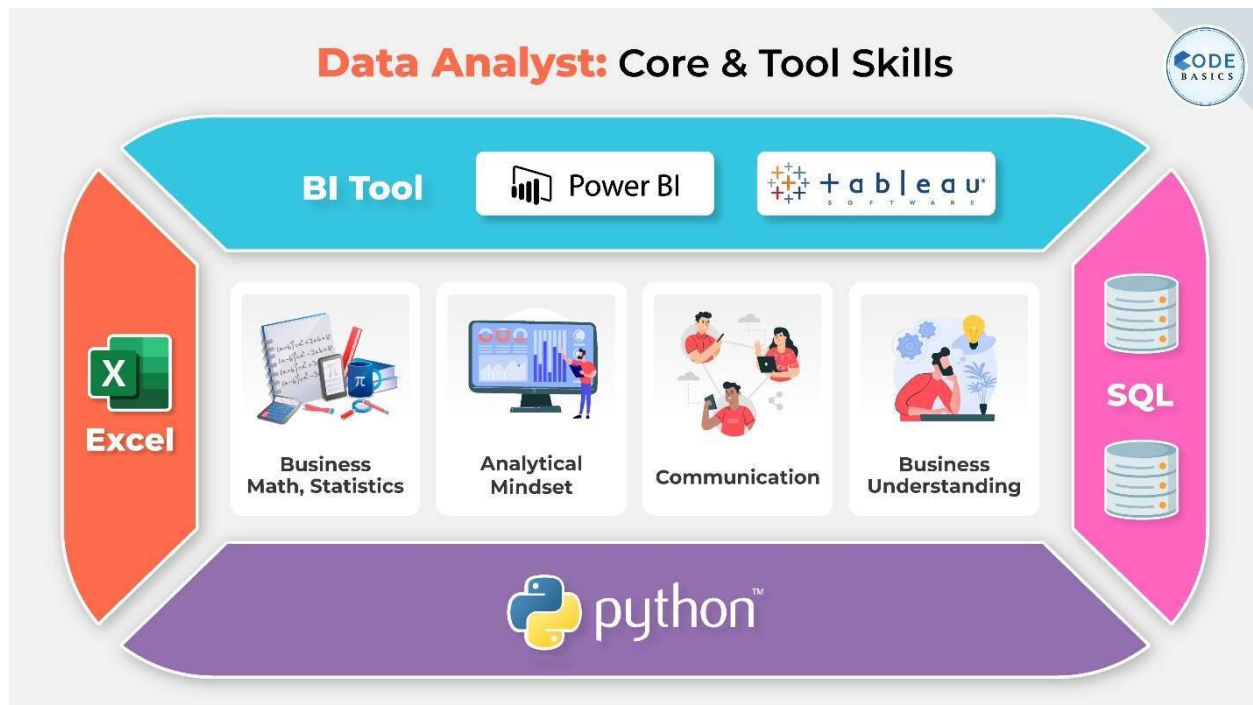


# Data Analyst Roadmap for Beginners

Following is the roadmap to learn **Data Analyst** skills for a total beginner (**no coding or computer science background** needed). It includes FREE learning resources for technical skills (or tool skills) and soft (or core) skills.

Total Duration: **3 Months**

**3 hours** in Tool Skills + **1 hour** in Core Skills = **4 hours** study Every Day.



## Week 1 and 2: Excel and Business Math/Statistics

- **Excel**
  - Topics
    - Basic Formulas: SUM, AVERAGE, PRODUCT, MEAN, MEDIAN, IF, SUMIF
    - Advanced Formulas: VLOOKUP, MATCH, INDEX
    - Pivot Tables
    - Basic Charting, Filters, Sorting

