3-Months Roadmap to Become a Data Analyst in 2024

Weeks 1-2: Laying the Foundation

Week 1: Introduction to Excel
- Days 1-3: Understand the basics of data, types, and sources.
- Days 4-5: Explore key data analysis tools: Excel, Google Sheets.
- Days 6-7: Introduction to basic data manipulation and cleaning.

Week 2: Introduction to Statistics
- Days 1-3: Learn foundational statistics: mean, median, mode, standard deviation.
- Days 4-5: Understand probability and its application in data analysis.
- Days 6-7: Introduction to Python for Data Analysis: basics of syntax and data structures.

Weeks 3-5: Mastering Data Manipulation with SQL

Week 3: SQL Fundamentals
- Days 1-3: Understand relational databases and the SQL language.
- Days 4-5: Learn to query databases using SELECT statements.
- Days 6-7: Practice SQL skills on relevant datasets.

Week 4: Advanced SQL and Database Management
- Days 1-3: Advanced SQL queries and optimization.
- Days 4-5: Database management principles.
- Days 6-7: Apply advanced SQL on large datasets.

Week 5: Working on projects using the learnings.

Weeks 6-7: Analysis and Visualization tools

Week 6: Power BI
- Days 1-3: Apply statistical concepts using Python.
- Days 4-5: Introduction to hypothesis testing.
- Days 6-7: Apply statistical analysis on real datasets.

Week 7: Tableau
- Days 1-3: Learn principles of effective data visualization.
- Days 4-5: Explore visualization libraries like Matplotlib and Seaborn.

- Days 6-7: Create compelling visualizations for diverse datasets.

Weeks 8-9: Introduction to Python

Week 8: Python for Data Analysis
- Days 1-3: Introduction to Python for Data Analysis: basics of syntax and data structures.
- Days 4-5: Dive deeper into Python: data types, functions, and libraries.
- Days 6-7: Explore Pandas library for data manipulation.

Week 9: Advanced Python and Data Analysis Techniques
- Days 1-3: Explore advanced Python features for data analysis.
- Days 4-5: Explore visualization libraries like Matplotlib and Seaborn.
- Days 6-7: Apply basic machine learning techniques on datasets.

Weeks 10-11: Real-world Projects and Building Portfolio

Week 10: Real-world Data Projects
- Days 1-5: Work on a comprehensive data analysis project.
- Days 6-7: Peer review and feedback.

Week 11: Industry Applications
- Days 1-3: Explore data analytics in specific industries (e.g., finance, marketing, healthcare).
- Days 4-5: Guest lectures or webinars from industry professionals.
- Days 6-7: Finalize and present your project to peers.

Weeks 12: Refinement and Transition

Week 12: Soft Skills and Career Development
- Days 1-3: Learn to communicate findings effectively.
- Days 4-5: Resume building and LinkedIn optimization.
- Days 6-7: Networking and connecting with professionals in the field.

By following this structured roadmap, you'll not only gain a solid understanding of key data analysis concepts and tools but also be well-prepared to apply your skills in real-world scenarios and pursue a career as a data analyst. Adjust the pace according to your comfort level, and remember that continuous learning and practical application are key to success in the field of data analytics. Good luck on your journey!

Excel -> Statistics -> SQL -> Power BI -> Python -> Portfolio -> Soft skills

Week - 1, 2

1. Excel

Topics :
- Basic formulas: SUM, AVERAGE, MEAN, MEDIAN, SUMPRODUCT, CONCATENATE
- Advance formulas: VLOOKUP, INDEX, MATCH, IF, COUNTIF, SUMIF
- Remove duplicates and conditional formatting
- Charts, filters, sort and slicers
- Pivot tables and pivot charts
- Ignore VBA, Macros, etc

Resources:

Excel for Data Analysis
https://www.coursera.org/professional-certificates/ibm-data-analyst-r-excel
IBM Data Analysis in Excel & R Certificate
https://www.coursera.org/learn/excel-basics-data-analysis-ibm
Analysing Data with Excel | IBM
https://www.edx.org/learn/excel/ibm-analyzing-data-with-excel?utm_campaign=edxmilestone&utm_medium=social&utm_source=linkedin

Optional:
https://www.coursera.org/specializations/excel
https://www.udemy.com/course/microsoft-excel-2013-from-beginner-to-advanced-and-beyond

Youtube Videos:

