

1. Find out many books are there?

Book.count

```
(0.3ms) SELECT COUNT(*) FROM "books"
```

=> 50

2. View the details for book #10?

Book.find(10)

```
Book Load (0.2ms) 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: "2015-02-02 19:45:38", updated_at: "2015-02-02  
19:45:38">
```

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

Book.where(year: 1980..1989).pluck(:title)

```
(0.3ms) SELECT "books"."title" FROM "books" WHERE ("books"."year" BETWEEN 1980  
AND 1989)
```

```
=> ["The Alchemist", "The Name of the Rose", "You Can Heal Your Life"]
```

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

Book.where('title like ?', '%the%').count

```
(0.3ms) SELECT COUNT(*) FROM "books" WHERE (title like '%the%')
```

=> 30

5. Display the books ordered by author name

Book.order(:author).pluck(:author, :title)

```
(0.4ms) SELECT "books"."author", "books"."title" FROM "books" ORDER BY  
"books".author ASC
```

```
=> [["Agatha Christie", "And Then There Were None"], ["Anna Sewell", "Black Beauty: His  
Grooms and Companions: The autobiography of a horse"], ["Anne Frank", "The Diary of a  
Young Girl"], ["Antoine de Saint-Exupery", "The Little Prince"], ["Beatrix Potter", "The Tale of  
Peter Rabbit"], ["C. S. Lewis", "The Lion the Witch and the Wardrobe"], ["Cao Xueqin",  
"Dream of the Red Chamber"], ["Carlo Collodi", "The Adventures of Pinocchio"], ["Charles  
Dickens", "A Tale of Two Cities"], ["Charles M. Sheldon", "In His Steps: What Would Jesus  
Do?"], ["Colleen McCullough", "The Thorn Birds"], ["Dan Brown", "The Da Vinci Code"],
```

[["Dan Brown", "Angels & Demons"], ["Dr. Benjamin Spock", "The Common Sense Book of Baby and Child Care"], ["E.B. White", "Charlotte's Web"], ["Elbert Hubbard", "A Message to Garcia"], ["Ellen G. White", "Steps to Christ"], ["Eric Carle", "The Very Hungry Caterpillar"], ["Gabriel Garcia Marquez", "One Hundred Years of Solitude"], ["H. Rider Haggard", "She: A History of Adventure"], ["Hal Lindsey & C. C. Carlson", "The Late Great Planet Earth"], ["Harper Lee", "To Kill a Mockingbird"], ["J. D. Salinger", "The Catcher in the Rye"], ["J. K. Rowling", "Harry Potter and the Deathly Hallows"], ["J. P. Donleavy", "The Ginger Man"], ["J. R. R. Tolkien", "The Lord of the Rings"], ["J. R. R. Tolkien", "The Hobbit"], ["Jack Higgins", "The Eagle Has Landed"], ["Jacqueline Susann", "Valley of the Dolls"], ["Jeffrey Archer", "Kane and Abel"], ["Johanna Spyri", "Heidi's Years of Wandering and Learning"], ["Jostein Gaarder", "Sophie's World"], ["Leo Tolstoy", "War and Peace"], ["Louise Hay", "You Can Heal Your Life"], ["Lucy Maud Montgomery", "Anne of Green Gables"], ["Margaret Mitchell", "Gone with the Wind"], ["Napoleon Hill", "Think and Grow Rich"], ["Nikolai Ostrovsky", "How the Steel Was Tempered"], ["Paulo Coelho", "The Alchemist"], ["Richard Adams", "Watership Down"], ["Richard Bach", "Jonathan Livingston Seagull"], ["Rick Warren", "The Purpose Driven Life"], ["Robert James Waller", "The Bridges of Madison County"], ["Shere Hite", "The Hite Report"], ["Stieg Larsson", "The Girl with the Dragon Tattoo"], ["Umberto Eco", "The Name of the Rose"], ["V. C. Andrews", "Flowers in the Attic"], ["Vladimir Nabokov", "Lolita"], ["Wayne Dyer", "Your Erroneous Zones"], ["William Bradford Huie", "The Revolt of Mamie Stover"]]

