100 LINQ Practice Questions

Master LINQ with these comprehensive exercises

Basic Operations & Aggregations (Q1-Q10)

Q1. Find the total value of all products in stock (price × quantity)

Q2. Get the first product whose price exceeds the average product price

Q3. Check if there are any employees currently inactive

Q4. Retrieve the first 5 books ordered alphabetically by title

Q5. Return all unique countries where customers live

Q6. Find all employees who have been hired within the last 3 years

Q7. Find all customers who have placed orders worth more than 1000 in total

Q8. Count how many books are out of stock or unavailable

Q9. Calculate the average salary of employees in each department

Q10. Find the top 3 most expensive products in each category

Filtering & Joins (Q11-Q20)

Q11. Get all employees who have worked on more than one project

Q12. Find the total hours assigned per project and order them descending

Q13. Retrieve all projects that started after the company's average project start date

Q14. Find all employees who borrowed books from at least two different genres

Q15. Return the project with the longest duration (EndDate - StartDate)

Q16. Find all customers who have placed at least one order every quarter of 2024

Q17. Calculate the total number of books borrowed per month

Q18. Retrieve all employees who have both active and inactive project assignments

Q19. Get all projects where every assigned employee is active

Q20. Find all employees who are both 'Leads' and 'Developers' across different projects

Advanced Grouping & Calculations (Q21-Q30)

Q21. Find the employee with the highest total allocated project hours

Q22. Get all employees whose total project hours exceed the company's average

Q23. Return the top 3 book genres based on total borrowed count

Q24. Find all employees who have never borrowed a book

Q25. Determine if all employees in the IT department are active

Q26. Get the average rating of books borrowed by employees with more than 5 years of experience

Q27. Find the difference between the highest and lowest total project budgets

Q28. Retrieve the employees whose project hours fall within the top 10%

Q29. Return all books borrowed by employees working on 'AI' category projects

Q30. Count how many customers have placed orders in both 2024 and 2025

Complex Filtering & Comparisons (Q31-Q40)

Q31. Find employees who borrowed more books than the average borrowing count per employee

Q32. Retrieve employees whose manager joined the company after them

Q33. Find all books that were borrowed but never returned on time

Q34. Return all employees who have projects in two different categories

Q35. Calculate the ratio between completed and total projects

Q36. Find the top 3 employees with the highest ratio of total hours to experience years

Q37. Return all employees who borrowed all available 'Fantasy' books

Q38. Find all employees who borrowed books in at least 3 different months

Q39. Return all projects that share at least one employee with another project

Q40. Find the employee with the earliest hire date who still manages others

Set Operations & Advanced Queries (Q41-Q50)

Q41. Return books that were borrowed more than the average borrowing frequency

Q42. Find employees who worked on projects that no longer exist in the system

Q43. Return employees who participated in a project that others didn't

Q44. Retrieve the union of all project categories that contain either AI or Cloud-related work

Q45. Find the intersection of employees who borrowed books and those who worked on projects

Q46. Check whether two employees have worked on exactly the same set of projects (example: employee 1 and 3)

Q47. Create a lookup of employees grouped by their manager ID

Q48. Convert the product list into a dictionary where the key is product ID and the value is product name

Q49. Find all products whose stock value ranks within the top 20% of total inventory value

Q50. Aggregate all project budgets into a single summary string showing 'ProjectName:Budget'

Orders & Customers (Q51-Q70)

Q51. Find customers who have never placed an order

Q52. Find all orders with a total greater than the average order total

Q53. Get the most recent order placed by each customer

Q54. Count how many products were ordered by each customer

Q55. Find the top 5 customers by total spending

Q56. Retrieve all orders that include at least one product from the 'Electronics' category

Q57. Calculate the average order total per country

Q58. Find all customers who placed orders in December only

Q59. List all products that were never ordered

Q60. Find all products where total sales (price × quantity sold) exceed 10,000

Q61. Find the most frequently ordered product overall

Q62. Find customers who have ordered the same product more than once

Q63. Get the month with the highest number of orders

Q64. Retrieve the average number of items per order

Q65. Find the earliest and latest order dates for each customer

Q66. Find all orders placed on weekends

Q67. Identify customers who placed orders in 2023 but not in 2024

Q68. For each customer, calculate their average order value

Q69. Get the top 3 products per category by total sales

Q70. Calculate the total revenue per product category

Books & Library (Q71-Q80)

Q71. Get all books never borrowed by anyone

Q72. Find all employees who borrowed books more than twice in the same month

Q73. Calculate the most popular genre among borrowed books

Q74. Find books borrowed by at least 5 unique employees

Q75. Determine the average loan duration for returned books

Q76. Get all employees who returned a book after more than 30 days

Q77. Find the month with the highest number of late returns

Q78. Find employees who borrowed books of only one genre

Q79. Calculate the total number of currently borrowed books (not returned)

Q80. Find all employees who borrowed books in both 2023 and 2024

Employees & Departments (Q81-Q90)

Q81. Find all employees whose salary is below the department average

Q82. Find departments with more than 10 employees

Q83. Get the highest paid employee in each department

Q84. Find employees who joined in the same year as their manager

Q85. Count the number of employees hired each year

Q86. Retrieve employees who have never worked on any project

Q87. Find the department with the highest total salary cost

Q88. Get all employees whose experience exceeds 10 years and who manage others

Q89. List employees who have no subordinates and no projects

Q90. Find employees who were promoted (i.e., salary increased) — assume a list of SalaryHistory

Projects & Assignments (Q91-Q100)

Q91. Find all projects that started and ended in the same year

Q92. Find the average number of employees per project

Q93. Get all projects with no assigned employees

Q94. Find the most common project category

Q95. Calculate the average duration (in days) of all projects

Q96. Find employees who worked on more than 3 projects simultaneously

Q97. Get projects where all employees have more than 5 years' experience

Q98. Find projects whose budgets exceed the average budget for their category

Q99. Find all categories with at least one project completed in under 10 days

Q100. Return employees who have worked on both active and completed projects