Donate

Which technical prerequisites should I have?

A basic understanding of statistics

Statistics is important for data science because it provides the tools and methods to clean, analyse, and interpret data to extract valuable insights. Data scientists use statistics to build predictive models, test hypotheses, and communicate findings.
Learning the basics of Python and SQL is crucial for your success in this training. Python concepts, such as variables, loops, conditionals, and functions, will enable you to write efficient code.
Similarly, understanding SQL concepts like table creation, querying, and filtering is essential for working with databases effectively. Mastering these fundamental concepts will lay a strong foundation for your learning journey.
A full list of concepts is provided below to familiarise yourself and upgrade your knowledge from the basics to advanced concepts

Python

Beginners

- Variables
- Basic Data Structures (strings, floats, integers, booleans, arrays, dictionaries)
- Math operators
- Conditions (true/false)
- Control flow (if, elif, else)
- Loops and iterables (for, while, in)
- Functions
- Sort
- String operations
- Working with files (open, read, write, close)
- PEP-8 formatting
- OOP (classes, objects, methods, basic design patterns)
- Comprehensions
- Lambda functions
- Class inheritance
- Pip
- Ass

Mature Learners

- Polymorphism
- Data abstraction
- Dunder methods
- Encapsulation
- Async IO
- *args
- **kwargs
- Generators
- RegEx

SQL

Beginners

- Where clauses (in, between, etc.)
- Update syntax
- Inner vs. left vs. right join - understanding and usage
- Syntax for altering and creating tables
- Temp tables - usage
- Cursors
- Foreign keys (understand what they are for and how to work around them)
- Transactions - basics
- Group bys, with aggregate functions coalesce

Mature Learners

- Indexes (understand what they are for, not how to use them)
- Constraints
- How indexes work (clustered, non-clustered)
- Pages and how to implement them
- Subqueries, and how to use them in joins and wheres
- Pivots
- Joining a table on itself
- Understands OLAP and OLTP and where/when to use OLAP
- Triggers
- Understands transactions and layer them, handling failures
- Query tuning with hints
- CTE (common table expression)
- Understanding Views(virtual table)