- Ignore VBA, Macros etc.
- Resources
  - Track A
    - Google templates gallery for personal finance: <https://docs.google.com/spreadsheets/u/0/?ftv=1>
    - Budget planner: <https://www.vertex42.com/ExcelTemplates/budgets.html>
      - Chandoo's YouTube channel: [https://www.youtube.com/@chandoo\\_](https://www.youtube.com/@chandoo_)
  - Track B
    - Codebasics Excel course: <https://codebasics.io/courses/excel-mother-of-business-intelligence/>
    -
- **Business Math and Statistics**
  - Topics:
    - Business Math
      - Arithmetic, Percentages
        - YoY (Year over year) Growth or Decline: When Apple grew from 50 to 60 million, what is the % growth? Answer: 20 %
        - If below is the cell phone sales breakdown, what is the % Market Share of iPhone? Answer: 42.10%
          - iPhone - 40 billion
          - Samsun Galaxy -20 billion
          - Google Pixel – 5 billion
          - Others – 30 billion
    - Basic Statistics
      - Mean, Median, Standard Deviation, Bell Curve, Percentile
  - Learning Resources
    - Business math youtube playlist (English): <https://youtube.com/playlist?list=PLeo1K3hjS3uvzrbWWM8m8CfDR-CBihnqf>
    - Business math youtube playlist (Hindi): <http://bit.ly/3JMKbc1>
    - <https://www.khanacademy.org/>

- Intro to percentage <https://www.khanacademy.org/math/pre-algebra/xb4832e56:percentages/xb4832e56:intro-to-percents>
- <https://www.mathsisfun.com/>
- YouTube (codebasics YouTube channel will have a playlist on this in the future)
- **Assignment**
  - ☐ Create your own budget sheet
  - ☐ Create a professional looking LinkedIn profile
    - Have a clear profile picture, banner image (data analyst loading...)
    - Add tags such as: Open to work etc.

## Week 3, 4, 5: BI tools (Power BI or Tableau)

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- **Power BI**
  - Track A
    - Sales insights Power BI project: <https://bit.ly/3C1WKgA>
    - Personal finance project: <https://www.youtube.com/watch?v=pqSoCa2NGj4>
    - HR data analytics project: <https://bit.ly/3C7cw9P>
  - Track B
    - Sales insights project tutorial playlist: <https://bit.ly/3C1WKgA>
    - My Power BI course that can make you job ready: <https://codebasics.io/courses/power-bi-data-analysis-with-end-to-end-project>
- **Tableau**
  - Codebasics sales insights project: <http://bit.ly/3YQSBFV>
  - HINDI codebasics sales insights project: <https://bit.ly/3hZXUCb>
- Should I learn Power BI or Tableau?
  - If someone asks me to pick between Power BI and Tableau, I always suggest Power BI as it is growing in popularity as compared to Tableau.
  - This Gartner research shows Power BI is leading a BI game: <https://info.microsoft.com/ww-landing-2022-gartner-mq-report-on-bi-and-analytics-platforms.html?LCID=EN-US>

- **LinkedIn - Soft Skill**

- Start following prominent data analytics influencers
  - Hemanand Vadivel: <https://www.linkedin.com/in/hemvad/>
- Increase engagement
  - Start commenting meaningfully on data analytics and career related posts
    - Helps network with others working in the industry build connections
  - Learning and brainstorming opportunity

- **Business Fundamentals - Soft Skill**

- Learn business concepts from ThinkSchool and other YT Case Studies
  - Example: How Amul beat competition: <https://youtu.be/nnwqtZiYMxQ>
- Learn P&L fundamentals
  - There are many data analyst positions in finance department of any company and learning P&L is super important for this role
  - Resource: Investopedia
  - Power BI course for integrated business and tech learning

- **Discord - Soft Skill**

- Start asking questions and get help from the community. This post shows how to ask questions the right way: <https://bit.ly/3I70Ebl>

- **Assignment**

- ☐ Share your learning using a LinkedIn Post: Example: <https://bit.ly/3GkqhEF>
- ☐ Read and understand P&L statement of at least 3 public companies

## Week 6 and 7: SQL

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- **SQL**

- Topics
  - Basics of relational databases
  - Basic Queries: SELECT, WHERE LIKE, DISTINCT, BETWEEN, GROUP BY, ORDER BY
  - Advanced Queries: CTE, Subqueries, Window Functions
  - Joins: Left, Right, Inner, Full

