# Top Interview Questions for Data Scientist in 2023
# Land your Dream Job in Google, Microsoft & Amazon

**The role of a data scientist**

**A data scientist is a specialist who collects and evaluates huge volumes of structured and unstructured information.** As a result, they're also known as **data wranglers**. **All data scientists combine numerous mathematical and statistical tools in their work**. **They evaluate the data after analysing, processing, and modelling it in order to develop meaningful plans for the organisation.**

Because they use their technical talents to detect trends in data, data scientists are also analytical experts. They must collaborate closely with corporate stakeholders to comprehend their objectives and establish how they may be met. They develop data modelling techniques, algorithms, and prediction modes for retrieving the information that the company requires.

**The diverse professions in data science**

There are a number of professions for you to choose from in data science. Some of the major ones are

**Data Analysts**

**Data analysts are accountable for a wide range of duties, including data visualisation, managing, and processing**. They must also run queries against databases from cycle to cycle. **Optimization is one of the data analyst's most prominent skills**. This is due to the fact that they must develop and tweak algorithms that can be utilised to extract data from some of the world's largest databases without causing data corruption. SQL, R, SAS, and Python are among the most popular data analysis tools. As a result, accreditation in these areas can substantially increase your job offers. You should also be able to solve problems effectively.

Key responsibilities:

- Using automated techniques to extract data from primary and secondary resources
- Using database development and maintenance
- **Analysing data and producing reports with recommendations**
- Data analysis and trend forecasts that affect the organization/project
- Collaborating with other members of the team to improve data gathering and quality assurance procedures

**Database Administrator**

Data engineers build and test resilient big data environments for businesses, allowing data scientists to run their algorithms on robust and well-optimized data platforms. They're also in charge of database backups and restores. **A database administrator should be proficient in database recovery, data security, data modelling and other vital abilities. It's a big plus if you're excellent at crisis management.**

Key responsibilities:

- Handling database software for data storage and management
- Working on database development and design
- Putting in place database security measures
- Preparation of reports, documentation, and operational instructions
- Archiving of data
- Collaboration between programmers, project supervisors, and other members of the team

**Data Engineer**

**Data engineers create and test resilient Big Data environments for organisations so that data scientists may run their algorithms on robust and well-optimized data platforms.** To boost database performance, data engineers also update existing infrastructures with updated or improved versions of current technologies. Hive, NoSQL, R, Ruby, Java, C++, and MATLAB are all technologies that demand hands-on knowledge. These are the main things you must learn if you want to work as a data engineer. For instance, working with prominent data APIs and ETL tools can also be advantageous.

Key Responsibilities:

- Create and keep data management systems up to date
- Collection, acquisition, and administration of data
- Finding underlying patterns and anticipating trends
- Collaboration with relevant teams to gain a better understanding of the organization's goals
- Creating reports on the basis of analytics and providing updates to stakeholders

**Data Architect**

**A data architect builds data management plans so that databases may be readily integrated, centralised, and secured with the greatest security methods possible**. They also ensure that data engineers have the necessary updated tools with which the operations are carried out. Proficiency in data warehousing, data modelling, extraction, transformation, and other areas is required for a job in data architecture. You should also be familiar with Hive, Pig, and Spark, among other things.

A Data Architect's Important Roles and Responsibilities Include:

- Developing and implementing a comprehensive data strategy that is in line with business objectives
- Identification of data collection sources in accordance with the data strategy
- Collaboration with cross-functional departments and stakeholders to ensure that database systems run smoothly
- End-to-end data architecture planning and management
- Maintaining database systems and architecture in a way that is both efficient and secure
- Auditing the performance of data management systems on a regular basis and making modifications to improve the systems as needed

**Data Scientist**

**Data scientists must comprehend business difficulties and provide top quality solutions through data analysis and processing**. For example, they are expected to undertake predictive analysis and go over "structured or unstructured" data with sharp monitoring in order to provide valuable insights. They can also do so by spotting emerging trends that might aid businesses in making better judgments. You must be competent in R, MatLab, SQL, Python, or other associated technologies in order to work as a data scientist. If you have a graduate degree in mathematics, computer engineering, or a related field, it can also help.

Key Responsibilities:

- Identifying sources of data collecting for business needs
- Data cleansing, processing, and integration

- Undertaking the process of data collecting and management automation
- Improving processes with Data Science methodologies and technologies
- Analysis of large volumes of data in order to forecast trends and produce reports with recommendations
- Collaboration with the solution, development, and business teams

**Business Analyst**

Business analysts have a slightly distinct role from other data scientists. **They understand how data-oriented technology solutions function and how to handle massive volumes of data**. They also know how to distinguish high-value data from low-value data. In other words, they discover how Big Data can be linked to business insights that contribute to the company's growth. Business analysts bridge the gap between data engineers and executives in charge of management. As a result, they should be familiar with corporate finances and business intelligence, and IT technologies such as data modelling and data visualisation tools.