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

```
Book.order(:copies).reverse_order.pluck(:title, :copies)
```

```
(0.7ms) SELECT "books"."title", "books"."copies" FROM "books" ORDER BY "books".copies DESC
```

```
=> [{"A Tale of Two Cities", 200}, {"The Lord of the Rings", 150}, {"The Little Prince", 140}, {"And Then There Were None", 100}, {"Dream of the Red Chamber", 100}, {"The Hobbit", 100}, {"She: A History of Adventure", 100}, {"The Lion the Witch and the Wardrobe", 85}, {"The Da Vinci Code", 80}, {"Think and Grow Rich", 70}, {"The Catcher in the Rye", 65}, {"The Alchemist", 65}, {"Steps to Christ", 60}, {"Lolita", 50}, {"Heidi's Years of Wandering and Learning", 50}, {"The Common Sense Book of Baby and Child Care", 50}, {"Anne of Green Gables", 50}, {"Black Beauty: His Grooms and Companions: The autobiography of a horse", 50}, {"The Name of the Rose", 50}, {"The Eagle Has Landed", 50}, {"Watership Down", 50}, {"The Hite Report", 50}, {"Charlotte's Web", 50}, {"The Ginger Man", 50}, {"The Bridges of Madison County", 50}, {"The Tale of Peter Rabbit", 45}, {"Harry Potter and the Deathly Hallows", 44}, {"Jonathan Livingston Seagull", 40}, {"A Message to Garcia", 40}, {"Sophie's World", 40}, {"Flowers in the Attic", 40}, {"Angels & Demons", 39}, {"How the Steel Was Tempered", 36}, {"War and Peace", 36}, {"The Adventures of Pinocchio", 35}, {"You Can Heal Your Life", 35}, {"Your Erroneous Zones", 35}, {"The Late Great Planet Earth", 35}, {"Kane and Abel", 34}, {"In His Steps: What Would Jesus Do?", 30}, {"To Kill a Mockingbird", 30}, {"Valley of the Dolls", 30}, {"Gone with the Wind", 30}, {"The Diary of a Young Girl", 30}, {"One Hundred Years of Solitude", 30}, {"The Purpose Driven Life", 30}, {"The Thorn Birds", 30},
```

["The Revolt of Mamie Stover", 30], ["The Girl with the Dragon Tattoo", 30], ["The Very Hungry Caterpillar", 30]]

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

```
Book.order(:copies).pluck(:title, :copies)
```

```
(0.6ms) SELECT "books"."title", "books"."copies" FROM "books" ORDER BY  
"books".copies ASC
```

```
=> [{"In His Steps: What Would Jesus Do?", 30}, {"To Kill a Mockingbird", 30}, {"Valley of  
the Dolls", 30}, {"Gone with the Wind", 30}, {"The Diary of a Young Girl", 30}, {"One  
Hundred Years of Solitude", 30}, {"The Purpose Driven Life", 30}, {"The Thorn Birds", 30},  
{"The Revolt of Mamie Stover", 30}, {"The Girl with the Dragon Tattoo", 30}, {"The Very  
Hungry Caterpillar", 30}, {"Kane and Abel", 34}, {"The Adventures of Pinocchio", 35},  
{"You Can Heal Your Life", 35}, {"Your Erroneous Zones", 35}, {"The Late Great Planet  
Earth", 35}, {"How the Steel Was Tempered", 36}, {"War and Peace", 36}, {"Angels &  
Demons", 39}, {"Jonathan Livingston Seagull", 40}, {"A Message to Garcia", 40},  
{"Sophie's World", 40}, {"Flowers in the Attic", 40}, {"Harry Potter and the Deathly  
Hallows", 44}, {"The Tale of Peter Rabbit", 45}, {"Lolita", 50}, {"Heidi's Years of Wandering  
and Learning", 50}, {"The Common Sense Book of Baby and Child Care", 50}, {"Anne of  
Green Gables", 50}, {"Black Beauty: His Grooms and Companions: The autobiography of  
a horse", 50}, {"The Name of the Rose", 50}, {"The Eagle Has Landed", 50}, {"Watership  
Down", 50}, {"The Hite Report", 50}, {"Charlotte's Web", 50}, {"The Ginger Man", 50},  
{"The Bridges of Madison County", 50}, {"Steps to Christ", 60}, {"The Catcher in the Rye",  
65}, {"The Alchemist", 65}, {"Think and Grow Rich", 70}, {"The Da Vinci Code", 80}, {"The  
Lion the Witch and the Wardrobe", 85}, {"And Then There Were None", 100}, {"Dream of  
the Red Chamber", 100}, {"The Hobbit", 100}, {"She: A History of Adventure", 100}, {"The  
Little Prince", 140}, {"The Lord of the Rings", 150}, {"A Tale of Two Cities", 200}]
```

