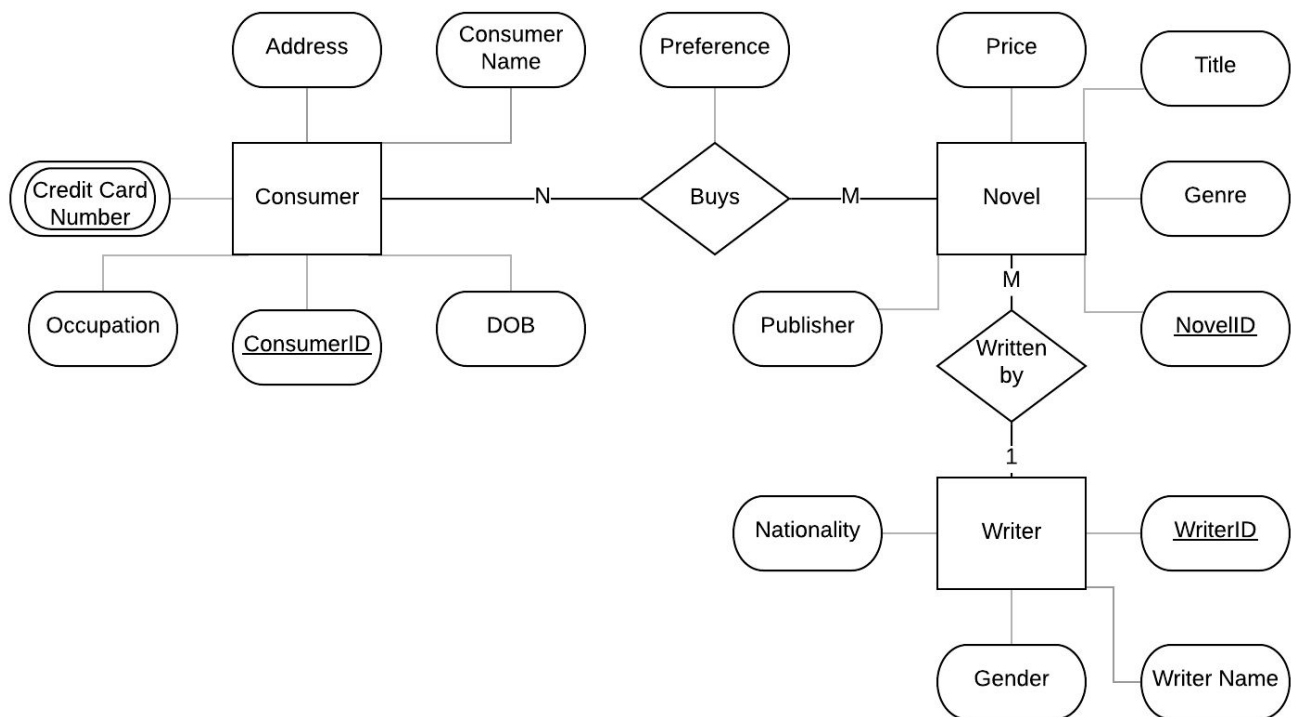
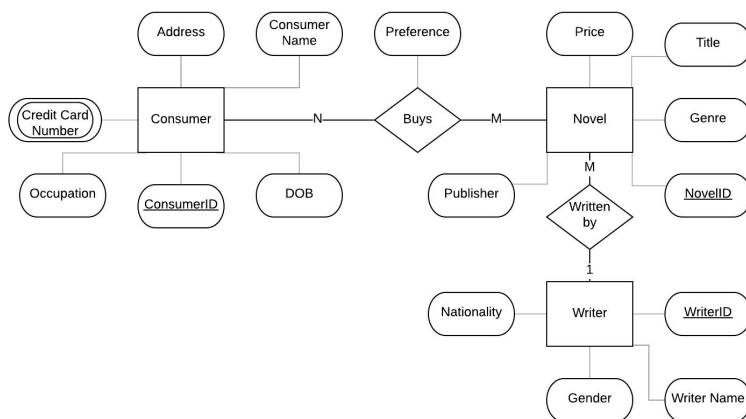


Example 2: Consumers buy novels all the time. Novels are written by one writer.