Key responsibilities:

- Understanding the organization's business
- Conducting a thorough company analysis — identifying issues, opportunities, and potential solutions
- Implementing efforts to improve current business procedures
- Implementation of new technology and systems
- Forecasting and budgeting
- Analysis of Costs

**Machine Learning Engineer**

Engineers who specialise in machine learning are in considerable demand right now. However, the work profile has its own challenges. Machine learning engineers are expected to do A/B testing, design data pipelines, and execute standard machine learning algorithms like classification, clustering, and others. In addition to this, they should have an in-depth understanding of some of the technologies like SQL, REST APIs, and so on. To commence a career as a machine learning engineer, you must have a thorough understanding of some of the technologies, such as Java, Python, and JS. Second, you must have a solid understanding of statistics and mathematics. It's way simpler to ace a job interview once you've mastered both.

Key Responsibilities:

- Machine Learning system design and development
- Studying Algorithms for Machine Learning
- Putting Machine Learning systems to the test
- Creating apps/products based on the needs of the client
- Existing Machine Learning frameworks and libraries are being extended.
- Data exploration and visualisation for greater understanding
- Optimizing systems for training and retraining

**The type of DS interview questions you should be prepared for**

The interview would consist of a number of questions from various spheres. This is to gauge your overall capabilities and expertise in the respective spheres. Some of them are

**Behavioural Questions**

***These questions are designed to understand how you would react in various professional scenarios and how you tackle difficulties to get a positive conclusion.***

The main thing the interviewers will ask you is a question that will allow you to demonstrate how you interpreted a problem and how you solved it. These questions are designed to determine whether you are the ideal fit for the organization's data science team.

Some common behavioural questions that may be asked during a data science interview are:

- How have you leveraged data insights to convince someone to change their mind?
- Have you ever faced a problem when working on a data science project with a group?
- Give an instance of a team conflict to illustrate your point.
- Describe a controversial decision you made.
- Give some examples of how you collaborated with others.
- What data have you used to improve the customer experience?

**Technical Questions**

The interviewer is attempting to assess your technical expertise in both the theory and implementation types of questions. As a result, the interviewer's questions usually fall into one of two categories: Theory and Implementation

- **Theory**

To pre-emptively deal with theory questions, you can provide a couple of personal projects on your resume. **It can include two to three comprehensive projects about a data science concept you've completed in the past.** You should also be prepared for answering questions such as:

- What made you choose this particular model?
- What assumptions do you need to validate to properly use this model?
- What are the disadvantages of that model?
- **Implementation**

If you can answer these questions correctly, you are essentially demonstrating to the recruiter that you are familiar with both theory and model implementation in the project. It can be a curricular project, a personal project, or any other project you've worked on recently. So, here are some modelling techniques you would need to know:

- Random Forest
- Regression
- K-Nearest Neighbour
- Gradient Boosting
- **Going the extra mile**

These are the most basic models that each and every data scientist should be familiar with and have experience applying. So, the easiest method to demonstrate your knowledge is to talk about your projects and show the interviewers that you've gotten your hands dirty and put these models into practice. Furthermore, if you want to be a great data scientist, you must

clean the data, design a data pipeline, evaluate the results, and convey the results to the stakeholders, in addition to simply applying the models.

So, if you can show the interviewer that you understand the entire data science procedure from beginning to end, from obtaining data to explaining the results to stakeholders, and that you can explain why you did each step-in detail, the interviewer will be pleased that you can successfully complete data science projects.

**Coding Questions**

What are the interview questions for data science coding? These are the questions that must be answered by coding in any programming language. If you're seeking a data science job, you'll need to pass the coding interview.

What is the purpose of coding questions?

- Data science is a technological subject in which you must collect, clean, and transform data into usable formats, as you are aware. As a result, the coding questions assess not only your technical abilities but also, you're reasoning and approach to breaking down complex problems into simpler answers. As a result, key coding ideas must be prepared in order to excel in the data science interview.

- These questions also assess whether you tackle real-world situations in a rational manner. True, there are several solutions to a single issue, but the goal is to select the one that is the most efficient in terms of execution time and storage. As a result, you must be able to find the best solution to any real problem.

- The interviewer will also assess the general quality of your code by determining whether you have considered all edge situations in your solution.

