**Data manipulation** in the tech realm involves **organizing, altering, and managing data** to make it more readable and useful. [It’s a fundamental step in data analysis, data mining, and data preparation for machine learning, enabling informed decisions and conclusions from raw data1](https://www.geeksforgeeks.org/data-manipulation/)[2](https://www.g2.com/articles/data-manipulation)[3](https://www.g2.com/glossary/data-manipulation-definition)[4](https://www.indeed.com/career-advice/career-development/data-manipulation).

Here are **five free resources** where you can learn more about data manipulation:

1. [**365 Data Science Flashcards**: These expertly designed flashcards cover essential data science concepts, including terms and glossaries for tools like Microsoft Excel, SQL, Python, and ChatGPT](https://www.geeksforgeeks.org/data-manipulation/)[5](https://machinelearningmastery.com/best-free-resources-to-learn-data-analysis-and-data-science/).
2. **Udemy**: Explore Udemy’s extensive library of online courses, including data analytics and data science. [They offer both paid and free courses, so be sure to filter for the free ones](https://www.geeksforgeeks.org/data-manipulation/)[5](https://machinelearningmastery.com/best-free-resources-to-learn-data-analysis-and-data-science/).
3. **365 Data Science Statistics Calculators**: These calculators help you understand statistical calculations by revealing each step necessary to arrive at a solution. [Topics include measures of central tendency, variance, confidence intervals, hypothesis testing, and more](https://www.geeksforgeeks.org/data-manipulation/)[5](https://machinelearningmastery.com/best-free-resources-to-learn-data-analysis-and-data-science/).
4. **YouTube Tutorials**: YouTube hosts valuable content from data creators. [You’ll find concise tutorials, job-seeking advice, and comprehensive courses related to data science](https://www.geeksforgeeks.org/data-manipulation/)[5](https://machinelearningmastery.com/best-free-resources-to-learn-data-analysis-and-data-science/).
   * Check out Programming with Mosh’s full course on **Python Programming for Beginners**.
   * Explore freeCodeCamp’s full course on **Data Science Fundamentals**.
   * Dive into **MySQL Basics for Data Analysts** with Alex the Analyst.
   * [Learn SQL through Tina Huang’s **SQL Sundays** playlist](https://www.geeksforgeeks.org/data-manipulation/)[5](https://machinelearningmastery.com/best-free-resources-to-learn-data-analysis-and-data-science/).

Happy learning! 📊📚