

1. -Find out many books are there?

```
irb(main):001:0> Book.count
```

```
(0.0ms) SELECT COUNT(*) FROM "books"
```

```
=> 50
```

2. -View the details for book #10?

```
irb(main):002:0> Book.find(10)
```

```
Book Load (0.0ms) SELECT "books".* FROM "books" WHERE "books"."id" = ? LIMIT 1 [["id", 10]]
```

```
=> #<Book id: 10, title: "Think and Grow Rich", author: "Napoleon Hill", language: "English", year: 1937, copies: 70, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">
```

3. See what books were published between 1980 to 1989? (titles only)

```
irb(main):004:0> Book.where(year: 1980..1989)
```

```
Book Load (0.0ms) SELECT "books".* FROM "books" WHERE ("books"."year" BETWEEN 1980 AND 1989)
```

```
=> #<ActiveRecord::Relation [#<Book id: 12, title: "The Alchemist", author: "Paulo Coelho", language: "Portuguese", year: 1988, copies: 65, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 19, title: "The Name of the Rose", author: "Umberto Eco", language: "Italian", year: 1980, copies: 50, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 36, title: "You Can Heal Your Life", author: "Louise Hay", language: "English", year: 1984, copies: 35, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">]>
```

```
irb(main):005:0>
```

4. Do a sanitized query to count the number of books that have "the" in the title.

```
irb(main):005:0> Book.where('title like ?', '%the%')
```

```
Book Load (0.0ms) SELECT "books".* FROM "books" WHERE (title like '%the%')
```

```
=> #<ActiveRecord::Relation [#<Book id: 2, title: "The Lord of the Rings", author: "J. R. R. Tolkien", language: "English", year: 1954, copies: 150, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 3, title: "The Little Prince", author: "Antoine de Saint-Exupery", language: "French", year: 1943, copies: 140, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 4, title: "And Then There Were None", author: "Agatha C
```

```

hristie", language: "English", year: 1939, copies: 100, created_at: "2015-02-04
23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 5, title: "Dream of th
e Red Chamber", author: "Cao Xueqin", language: "Chinese", year: 1745, copies: 1
00, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Boo
k id: 6, title: "The Hobbit", author: "J. R. R. Tolkien", language: "English", y
ear: 1937, copies: 100, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-
04 23:31:12">, #<Book id: 8, title: "The Lion the Witch and the Wardrobe", autho
r: "C. S. Lewis", language: "English", year: 1950, copies: 85, created_at: "2015
-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 9, title: "The
Da Vinci Code", author: "Dan Brown", language: "English", year: 2003, copies: 80
, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book
id: 11, title: "The Catcher in the Rye", author: "J. D. Salinger", language: "En
glish", year: 1951, copies: 65, created_at: "2015-02-04 23:31:12", updated_at: "
2015-02-04 23:31:12">, #<Book id: 12, title: "The Alchemist", author: "Paulo Coe
lho", language: "Portuguese", year: 1988, copies: 65, created_at: "2015-02-04 23
:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 16, title: "The Common S
ense Book of Baby and Child Care", author: "Dr. Benjamin Spock", language: "Engl
ish", year: 1946, copies: 50, created_at: "2015-02-04 23:31:12", updated_at: "20
15-02-04 23:31:12">, ...]>
irb(main):006:0>

```

##### 5. Display the books ordered by author name

```

irb(main):006:0> Book.order(:author)
Book Load (0.0ms) SELECT "books".* FROM "books" ORDER BY "books"."author" ASC
=> #<ActiveRecord::Relation [#<Book id: 4, title: "And Then There Were None", au
thor: "Agatha Christie", language: "English", year: 1939, copies: 100, created_a
t: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 18, tit
le: "Black Beauty: His Grooms and Companions: The autob...", author: "Anna Sewel
l", language: "English", year: 1877, copies: 50, created_at: "2015-02-04 23:31:1
2", updated_at: "2015-02-04 23:31:12">, #<Book id: 44, title: "The Diary of a Yo
ung Girl", author: "Anne Frank", language: "Dutch", year: 1947, copies: 30, crea
ted_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, #<Book id: 3,
title: "The Little Prince", author: "Antoine de Saint-Exupery", language: "Fren
ch", year: 1943, copies: 140, created_at: "2015-02-04 23:31:12", updated_at: "20
15-02-04 23:31:12">, #<Book id: 26, title: "The Tale of Peter Rabbit", author: "
Beatrix Potter", language: "English", year: 1902, copies: 45, created_at: "2015-
02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 8, title: "The L
ion the Witch and the Wardrobe", author: "C. S. Lewis", language: "English", yea
r: 1950, copies: 85, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04
23:31:12">, #<Book id: 5, title: "Dream of the Red Chamber", author: "Cao Xueqin