You can practise a variety of problem statements from LeetCode and GlassDoor. Don't be put off by the types of questions that may appear intimidating at first. You'll need some time to

prepare them, but you'll also need a strong understanding of basic programming principles and machine learning algorithms to do so.

**Why is data science becoming a popular go-to career option?**

There are many reasons why data science is popular. Some of the chief ones include:

**The data science landscape is continuously changing**

Career fields with limited room for advancement face the threat of becoming stagnant. This implies that in order for opportunities to establish and grow in the market, the various disciplines must constantly evolve and change. Data science is a vast professional path that is always evolving, promising a plethora of opportunities in the future. Job tasks in data science are expected to be more niche, resulting in specialities in the discipline. People who are interested in this domain can benefit from these possibilities and pursue what suits them based on these parameters and specialities.

**The inability of businesses to handle data**

Businesses gather data on a daily basis for online operations and transactions. Many businesses have the fundamental problem of analysing and categorising the data they collect and store. In a circumstance like this, a data scientist becomes the saviour. Businesses can make remarkable progress if data is maintained appropriately and efficiently, leading to increased production.

**Acceleration of data growth at an unprecedented rate**

Almost every person generates data on a daily basis, intentionally or unintentionally. As time passes, the volume of data we interact with on a daily basis will only surge. Furthermore, the volume of data available on the planet will grow at breakneck speed. As data creation soars, data scientists will have a great demand to help businesses effectively use and maintain it.

**Data science is used to update the blockchain**

Blockchain is the most widely used technology for complying with cryptocurrencies such as Bitcoin. In this regard, data security will perform as expected, as precise transactions will be protected and recorded. If big data succeeds, the IoT will follow suit and expand in popularity. Edge computing will be in charge of dealing with and resolving data concerns.

**Virtual Reality will be more user-friendly**

We can see and are seeing how Artificial Intelligence is expanding over the world and how companies are relying on it in today's environment. With advanced concepts such as Deep Learning and neural networking, Big Data's chances will blossom even more. Machine learning is being deployed and implemented in nearly every application at the moment. Augmented Reality (AR) and Virtual Reality (VR) are also witnessing major transmutations. Furthermore, human-machine interaction and dependency are anticipated to improve and grow significantly.

**The data science interview process at Google is divided into two parts:**

Part 1: The first part of the interview process is designed to test your technical skills. You will be asked questions about SQL, statistics, product, analysis, and machine learning similar to product management and data analyst interviews.

Part 2: The second part of the interview process is designed to assess your problem-solving abilities. You will be asked questions about real-world data sets and will be expected to come up with solutions to problems that data scientists typically face.

Now that we have an overview of the interview process, let's dive into some specific questions you may be asked in each part of the interview.

**Questions You May Be Asked in Part 1 of the Interview**

In the first part of the interview, you will be asked questions about your technical skills. Here are some examples of questions you may be asked:

1. What is SQL?

2. How would you calculate the median in SQL?

3. What is a decision tree?

4. How would you use a decision tree to predict whether or not a customer will churn?

5. What is gradient boosting?

6. How would you use gradient boosting to improve the accuracy of a machine learning model?

**Questions You May Be Asked in Part 2 of the Interview**

In the second part of the interview, you will be asked questions about your problem-solving abilities. Here are some examples of questions you may be asked:

1. Given a data set, how would you go about finding the most important factors that contribute to customer churn?

2. How would you develop a machine learning model to predict whether or not a customer will purchase a product?

3. You are given a data set that contains information about when users click on ads. How would you use this data to optimize ad campaigns?

4. You are given a data set that contains transaction data from an eCommerce website. How would you use this data to increase conversion rates?

5. Write a query to find out the third-highest mountain name for each country. Please make sure to order the country in ASC order.

**Tips for Acing Your Google Data Scientist Interview**

1. Be prepared to answer questions about your technical skills. The first part of the interview will likely be focused on your technical skills, so you should be prepared to answer questions about SQL, machine learning, and data analysis.

2. Be prepared to solve problems. The second part of the interview will be focused on your problem-solving abilities. You should be prepared to solve problems that are based on real-world data sets.

3. Practice your interviewing skills. In addition to practicing your technical skills, you should also practice your interviewing skills. This means being able to clearly and concisely communicate your thoughts and ideas.

4. Be yourself. The best way to ace any interview is to simply be yourself. Google is looking for candidates who are smart, creative, and passionate.

