# Who is a Statistician, Data analyst and Business Analyst?

## Statistician:

Working as statistician means dealing with data and helping to find practical solutions to problems. Statisticians are concerned with the collection, analysis, interpretation and presentation of quantitative information. As a statistician, you will design and manage experiments and surveys and deal with the initial collection of data. (Reference: <https://www.prospects.ac.uk/job-profiles/statistician>)

## Data Analyst:

As a data analyst, you will translate numbers and data into useful information that can be used by an organisation to solve business problems. You'll use your skills to interpret data, turning it into valuable insights. Your insights will help influence decision-making across an organisation or business, enabling it to improve both processes and performance. (Reference: <https://www.prospects.ac.uk/job-profiles/data-analyst>)

## Business Analyst:

Business analysts help an organisation achieve its goals by analysing data, assessing processes and systems, creating solutions and planning for the future. As a business analyst, your aim will be to understand an organisation, including how it works and what its aims and needs are, so that you can make plans for its future and help to implement improvements and solutions. (Reference: <https://www.prospects.ac.uk/job-profiles/business-analyst>)

# Using the Web and online tools, identify the necessary skills required for becoming a data scientist.

You'll need:

* excellent analytical and problem-solving skills
* experience in database interrogation and analysis tools, such as SQL, Apache Hadoop or SAS
* strong communication and presentation skills for explaining your work to people who don't understand the mechanics behind data analysis
* effective listening skills for understanding the requirements of the business
* drive and the resilience to try new ideas if the first one doesn't work - you'll be expected to work with minimal supervision, so it's important that you're able to motivate yourself
* planning, time management and organisational skills
* the ability to deliver under pressure and to tight deadlines
* great attention to detail
* collaborative and teamworking skills to share ideas and develop solutions.

(Reference: <https://www.prospects.ac.uk/job-profiles/data-scientist>)

## How can you position yourself for any of these job roles?

You'll typically need a degree in a computer science, mathematical or science-based subject to work as a data scientist. Having he right qualifications, skills and work experience such as internships could appear vey useful in finding a job role as Data Scientist.

# State and discuss the requirements of an organisation before hiring a data scientist; for example, access or availability of large amount of data.

**Clear Business Objectives:** Before hiring, the organization must define the specific business problems or goals that data science can help solve, ensuring the hire aligns with strategic aims.

**Access to Large Volumes of Data:** A data scientist needs substantial datasets to work with, which the organization must have access to and not fully utilize.

**Data Infrastructure & Support:** The organization needs the necessary technological infrastructure, including appropriate data storage and management systems, to support data science projects effectively. A data engineer may be necessary to build and maintain this infrastructure.

**Problem-Solution Alignment:** Hiring a data scientist without a clear business problem is a waste of resources; the role should address tangible challenges or opportunities.

# What is Business Intelligence BI?

Business intelligence (BI) is a set of technological processes for collecting, managing and analysing organizational data to yield insights that inform business strategies and operations. Business intelligence analysts transform raw data into meaningful insights that drive strategic decision-making within an organization. BI tools enable business users to access different types of data, historical and current, third-party and in-house, as well as semi-structured data and unstructured data such as social media. Users can analyse this information to gain insights into how the business is performing and what it should do next. Organizations can use the insights gained from BI and data analysis to improve business decisions, identify problems or issues, spot market trends and find new revenue or business opportunities. (Reference: <https://www.ibm.com/think/topics/business-intelligence>)

## Of what benefits is business intelligence to any organisation?

**Improved Decision-Making:** BI tools provide access to real-time data and key performance indicators, allowing leaders to make faster, more informed decisions based on current business context and historical data.

**Increased Efficiency:** By revealing bottlenecks and inefficiencies in processes, BI helps organizations streamline operations, redistribute resources, and automate repetitive tasks to enhance overall productivity.

**Enhanced Revenue & Profitability:** Data analysis from BI tools can uncover new revenue opportunities, help identify gaps in performance, and allow companies to optimize pricing and sales strategies to increase profit margins.

**Better Customer Understanding:** BI provides deep insights into customer behaviour, shopping patterns, and trends, enabling businesses to improve customer satisfaction, retention, and post-sale services.

**Strategic Advantage:** Organizations can leverage BI to identify market trends, capitalize on emerging opportunities, anticipate competitor moves, and develop agile, data-driven strategies to stay ahead in their industry.

# State at least 3 job roles available in the areas of business intelligence indicating the skills, starting salary, maximum salary and other job benefits. Compare and contrast the characteristics of the identified job roles and present a statement of conclusion.

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| **Role** | **Focus** | **Key Skills** | **Starting Salary** | **Max Salary** | **Progression** |
| **BI Analyst** | Data analysis & reporting | SQL, Power BI/Tableau, Excel | ~£31,750 | ~£54,500 | Senior Analyst, Data Scientist |
| **BI/Data Engineer** | Data pipelines & infrastructure | SQL, ETL, Python, Cloud Platforms | ~£36,000–£40,000 | ~£70,000+ | Data Architect, Lead Engineer |
| **BI Manager** | Strategy & team leadership | Leadership, BI strategy, Reporting | ~£55,500 | ~£76,750+ | Head of BI, CDO |

BI Analysts turn data into insights for decision-making.

BI/Data Engineers build and manage the systems that process and store data.

BI Managers lead BI teams and align data strategy with business goals.

Each role fits different strengths: analytical (Analyst), technical (Engineer), or leadership (Manager), offering clear growth paths and increasing salaries.