- Stored procedures and functions
- No need to learn database creation, indexes, triggers etc. as those things are rarely used by data analysts
- Learning Resources
  - Track A
    - Khan academy: <https://bit.ly/3WFku20>
    - <https://www.w3schools.com/sql/>
    - <https://sqlbolt.com/>
  - Track B
    - SQL course for data professionals: <https://codebasics.io/courses/sql-beginner-to-advanced-for-data-professionals>
- **Soft Skills**
  - Participate in one resume project challenge: <https://codebasics.io/event/codebasics-resume-project-challenge>
  - If you have a relevant background say in supply chain then pick that challenge.
  - Learn presentation skills
    - Death by PowerPoint: <https://www.youtube.com/watch?v=lwpi1Lm6dFo>
- **Assignment**
  - ☐ Participate in one resume project challenge
  - ☐ Make a LinkedIn post: just text, no audio/video
    - Example post: <https://bit.ly/3VwAGRY>
    - Codebasics is promoting winning entries to employers. This way you can get interview calls. We do this in two ways
      - We have a database of employers hiring for data analyst positions. We send first 10 or 20 profiles based on their performance
      - LinkedIn post by Dhaval (who has more than 100k followers and some of them are HR managers, data analytics senior managers): <https://bit.ly/3jnni5c>

## Week 8, 9, 10: Python & Pandas

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- **Python**
  - Topics

- Variables, Lists, Dictionaries, Tuples, If condition, for loops, functions, modules, file handling, classes and objects, exception handling
- Learning Resources
  - Track A
    - Codebasics python tutorials (first 16) - <https://bit.ly/3X6CCC7>
    - Codebasics python HINDI tutorials - <https://bit.ly/3vmXrgw>
    - Make sure to work on exercises in these folders: <https://github.com/codebasics/py/tree/master/Basics/Hindi>
  - Track B
    - Python course: <https://codebasics.io/courses/python-for-beginner-and-intermediate-learners>
- **Pandas**
  - Topics
    - Dataframe basics
    - Reading data from csv/excel files
    - Handling missing data
    - Group by, Concat, Merge
  - Resources
    - Codebasics pandas playlist (first 9): <https://www.youtube.com/playlist?list=PLeo1K3hjS3uuASpe-1LjfG5f14Bnozjwy>
    - Kaggle datasets: <https://www.kaggle.com/datasets>
    - Kaggle notebooks: <https://www.kaggle.com/notebooks>
- **Project Management**
  - Scrum: <https://scrumtrainingseries.com/>
  - Kanban: <https://youtu.be/jf0tlbt9lx0>
  - Tools: JIRA, Notion
- **Assignment**
  - ☐ Participate in one resume project challenge
  - ☐ Make a LinkedIn post: with audio
  - ☐ Discord: Start helping people

## Week 11, 12: Resume and Interview Prep

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- **Resume Preparation**

- Resumes are dying but not dead yet. Focus more on online presence
- Here is the resume tips video along with some templates you can use for your data analyst resume: <https://www.youtube.com/watch?v=buQSI8NLOMw>

- **Interview Preparation**

- SQL interview preparation
  - Use this website: <https://datalemur.com/>
  - Also check this YouTube channel: <https://www.youtube.com/@techTFQ>
- Power BI and other tech interview preparation
  - Playlist coming soon on codebasics YouTube channel

- **Job Applications**

- Cold emailing: [https://youtu.be/tD\\_sQSzq6uY](https://youtu.be/tD_sQSzq6uY)
- Job referrals. Use LinkedIn as much as you can

- **Assignment**

- ☐ Participate in resume project challenge
  - These challenges help you improve technical skills, soft skills and business understanding
- ☐ Make a LinkedIn post: this time with video
  - Example post: <https://bit.ly/3WMTgGK> (Naveen S)
- ☐ Discord server participation

## How can I get guided learning all at one place with job assistance?

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If you need guided learning with a high quality learning resources along with job assistance then check this affordable data analyst bootcamp by codebasics:

<https://codebasics.io/bootcamps/data-analytics-bootcamp-with-practical-job-assistance>

The bootcamp will help you save time compared to free learning resources. Also it will provide job, interview assistance along with a virtual internship 💧 🐼

## Tips of effective learning

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- **Spend less time in consuming information, more time in**
  - Digesting
  - Implementing
  - Sharing
- **Group learning**
  - Use **partner-and-group-finder** channel on codebasics discord server for group study and hold each other accountable for the progress of your study plan. Here is the discord server link: <https://discord.gg/r42Kbuk>

## Inspirational Stories

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- Data analyst career transition success stories: <https://bit.ly/3PUZ4f3>
- BCom to data analyst transition success story: <https://youtu.be/lqEzYDuTnvU>