**1. Screening interview with HR**

The first interview I had was over the phone and was nearly 30 minutes long. This was a fairly basic one where the HR representative went over my Resume/CV and past data science experiences. I wasn’t asked any detailed technical or behavioural questions, and no in-depth responses were expected. The sole purpose of this was a preliminary screening to confirm I met

the requirements for the position I had applied to. I briefly shared my current and previous data science projects. I also made sure to use some technical terms that would establish the fact that I did indeed have the relevant knowledge.

So, some important things to remember for this interview step are:
Share your previous/latest Data Science job and project experiences Use technical terms where necessary, but keep it simple.

**2. Video call interview with the hiring manager**

My second interview was an hour-long with 30 minutes each for the technical and the behavioral components.

The behavioral part was with my hiring manager who focused on Amazon's leadership principles. These included **Customer Obsession** and **Conflict Resolution**. I strongly recommend coming up with at least 2 examples from your previous work experiences for each of them.
For the behavioural part look up the Amazon Leadership Principles and come up with at least 2 examples for each principle.

The technical part was conducted by a Senior Data Scientist. I was provided with a sample data set for a car manufacturer and asked to predict the prices of the cars using a classification model. A screen was shared with me and I coded the solution from scratch on it. What greatly helped me was being able to discuss my thought process as I kept working on the solution because when time ran out, I had not completed the code, but my interviewer was quite pleased with however much I had done.

For ML questions, keep your thought process clean. Remember the basics that is- Explore the data- Preprocess the data- Remember basic preprocessing requirements such as filling in null values, what kind of null values you are looking for, normalising the data, how you'll handle numerical and categorical values and how you'll handle missing values- What kind of model you will use and why (safest to start with is Random Forest for Gradient Boosting). Think of advantages and disadvantages of your model- Remember hyper-parameter optimization- Final variable you'll be tracking (basically result)

### 3. Video call interview with HR

The third interview I had for this role was once again with an HR representative (in my case it was the same person whom I had spoken with initially). This too lasted for 30 minutes and was just behavioral. It comprised of discussion on one leadership principle — C**ustomer Obsession.** This is where I used the second example I had prepared earlier.

The rest of the time was spent by the representative helping me understand the next interview (the toughest and the longest one) and sharing tips on how to prepare for it.

Again, for the behavioural part, look up the Amazon Leadership Principles and come up with at least 2 examples for each principle from your personal experiences. Try your best not to repeat the examples - share unique experiences with each interviewee.

### 4. The loop (6 video call interviews)

This was the most nerve-wracking, sweat-inducing, heart-pounding, and mouth-drying round of the entire process. I had 6 different interviewers whom I talked to one on one individually for around 45–60 minutes. These sessions were divided into two days (3 interviews per day).

There were 3 technical interviews that were related to SQL, Machine Learning, and Deep Learning.

For the SQL interview, I was given 2 tables — customer id and order id.

**SQL Question**cust_table: cust_id, country, phone
order_table: order_id, order_val, order_name, country, cust_id, dateQ1. Total order value for every customer

```
select cust_table.cust_id, sum(order_val)
from cust_table LEFT JOIN order_table
ON cust_table.cust_id = order_table.cust_id
group by 1
```

Q2. Total count of orders by country

```
select country, count(distinct order_id)
from order_table
group by 1
```

Q3. Max value of order bought by customer each month

```
select cust_table.cust_id, date_trunc('month', date) as mnth,
max(order_val) over (partition by cust_id, date_trunc('month', date)) as max_val
from cust_table LEFT JOIN order_table
ON cust_table.cust_id = order_table.cust_id
group by 1, 2
```

For the machine learning interview, I was told that we are opening a new store in country XYZ. I was then asked a series of related questions including how will I decide where to locate the fulfillment center, what metrics I will take into consideration, what model I'll use and how I'll get the data.

**ML Question**- Before starting work on the problem, remember to ask A LOT of questions. Make sure you understand what the interviewer is asking and looking for. - In this interview, I asked a few questions such as: Is this the first store in the country? Is there any historic data available for this country, etc.- For metrics, I recommended to use current metrics from existing fulfilment centres that'll help decide where to build the centre. These included distance of current fulfilment centres from city centre, demand of orders, supply available, weather conditions. - I used a XGBoost regression model to predict a distance value for the future fulfilment centre from the main city.- In hindsight, I believe I should have spent a bit more time to explore available metrics and how to better use them in my model.

For the third technical one, I had to explain LSTMs, BERT, and the attention layer.
Following are some amazing sources to understand these:
LSTM, BERT, Attention.

The other three interviews were all a mix of behavioral (mostly around leadership principles) and past experiences.
Again, remember to share unique experiences with each interviewee.