```

```
", language: "Chinese", year: 1745, copies: 100, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 35, title: "The Adventures of Pinocchio", author: "Carlo Collodi", language: "Italian", year: 1881, copies: 35, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, #<Book id: 1, title: "A Tale of Two Cities", author: "Charles Dickens", language: "English", year: 1859, copies: 200, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 40, title: "In His Steps: What Would Jesus Do?", author: "Charles M. Sheldon", language: "English", year: 1896, copies: 30, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, ...]>
irb(main):007:0>
```

6. Display the books ordered by copies sold, from most to least

```
irb(main):007:0> Book.order(:copies).reverse_order

Book Load (0.0ms) SELECT "books".* FROM "books" ORDER BY "books"."copies" DESC
ESC

=> #<ActiveRecord::Relation [#<Book id: 1, title: "A Tale of Two Cities", author: "Charles Dickens", language: "English", year: 1859, copies: 200, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 2, title: "The Lord of the Rings", author: "J. R. R. Tolkien", language: "English", year: 1954, copies: 150, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 3, title: "The Little Prince", author: "Antoine de Saint-Exupery", language: "French", year: 1943, copies: 140, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 4, title: "And Then There Were None", author: "Agatha Christie", language: "English", year: 1939, copies: 100, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 5, title: "Dream of the Red Chamber", author: "Cao Xueqin", language: "Chinese", year: 1745, copies: 100, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 6, title: "The Hobbit", author: "J. R. R. Tolkien", language: "English", year: 1937, copies: 100, created_at: "2015-02-04 23:
```

31:12", updated\_at: "2015-02-04 23:31:12">, #<Book id: 7, title: "She: A History of Adventure", author: "H. Rider Haggard", language: "English", year: 1887, copies: 100, created\_at: "2015-02-04 23:31:12", updated\_at: "2015-02-04 23:31:12">, #<Book id: 8, title: "The Lion the Witch and the Wardrobe", author: "C. S. Lewis", language: "English", year: 1950, copies: 85, created\_at: "2015-02-04 23:31:12", updated\_at: "2015-02-04 23:31:12">, #<Book id: 9, title: "The Da Vinci Code", author: "Dan Brown", language: "English", year: 2003, copies: 80, created\_at: "2015-02-04 23:31:12", updated\_at: "2015-02-04 23:31:12">, #<Book id: 10, title: "Think and Grow Rich", author: "Napoleon Hill", language: "English", year: 1937, copies: 70, created\_at: "2015-02-04 23:31:12", updated\_at: "2015-02-04 23:31:12">, ...]>

## 7. Display the books ordered by copies sold, from least to most

```
irb(main):008:0> Book.order(:copies)
Book Load (0.0ms) SELECT "books".* FROM "books" ORDER BY "books"."copies" ASC
=> #<ActiveRecord::Relation [#<Book id: 40, title: "In His Steps: What Would Jesus Do?", author: "Charles M. Sheldon", language: "English", year: 1896, copies: 30, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, #<Book id: 41, title: "To Kill a Mockingbird", author: "Harper Lee", language: "English", year: 1960, copies: 30, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, #<Book id: 42, title: "Valley of the Dolls", author: "Jacqueline Susann", language: "English", year: 1966, copies: 30, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, #<Book id: 43, title: "Gone with the Wind", author: "Margaret Mitchell", language: "English", year: 1936, copies: 30, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, #<Book id: 44, title: "The Diary of a Young Girl", author: "Anne Frank", language: "Dutch", year: 1947, copies: 30, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, #<Book id: 45, title: "One Hundred Years of Solitude", author: "Gabriel Garcia Marquez", language: "Spanish", year: 1967, copies: 30, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, #<Book id: 46, title: "The Purpose Driven Life", author: "Rick Warren", language: "English", year: 2002, copies: 30, created_at: "2015-02-04 23:31:13", updated_at: "2015
```

```
-02-04 23:31:13">, #<Book id: 47, title: "The Thorn Birds", author: "Colleen McCullough", language: "English", year: 1977, copies: 30, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, #<Book id: 48, title: "The Revolt of Mamie Stover", author: "William Bradford Huie", language: "English", year: 1951, copies: 30, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, #<Book id: 49, title: "The Girl with the Dragon Tattoo", author: "Stieg Larsson", language: "Swedish", year: 2005, copies: 30, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, ...]>
```

#### 8. Display the books written in the 20th century (1900s) in English

```
irb(main):009:0> Book.where(year: 1900..1999).where(language: "English")
Book Load (0.0ms) SELECT "books".* FROM "books" WHERE ("books"."year" BETWEEN 1900 AND 1999) AND "books"."language" = 'English'
=> #<ActiveRecord::Relation [#<Book id: 2, title: "The Lord of the Rings", author: "J. R. R. Tolkien", language: "English", year: 1954, copies: 150, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 4, title: "And Then There Were None", author: "Agatha Christie", language: "English", year: 1939, copies: 100, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 6, title: "The Hobbit", author: "J. R. R. Tolkien", language: "English", year: 1937, copies: 100, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 8, title: "The Lion the Witch and the Wardrobe", author: "C. S. Lewis", language: "English", year: 1950, copies: 85, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 10, title: "Think and Grow Rich", author: "Napoleon Hill", language: "English", year: 1937, copies: 70, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 11, title: "The Catcher in the Rye", author: "J. D. Salinger", language: "English", year: 1951, copies: 65, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 14, title: "Lolita", author: "Vladimir Nabokov", language: "English", year: 1955, copies: 50, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 16, title: "The Common Sense Book of Baby and Child Care", author: "Dr. Benjamin Spock", language: "English", year: 1946, copies: 50, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 17, title: "Anne of Green Gables", author: "Lucy Maud Montgomery", language: "English", year: 1908, copies: 50, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 20, title: "The Eagle Has Landed", author: "Jack Higgins", language: "English", year: 1975, copies: 50, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, ...]>
```