ERD:



ER -> Relational Map



**Consumer**

<u>ConsumerID</u>	DOB	Occupation	Address	<u>Credit Card Number</u>	<u>Consumer Name</u>
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**ConsumerBuysNovel**

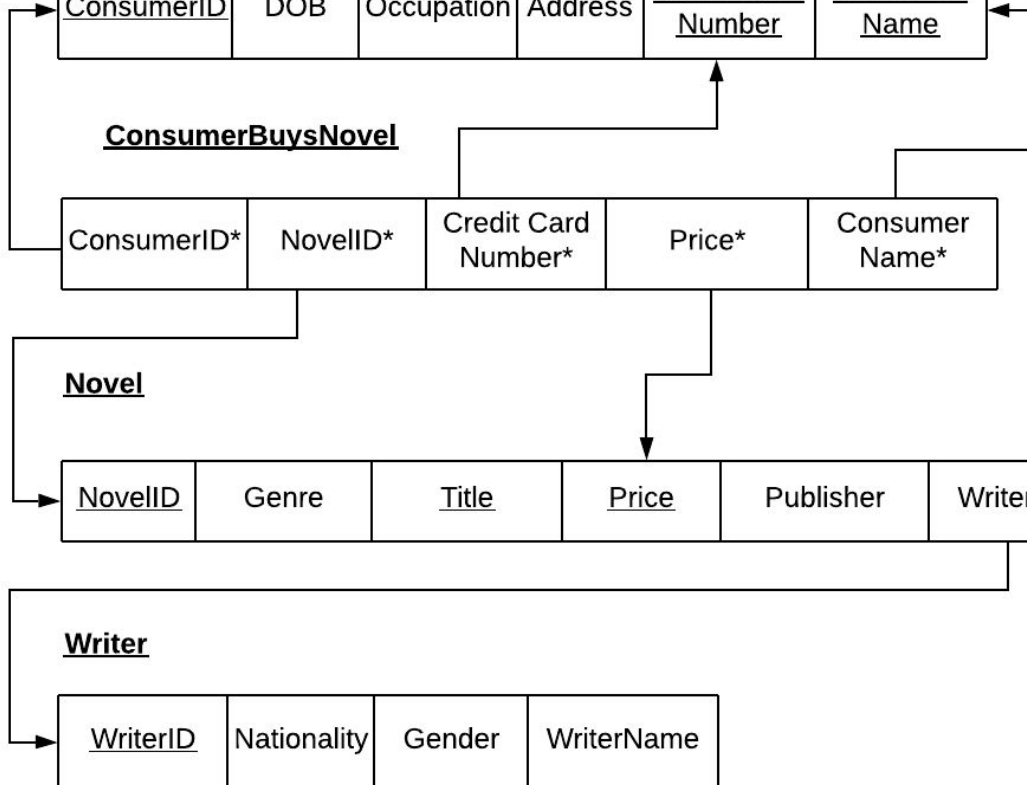
ConsumerID*	NovelID*	Credit Card Number*	Price*	Consumer Name*
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**Novel**

<u>NovelID</u>	Genre	<u>Title</u>	<u>Price</u>	Publisher	WriterID*
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**Writer**

<u>WriterID</u>	Nationality	Gender	WriterName
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## Data Types (Mini Data Dictionary)

Table Name	Attribute Name	Data Type	Data Format	Field Size	Contents	Example	Required?
Consumer	ConsumerID	Integer	NNNNNNNNNNNN	12	Unique number ID for all consumers	123456789012	Y
	DOB	Date/Time	MM/DD/YYYY	10	Consumer's Date of Birth	10/17/2003	N
	Occupation	Text		20	Consumer's Occupation	Neurosurgeon	N
	Address	Text		40	Consumer's Address	1010 Toddy Street Santa Ana	Y
	Credit Card Number	Integer	NNNNNNNNNNNNNNNN	16	Consumer's Credit Card Number	5318 2673 9817 1100	Y
	Consumer Name	Text		30	Consumer's First and Last Name	Jason Smith	Y
Novel	NovelID	Integer	NNNNNNNNNN	10	Unique number ID for all novels	2768091362	Y
	Genre	Text		25	Novel's Genre	Science Fiction	N
	Title	Text		50	Novel's Title	Diary of a Wimpy Kid: Dog's Days	Y
	Price	Integer		6	Novel's Price	215	Y
	Publisher	Text		20	Novel's Publisher	Simon & Schuster	N
Writer	WriterID	Integer	NNNNNNNNNNNN	11	Unique number ID for all writers	33471680931	Y
	Nationality	Text		20	Writer's Nationality	German	N
	Gender	Char		1	Writer's Gender	M = Male, F = Female, N = Null	N
	Writer Name	Text		20	Writer's First and Last Name	Mia Johnson	Y

Data Types:

**Consumer**

ConsumerID int VarChar (12) NOT NULL  
DOB int (MM/DD/YYYY)  
Occupation VarChar(20)  
Address VarChar(40) NOT NULL  
Credit Card Number int VarChar(16) NOT NULL  
Consumer Name VarChar(30) NOT NULL