1. Freecodecamp's MS Excel Tutorial for Beginners
https://youtu.be/Vl0H-qTclOg

2. Data Analytics In Excel Full Course | Intellipat

https://youtu.be/NxZpOA62ntA

3. Excel Tutorial | Intellipat
https://youtu.be/27dxBp0EgCc

4.Advanced Excel Full Course 2022 | Simplilearn
https://youtu.be/RkQl2wVpQAo

5. Data Analytics Using Excel | Simplilearn
https://youtu.be/qYm1dZ8T_DU

6. Beginners to Pro Free Excel | Chandoo
https://youtu.be/v2oNWja7M2E

2. Statistics

Topics :
- Basic Math: Arithmetic, Percentage, Weighted Average, Cumulative Sum
- Basic Statistics: Mean, Median, Mode, Standard Deviation, Normal Distribution

Resources:

Statistics Tutorial for Beginners by Simplilearn:
https://www.simplilearn.com/tutorials/statistics-tutorial

📑 Intro to Statistics 👉🏽 https://www.coursera.org/learn/stanford-statistics (Optional)

Week - 3, 4, 5

3. SQL

Topics

- Basic Queries: SELECT, WHERE, DISTINCT, LIKE, BETWEEN, ORDER BY, LIMIT, GROUP BY,
  HAVING CLAUSE, INSERT, UPDATE, ALTER, IMPORT, Data types
- Advance Queries: Date time function, Window function, Sub query, Case statement, CTE, query optimisation
- JOINS: Inner, Outer, Left, Right

Resources

https://www.geeksforgeeks.org/30-days-of-sql-from-basic-to-advanced-level/

SQL tutorial for beginners | Rishabh Mishra
https://youtu.be/On9eSN3F8w0?si=zj3A_7aH3Lu3X-56

⚡ SQL Basics for Data Science 👉🏽
https://www.coursera.org/specializations/learn-sql-basics-data-science
🏅 SQL Bootcamp 👉🏽
https://www.udemy.com/course/the-complete-sql-bootcamp

8 free Courses that'll teach you better than the paid ones

1. SQL Full-course by Simplilearn
https://youtu.be/9Pzj7Aj25lw

2. Learn Basic SQL In 15 Mins | Learn BI Online
https://youtu.be/kbKty5ZVKMY

3. SQL Basic Tutorial | TechTFQ
https://youtu.be/Hl4NZB1XR9c

4. MySQL Tutorials for beginners | Edureka
https://youtu.be/WmGgxTpGs_8

5. NOSQL databases tutorial | freeCodeCamp

https://youtu.be/xh4gy1lbL2k

For practicing:
- W3schools: https://www.w3schools.com/sql/
- Hacker rank sql: https://www.hackerrank.com/domains/sql
- 8-week sql challenge- case study: https://8weeksqlchallenge.com/
- Data lemur: https://datalemur.com/
- Leetcode: https://leetcode.com/problemset/database/
- Learn SQL: https://learnsql.com

Projects:

15 Exciting SQL Projects With Source Code

https://www.interviewbit.com/blog/sql-projects/?fbclid=PAAaY-N482q2yjHXng5CGgBxM9R-G6D0kIQkIp1iouJEzsleM7OBfwxykLNIY

Week - 6, 7

4. BI Tools (Power BI / Tableau)

Start with learning Power BI and then move on to Tableau.

Resources
📈 PowerBI for Data Viz 👉🏼
https://www.coursera.org/professional-certificates/microsoft-power-bi-data-analyst
- Power BI Udemy course:
https://www.udemy.com/course/powerbi-complete-introduction/
- Power Bi Tutorial + Project Beginners:
https://www.youtube.com/watch?v=6cV3OwFrOkk
Learn PowerBI: https://www.datacamp.com/courses/introduction-to-power-bi

📊 Tableau for Data Viz 👉🏼
https://www.coursera.org/specializations/data-visualization
https://www.udemy.com/course/tableau10/

Week - 8, 9

5. Python

Note: If you are a beginner, then start with Python instead of R- as its high in demand and beginner friendly. Also, it will help to solve Machine Learning problems.
As a beginner, learn programming language to an intermediate level, don't waste time to master it.
o Topics in Python:

- Variables, Data types, Lists, Tuples, Dictionaries, Sets, Conditional expressions, Modules,
  Functions, Operators, if statements, Loops, classes and objects
- Python libraries: Pandas and Matplotlib
- Pandas: read/write csv, excel and JSON files, work with dataframe, data manipulation and
  analysis- Group by, Concatenate, Merge
- Matplotlib: creating static, animated, and interactive visualizations in Python

Resources

⚡ Python for Data Science 👉🏼
https://www.udemy.com/course/python-for-data-science-and-machine-learning-bootcamp
🏅 Python Pandas 👉🏼 https://www.udemy.com/course/data-analysis-with-pandas
https://www.coursera.org/specializations/python

Week - 10, 11

6. Portfolio

https://www.interviewbit.com/blog/sql-projects/?fbclid=PAAaY-N482q2yjHXng5CGgBxM9R-G6D0kIQkIp1iouJEzsleM7OBfwxykLNIY
Practice Projects at home:
https://www.youtube.com/watch?v=r-uOLxNrNk8
https://www.youtube.com/watch?v=qfyynHBFOsM