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

```
Book.where(year: 1900..1999, language: "English").pluck(:title)
```

```
(0.3ms) SELECT "books"."title" FROM "books" WHERE "books"."language" =  
'English' AND ("books"."year" BETWEEN 1900 AND 1999)
```

```
=> ["The Lord of the Rings", "And Then There Were None", "The Hobbit", "The Lion the  
Witch and the Wardrobe", "Think and Grow Rich", "The Catcher in the Rye", "Lolita",  
"The Common Sense Book of Baby and Child Care", "Anne of Green Gables", "The  
Eagle Has Landed", "Watership Down", "The Hite Report", "Charlotte's Web", "The  
Ginger Man", "The Bridges of Madison County", "The Tale of Peter Rabbit", "Jonathan  
Livingston Seagull", "Flowers in the Attic", "You Can Heal Your Life", "Your Erroneous  
Zones", "The Late Great Planet Earth", "Kane and Abel", "To Kill a Mockingbird", "Valley  
of the Dolls", "Gone with the Wind", "The Thorn Birds", "The Revolt of Mamie Stover",  
"The Very Hungry Caterpillar"]
```

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

```
Book.where(year: 1900..1999, language: "English").limit(5).pluck(:title)
```

```
(0.3ms) SELECT "books"."title" FROM "books" WHERE "books"."language" =  
'English' AND ("books"."year" BETWEEN 1900 AND 1999) LIMIT 5
```

```
=> ["The Lord of the Rings", "And Then There Were None", "The Hobbit", "The Lion the  
Witch and the Wardrobe", "Think and Grow Rich"]
```

10. Display the books grouped by language

```
Book.group(:language)
```

```
Book Load (0.7ms) 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: "2015-02-02  
19:45:38", updated_at: "2015-02-02 19:45:38">, #<Book id: 44, title: "The Diary of a  
Young Girl", author: "Anne Frank", language: "Dutch", year: 1947, copies: 30,  
created_at: "2015-02-02 19:45:38", updated_at: "2015-02-02 19:45:38">, #<Book id: 50,  
title: "The Very Hungry Caterpillar", author: "Eric Carle", language: "English", year: 1969,  
copies: 30, created_at: "2015-02-02 19:45:38", updated_at: "2015-02-02 19:45:38">,  
#<Book id: 3, title: "The Little Prince", author: "Antoine de Saint-Exupery", language:  
"French", year: 1943, copies: 140, created_at: "2015-02-02 19:45:38", updated_at:  
"2015-02-02 19:45:38">, #<Book id: 15, title: "Heidi's Years of Wandering and Learning",  
author: "Johanna Spyri", language: "German", year: 1880, copies: 50, created_at: "2015-  
02-02 19:45:38", updated_at: "2015-02-02 19:45:38">, #<Book id: 35, title: "The  
Adventures of Pinocchio", author: "Carlo Collodi", language: "Italian", year: 1881, copies:  
35, created_at: "2015-02-02 19:45:38", updated_at: "2015-02-02 19:45:38">, #<Book id:  
30, title: "Sophie's World", author: "Jostein Gaarder", language: "Norwegian", year: 1991,  
copies: 40, created_at: "2015-02-02 19:45:38", updated_at: "2015-02-02 19:45:38">,  
#<Book id: 12, title: "The Alchemist", author: "Paulo Coelho", language: "Portuguese",  
year: 1988, copies: 65, created_at: "2015-02-02 19:45:38", updated_at: "2015-02-02  
19:45:38">, #<Book id: 34, title: "War and Peace", author: "Leo Tolstoy", language:  
"Russian", year: 1869, copies: 36, created_at: "2015-02-02 19:45:38", updated_at:  
"2015-02-02 19:45:38">, #<Book id: 45, title: "One Hundred Years of Solitude", author:  
"Gabriel Garcia Marquez", language: "Spanish", year: 1967, copies: 30, created_at:  
"2015-02-02 19:45:38", updated_at: "2015-02-02 19:45:38">, ...]>
```

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

```
Book.where(year: 1950..1999).maximum(:copies)
```

```
(0.3ms) 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)

```
Book.where(year: 2000..2010).average(:copies).to_f
```

```
(0.4ms) 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 (0.4ms) SELECT "books".* FROM "books" WHERE "books"."title" = 'The  
Hobbit' ORDER BY "books"."id" ASC LIMIT 1
```

```
(0.1ms) begin transaction
```

```
SQL (1.1ms) UPDATE "books" SET "copies" = ?, "updated_at" = ? WHERE "books"."id" =  
6 [["copies", 101], ["updated_at", Mon, 02 Feb 2015 20:22:52 UTC +00:00]]
```

```
(1.9ms) commit transaction
```

```
=> true
```