**Novel**

NovelID int VarChar(10) NOT NULL  
Genre VarChar (25)  
Title VarChar(50) NOT NULL  
Price int VarChar(6) NOT NULL  
Publisher Varchar (20)

**Writer**

WriterID int VarChar(11) NOT NULL  
Nationality VarChar (20)  
Gender VarChar (1)  
Writer Name VarChar(20) NOT NULL

## (Type of SQL) DDL - Data Definition Language

```
DROP TABLE IF EXISTS ConsumerBuysNovel;  
DROP TABLE IF EXISTS Consumer;  
DROP TABLE IF EXISTS Novel;  
DROP TABLE IF EXISTS Writer;
```

```
CREATE TABLE Consumer  
(  
    ConsumerID TINYINT NOT NULL,  
    DOB DATE VARCHAR(10),  
    Occupation VARCHAR(20),  
    Address VARCHAR(40) NOT NULL,  
    CreditCardNumber INT(16) NOT NULL,  
    ConsumerName VARCHAR(30) NOT NULL,  
    PRIMARY KEY (ConsumerID)  
);
```

```
CREATE TABLE Writer
(
    WriterID TINYINT NOT NULL,
    Nationality VARCHAR(20),
    Gender VARCHAR(1),
    WriterName VARCHAR(20) NOT NULL,
    PRIMARY KEY (WriterID)
);
CREATE TABLE Novel
(
    NovelID TINYINT NOT NULL,
    Genre VARCHAR(25),
    Title VARCHAR(50) NOT NULL,
    Price INT(6) NOT NULL,
    Publisher VARCHAR(20),
    WriterID TINYINT NOT NULL,
    PRIMARY KEY (NovelID),
    FOREIGN KEY (WriterID) REFERENCES Writer(WriterID)
);
CREATE TABLE ConsumerBuysNovel
(
    ConsumerID TINYINT NOT NULL,
    NovelID TINYINT NOT NULL,
    Price INT(6) NOT NULL,
    PRIMARY KEY (ConsumerID, NovelID)
    FOREIGN KEY (ConsumerID) REFERENCES Consumer(ConsumerID)
    FOREIGN KEY (NovelID) REFERENCES Novel(NovelID)
);
```

## (Type of SQL) DML - Data Manipulation Language

```
INSERT INTO Consumer (ConsumerID, DOB, Occupation, Address, CreditCardNumber,
ConsumerName) VALUES (1096254730, "10/17/2000", "Lawyer", "1010 Toddy St Santa Ana,
CA", 1400961170004321, "Eden Mcguire");
```

```
INSERT INTO Consumer (ConsumerID, DOB, Occupation, Address, CreditCardNumber,
ConsumerName) VALUES (1234567890, "9/3/1998", "Psychologist", "73 St John Riverside
Residence, Sacramento, CA", 1268914376503269, "Jenna O'Brien");
```

```
INSERT INTO Consumer (ConsumerID, DOB, Occupation, Address, CreditCardNumber,
ConsumerName) VALUES (4422668850, "7/1/1978", "Surgeon", "3789 Loyola Royal
Compound, Chicago, IL ", 1086579412310055, "Michael O'Haire");
```

```
INSERT INTO Writer (WriterID, Nationality, Gender, WriterName) VALUES (2345098713,
"British", "M", "Christian Anderson");
```

```
INSERT INTO Writer (WriterID, Nationality, Gender, WriterName) VALUES (9182736450,
"German", "F", "Alexandra Walker");
```

```
INSERT INTO Writer (WriterID, Nationality, Gender, WriterName) VALUES (3376498105,
"Vietnamese", "M", "Hoang Hai");
```

```
INSERT INTO Novel (NovelID, Genre, Title, Price, Publisher, WriterID) VALUES
(1700961378, "Science Fiction", "Avatar", 43, "Pearson", 2345098713);
```

```
INSERT INTO Novel (NovelID, Genre, Title, Price, Publisher, WriterID) VALUES
(7654321890, "Horror", "Dancing in the Dark", 85, "McMillan", 9182736450);
```

```
INSERT INTO Novel (NovelID, Genre, Title, Price, Publisher, WriterID) VALUES
(1358679240, "Action", "Rivalry", 70, "Adam & Eva", 3376498105);
```

```
INSERT INTO ConsumerBuysNovel (ConsumerID, NovelID, Price) VALUES (1096254730,
1700961378, 43);
```

```
INSERT INTO ConsumerBuysNovel (ConsumerID, NovelID, Price) VALUES (1234567890,
7654321890, 85);
```

```
INSERT INTO ConsumerBuysNovel (ConsumerID, NovelID, Price) VALUES (4422668850,
1358679240, 70);
```