**Relational Databases: Exercise 6(3)**

**Task 1**

An online music store uses a relational database called MusicStore to store details of CDs and their music labels.

The CD table is used to store details of the CDs while the Label table is used to store details of music labels. Sample data stored in each table is shown below.

CD table

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CD Code** | **Title** | **Artist** | **Label** | **Number of Tracks** | **Cost (£)** | **Genre** |
| 95VW | Grrr | The Rolling Stones | Polydor Records | 51 | 11.99 | R&R |
| 5J8Y | + | Ed Sheeran | Atlantic Records | 13 | 10.00 | Indie |
| 82FH | The Power of Love | Sam Bailey | Syco Music | 11 | 7.50 | Soul |
| 9KYX | Glory Days | Little Mix | Syco Music | 20 | 9.99 | R&B |

Label table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Label** | **Founded** | **Parent Company** | **Country of Origin** | **Website** |
| Syco Music | 2002 | Syco | UK | www.sycoentertainment.com |
| Capital Records | 1942 | Capital Music Group | USA | www.capitalrecords.com |
| Polydor Records | 1924 | Universal Music Group | Germany | www.polydor.co.uk |

The music stores applies the following business rules to the data stored in the database:

* The genre of a CD can be one of: Choral, Country, Garage, Indie, Opera, Pop, R&B, R&R, Soul
* The number of tracks on each CD must be between 10 and 60 inclusive
* The cost of each CD must be between 6.99 and 15.00 inclusive
* The country of origin for each label is one of: Germany, Japan, UK or USA

Copy and complete data dictionary for the MusicStore database.

|  |
| --- |
| **CD table** |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**Task 2**

Draw an entity relationship diagram to represent the relationship between the CD and Label tables of the MusicStore database.

**Task 3**

Create a new database called MusicStore. Use the graphical tools of MS Access to create the structure for the CD and Label tables. Make sure that the properties of both tables match all of the settings indicated in your data dictionary. Remember to enforce referential integrity between the two tables.

**Task 4**

Clydeview Library uses a relational database called BookData to store details of books and authors in two tables called Book and Author.

Sample data stored in the Author table is shown below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Author Ref** | **First Name** | **Surname** | **Nationality** | **DOB** | **Website** |
| 2864 | Kenneth | Oppel | Canadian | 31/08/1967 | www.kennethoppel.ca |
| 3061 | Dave | Eggers | American |  |  |
| 3197 | Joanne | Rowling | British | 31/07/1965 | www.jkrowling.com |

Sample data stored in the Book table is shown below.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Category** | **Genre** | **Title** | **Author Ref** | **Publisher** | **ISBN** | **Date of Publication** | **Number of Pages** |
| Child | Fantasy | Galactic Snapshots | 2864 | Puffin | 0140373683 | 03/08/2010 | 96 |
| Child | Mystery | Harry Potter and the Chamber of Secrets | 3197 | Bloomsbury | 0747538492 | 02/07/1998 | 251 |
| Adult | Fiction | The Casual Vacancy | 3197 | Little Brown Company | 0751552860 | 27/09/2012 | 503 |

The library applies the following business rules to the data stored in the database:

* The genre of a book in the Book Database can be one of: Autobiography, Fantasy, Fiction, Joke,

 Mystery, Fiction, Thriller

* The category of a book must be one of: Adult or Child
* The number of pages in each book must be between 32 and 950 inclusive

Copy and complete data dictionary for the BookData database.

|  |
| --- |
| **Book table** |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**Task 5**

Draw an entity relationship diagram to represent the relationship between the Book and Author tables of the BookData database.

**Task 6**

Create a new database called BookData.

Use the graphical tool of MS Access to create the structure for the Author and Book tables.

Make sure that the properties of both tables match all of the settings indicated in your data dictionary.

Remember to enforce referential integrity between the two tables.