Here are the links to some projects:

1) E-commerce Project (Very Popular)

https://github.com/aaronzguan/Online-Shopping-Cart-Database-Project.git

2) Railway management system

https://github.com/aaryanrr/RailwayMGMT.git

3)Road Safety Dataset

https://github.com/ptyadana/SQL-Data-Analysis-and-Visualization-Projects/

4) European Soccer Game Analysis

https://www.kaggle.com/dimarudov/data-analysis-using-sql/data

5) World Population Dataset

https://github.com/LoicChamplong/Data-Analysis-SQL/tree/master/Analysis_of_the_2015_World_population

Top 5 Data Analytics Projects with Resources | Projects for Beginners | Rishabh Mishra
https://www.youtube.com/watch?v=TM4O9x8kBvg

Sql - Data analysis practice/project

https://www.youtube.com/watch?v=1pHYKdyRvrw&list=PLRY-AYJzifh2rPHy6xtPSwwl-jTW_DMQm&index=1

Coursera Projects:

Exploratory Data Analysis with Python and Pandas: Apply EDA techniques to any table of data using Python.

Twitter Sentiment Analysis Tutorial: Clean thousands of tweets and use them to predict whether a customer is happy or not.

COVID19 Data Visualisation Using Python: Visualise the global spread of COVID-19 using Python, Plotly, and a real data set.

Everything:

1. Full Data Analysis Portfolio Exercise (SQL, Excel, Tableau)
   https://youtu.be/1pHYKdyRvrw?si=se6YCGs0qN-KunQJ

2. End To End Cricket Data Analytics Project Using Web Scraping, Python, Pandas and Power BI
   https://youtu.be/4QkYy1wANXA?si=LD0hfPAES5MB4mqC

Week - 12

7. Soft Skills

Free resume template sites

Novo Resume: https://novoresume.com/resume-templates
Canva: https://www.canva.com/resumes/templates/
Resume io: https://resume.io/resume-templates

Interview Preparation

SQL interview preparation

- Use this website: https://datalemur.com/
  Also check this YouTube channel: https://www.youtube.com/@techTFQ

Data analyst interview preparation

- https://www.youtube.com/watch?v=MX6Ee_ubE1s
- https://www.simplilearn.com/tutorials/data-analytics-tutorial/data-analyst-interview-questions
- https://www.youtube.com/watch?v=h8cr-3vag7w

500+ Interview Questions On Data Analyst And Business Analytics

https://drive.google.com/file/d/1O9iv6_HzAh_aNcbVQcbnIQuNrL9tpfFh/view

Certifications

Data Analyst Certificates

🏅 Google Data Analytics Certificate 👉🏼
https://www.coursera.org/professional-certificates/google-data-analytics

🏅🏅 Google Advanced Data Analytics Certificate 👉🏼
https://www.coursera.org/google-certificates/advanced-data-analytics-certificate

⚡ IBM Data Analytics Certificate 👉🏼
https://www.coursera.org/professional-certificates/ibm-data-analyst

📊 Microsoft BI Data Analyst Certificate 👉🏼
https://www.coursera.org/professional-certificates/microsoft-power-bi-data-analyst

🐍 Meta Marketing Analytics Certificate 👉🏼
https://www.coursera.org/enroll/facebook-marketing-analytics

Data Scientist

📊 Data Science Certificate 👉🏼
https://www.coursera.org/professional-certificates/ibm-data-science

🏅 Data Science Bootcamp 👉🏼
https://www.udemy.com/course/the-data-science-course-complete-data-science-bootcamp

Practice

Best place to learn SQL: https://learnsql.com/?ref=stefanmasnikovic
1. Learn Excel: https://excel-practice-online.com
2. Learn SQL: https://www.w3schools.com/sql/
3. Learn PowerBI: https://www.datacamp.com/courses/introduction-to-power-bi
4. Learn Python: https://www.learnpython.org

🏅 Practice Coding Interviews 👉🏼 https://www.stratascratch.com/?via=sundas
🏅 Julius AI for data analysis 👉🏼 https://julius.ai/?via=Sundas

Youtube channels

https://youtube.com/@SundasKhalid?si=616_CsJ79XzifZbS
https://youtube.com/@KenjiExplains?si=4eXabV_jJHReBAKx
https://youtube.com/@LukeBarousse?si=CQtanUHzaQKKmuC8
Chandoo
Rishabh Mishra
Lore So What
Alex The Analyst

Hope you found this guide helpful! Feel free to send your feedback on Instagram.

Join my free telegram channel for daily valuable content.

If you want a 1:1 guidance from me, you can book a slot here.

All the best!