 |
| 261 | 79 | 11 | 11/12/2016 |
| 262 | 19 | 32 | 04/05/2016 |
| 263 | 35 | 11 | 01/08/2017 |
| 264 | 27 | 13 | 15/12/2017 |
| 265 | 30 | 22 | 22/12/2015 |
| 266 | 8 | 7 | 26/06/2015 |
| 267 | 70 | 9 | 20/03/2016 |
| 268 | 56 | 18 | 29/01/2016 |
| 269 | 13 | 19 | 06/03/2015 |
| 270 | 61 | 2 | 18/06/2016 |
| 271 | 47 | 13 | 18/09/2017 |
| 272 | 30 | 22 | 19/02/2016 |
| 273 | 18 | 22 | 31/12/2016 |
| 274 | 34 | 29 | 27/10/2017 |
| 275 | 32 | 21 | 03/06/2015 |
| 276 | 9 | 28 | 30/03/2016 |
| 277 | 62 | 24 | 23/03/2015 |
| 278 | 44 | 22 | 29/04/2017 |
| 279 | 27 | 5 | 25/03/2015 |
| 280 | 61 | 28 | 14/07/2017 |
| 281 | 5 | 13 | 04/12/2016 |
| 282 | 43 | 19 | 15/03/2018 |
| 283 | 34 | 19 | 05/06/2016 |
| 284 | 35 | 5 | 19/02/2018 |
| 285 | 13 | 12 | 23/09/2016 |
| 286 | 74 | 18 | 26/12/2016 |
| 287 | 70 | 31 | 15/08/2017 |
| 288 | 42 | 17 | 15/06/2016 |
| 289 | 51 | 24 | 30/07/2018 |
| 290 | 45 | 30 | 15/01/2015 |
| 291 | 70 | 17 | 07/10/2017 |
| 292 | 77 | 7 | 06/01/2017 |
| 293 | 74 | 25 | 25/09/2015 |
| 294 | 47 | 14 | 01/02/2018 |
| 295 | 10 | 2 | 18/04/2017 |
| 296 | 16 | 21 | 03/10/2016 |
| 297 | 48 | 5 | 17/09/2016 |
| 298 | 72 | 3 | 10/02/2017 |
| 299 | 26 | 23 | 01/03/2016 |
| 300 | 49 | 23 | 25/10/2016 |

Grading Rubric

Your project will be graded based on the following rubric:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Category** | **Unacceptable (0-1)** | **Needs Improvement (2-3)** | **Good (4)** | **Excellent (5)** | **Total Possible Points** |
| Create the database tables | All tables are not created correctly | 2 or more tables are not created correctly | Correct created tables, queries are not optimal | Correct queries and correct resulted tables | 5 |
| Define the primary keys of the tables | All primary keys are not created correctly | 2 or more primary keys are not created correctly | NA | All primary keys are created correctly | 5 |
| Create the relationships among the tables using foreign keys | All relationships are not created correctly | 2 or more relationships are not created correctly | NA | All relationships are created correctly | 5 |
| Populate the tables with data | Tables are not populated by the given data | All tables are populated by part of the given data | Some tables are populated by part of the given data | All tables are correctly populated with the given data | 5 |
| Query 1 | Query does not exist | Query is close to correct, results are not correct | Correct results, query is not optimal | Correct query and correct results. Notes written to explain query. | 5 |
| Query 2 | Query does not exist | Query is close to correct, results are not correct | Correct results, query is not optimal | Correct query and correct results. Notes written to explain query. | 5 |
| Query 3 | Query does not exist | Query is close to correct, results are not correct | Correct results, query is not optimal | Correct query and correct results. Notes written to explain query. | 5 |
| Query 4 | Query does not exist | Query is close to correct, results are not correct | Correct results, query is not optimal | Correct query and correct results. Notes written to explain query. | 5 |
| Query 5 | Query does not exist | Query is close to correct, results are not correct | Correct results, query is not optimal | Correct query and correct results. Notes written to explain query. | 5 |
| Query 6 | Query does not exist | Query is close to correct, results are not correct | Correct results, query is not optimal | Correct query and correct results. Notes written to explain query. | 5 |
| Query 7 | Query does not exist | Query is close to correct, results are not correct | Correct results, query is not optimal | Correct query and correct results. Notes written to explain query. | 5 |
| Query 8 | Query does not exist | Query is close to correct, results are not correct | Correct results, query is not optimal | Correct query and correct results. Notes written to explain query. | 5 |
| Query 9 | Query does not exist | Query is close to correct, results are not correct | Correct results, query is not optimal | Correct query and correct results. Notes written to explain query. | 5 |
| Query 10 | Query does not exist | Query is close to correct, results are not correct | Correct results, query is not optimal | Correct query and correct results. Notes written to explain query. | 5 |
| Query 11 | Query does not exist | Query is close to correct, results are not correct | Correct results, query is not optimal | Correct query and correct results. Notes written to explain query. | 5 |
| Query 12 | Query does not exist | Query is close to correct, results are not correct | Correct results, query is not optimal | Correct query and correct results. Notes written to explain query. | 5 |
| Query 13 | Query does not exist | Query is close to correct, results are not correct | Correct results, query is not optimal | Correct query and correct results. Notes written to explain query. | 5 |
| Query 14 | Query does not exist | Query is close to correct, results are not correct | Correct results, query is not optimal | Correct query and correct results. Notes written to explain query. | 5 |
| Create the required indexes | No indexes chosen | Indexes are poorly chosen, queries are not correct | Indexes are poorly chosen, queries are correct | Indexes are correctly chosen, queries are correctly written | 5 |
| Create required view | No view created | The syntax of the view creation is not correct | The view is correctly created but not correctly used | The view is correctly created and used | 5 |
| Total |  |  |  |  | 100 |