#### 9. Display 5 books written in the 20th century in English

```

<(year: 1900..1999).where(language: "English").limit(5)
Book Load (0.0ms) SELECT "books".* FROM "books" WHERE ("books"."year" BETWEEN 1900 AND 1999) AND "books"."language" = 'English' LIMIT 5
=> #<ActiveRecord::Relation [#<Book id: 2, title: "The Lord of the Rings", author: "J. R. R. Tolkien", language: "English", year: 1954, copies: 150, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 4, title: "And Then There Were None", author: "Agatha Christie", language: "English", year: 1939, copies: 100, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 6, title: "The Hobbit", author: "J. R. R. Tolkien", language: "English", year: 1937, copies: 100, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 8, title: "The Lion the Witch and the Wardrobe", author: "C. S. Lewis", language: "English", year: 1950, copies: 85, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 10, title: "Think and Grow Rich", author: "Napoleon Hill", language: "English", year: 1937, copies: 70, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">]>

```

#### 10. Display the books grouped by language

```

irb(main):011:0> Book.group(:language)
Book Load (0.0ms) SELECT "books".* FROM "books" GROUP BY language
=> #<ActiveRecord::Relation [#<Book id: 5, title: "Dream of the Red Chamber", author: "Cao Xueqin", language: "Chinese", year: 1745, copies: 100, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 44, title: "The Diary of a Young Girl", author: "Anne Frank", language: "Dutch", year: 1947, copies: 30, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, #<Book id: 50, title: "The Very Hungry Caterpillar", author: "Eric Carle", language: "English", year: 1969, copies: 30, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, #<Book id: 3, title: "The Little Prince", author: "Antoine de Saint-Exupery", language: "French", year: 1943, copies: 140, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 15, title: "Heidi's Years of Wandering and Learning", author: "Johanna Spyri", language: "German", year: 1880, copies: 50, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 35, title: "The Adventures of Pinocchio", author: "Carlo Collodi", language: "Italian", year: 1881, copies: 35, created_at: "2015-02-04 23:31:13", updated_at: "2015-02-04 23:31:13">, #<Book id: 30, title: "Sophie's World", author: "Jostein Gaarder", language: "Norwegian", year: 1991, copies: 40, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 12, title: "The Alchemist", author: "Paulo Coelho", language: "Portuguese", year: 1988, copies: 65, created_at: "2015-02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 34, title: "War and Peace", author: "Leo Tolstoy", language: "Russian", year: 1869, copies: 36, created_at: "2015-

```

```
02-04 23:31:12", updated_at: "2015-02-04 23:31:12">, #<Book id: 45, title: "One  
Hundred Years of Solitude", author: "Gabriel Garcia Marquez", language: "Spanish  
, year: 1967, copies: 30, created_at: "2015-02-04 23:31:13", updated_at: "2015-  
02-04 23:31:13">, ...]>
```

11. Determine the maximum copies for any book sold between 1950 and 1999

```
irb(main):012:0> Book.where(year: 1950..1999).maximum(:copies)  
(0.0ms) SELECT MAX("books"."copies") AS max_id FROM "books" WHERE ("books".  
"year" BETWEEN 1950 AND 1999)  
=> 150
```

12. Determine the average copies for books sold between 2000 and 2010 (in readable format)

```
irb(main):014:0> Book.where(year: 2000..2010).average(:copies).to_s  
(0.0ms) SELECT AVG("books"."copies") AS avg_id FROM "books" WHERE ("books".  
"year" BETWEEN 2000 AND 2010)  
=> "44.6"
```

13. Change the number of copies for "The Hobbit" from 100 to 101

```
Book.where(title: 'The Hobbit').first.update_attributes(copies: 101)  
  
Book Load (0.0ms) SELECT "books".* FROM "books" WHERE "books"."title" = 'Th  
e Hobbit' ORDER BY "books"."id" ASC LIMIT 1  
  
(0.0ms) begin transaction  
  
SQL (0.0ms) UPDATE "books" SET "copies" = ?, "updated_at" = ? WHERE "books".  
id" = 6 [["copies", 101], ["updated_at", "2015-02-05 00:22:15.827161"]]  
  
(20.1ms) commit transaction  
  
=> true
```