**5. Video call interview with the hiring manager**

The fifth and final interview I had was 30 minutes long and with my hiring manager. I was asked 2 machine learning questions — the first one was about the random forest and how it works, and the second one was regarding NLP and LSTM.
Following are some amazing sources to understand:
Random Forest, LSTM

**Job Description of Data Scientist**

The work of data scientists at Microsoft hugely varies across teams and how each individual wants to take up work. However, the ultimate goal of each of them is to create predictive models that can be deployed in production. But in this process, one can either work more on

the research side or more on the deployment side. For example, if you are more enthusiastic about doing research, then you have to dig deep and explore to find the solution to the problems which are present in your team, given that no other team has already solved it. If you are more on the deployment side, you will solve problems occurring in your team's work, such that similar problems have already been solved in a different team but need to be adapted to your work. So you will look at their code, understand what they have done, and re-implement it for your team's use case.

Microsoft has different teams that work on speech and language, computer vision, machine learning infrastructure on Azure, data science consulting for cloud computing, and much more. So your role and work will definitely vary with the team you get selected for.

**Required Skills**

The data scientist position at Microsoft prefers the candidate with a few years of industrial experience as you have to deploy the model in production, which requires you to have some software skills also. However, they do hire fresh graduates from college for the data scientist position, but they do expect good coding skills and exceptional knowledge about particular skills like computer vision, NLP, RL, etc., depending on the team that is recruiting. The candidate must be able to communicate complex ideas and concepts to leadership and deliver results.

- The candidate must be comfortable in manipulating and analyzing complex, high-dimensional data from varying sources to solve difficult problems.
- Bachelors or higher degrees in Computer Science, Statistics, Mathematics, Physics, Engineering, or related disciplines
- Experience with cloud-based architectures such as Azure

**Applying for the Job**

Like all other companies, it is always good to get referrals from someone you know and is working in the company. The referral makes your application more recognizable to the company, and they do prefer interviewing referred candidates as compared to the normal ones. In order to apply, you will have to apply on the career page of Microsoft, which will basically ask you for your resume and attachments to showcase and prove your work. I would highly recommend adding all the certificates and awards to make your application recognizable, transparent, and genuine.

Some tips that I found useful for resume:

- Include your Github, Linkedin, Kaggle, Medium (if you actively write) profile links in your resume
- Mention your publications as they are significant for this role
- Keep your points short and precise
- Focus on your achievements instead of overcrowding the resume with everything you have ever done.

**Interview Process**

Once you submit your application via the careers page, if you clear their initial screening process, the recruiter will contact you and give you a brief about the role expectations, the team for which you will be interviewed, and a brief about the process, etc. In some cases, the hiring manager takes an initial interview, where they go through the candidate's previous experience and check if they would be a valuable addition to the team or not. This round ensures that before having multiple rounds of interviews (a lengthy process), the candidate has the skills required by the team. After this round, multiple rounds of technical interviews are

conducted to test your skills in various domains. The skills which they look for are as follows-:

- Data Structure and Algorithms
- Machine learning
- Machine learning system design
- Understanding and Interpreting Data
- Probability and Statistics

You are expected to clear the bar of SDE1(Software Development Engineer-1) requirements for data structure and algorithms. Many candidates focus only on machine learning and preparing their resumes, especially for data science interviews, but they should also be well prepared for the coding round. Being confident with easy to medium-level coding questions and having basic knowledge about the various data structures would suffice here. While giving the interview, always try to tell the interviewer your thought process and communicate your ideas properly. This is also an important skill required for data science roles.

**Process for Campus Placement**

In colleges, the initial screening is a bit different as screening solely based on the resume might not be a good metric for students as they have very little or no industrial experience. Whenever Microsoft comes for hiring for the data scientist position, they first take an objective-based machine learning test. This test is very lengthy, and it includes questions on a wide variety of topics like SVM, decision tree, statistics, deep learning, etc so you need to be well prepared. One should definitely optimize in attempting the maximum number of questions in the test. Selected candidates are then called to participate in the group-fly round. In this round, they call a group of students together and then give all a coding question, and everyone has to solve it using pen paper. In this round, candidates are allowed to interact with

interviewers and ask doubts. The interviewer's main task here is to know more about the thinking process of candidates, so make sure you interact with them during the group-fly round. Finally, the shortlisted candidates are called for interviews.

*This process of campus placement is used at most colleges in India. I am not aware of the process outside India for this case.*

**Similar Interview Questions**

*These questions are not the exact questions as asked in the interview. These are to give you a flavor of questions that you can expect during the interviews*

- How are L1 and L2 regularisation different?
- How is the convolutional kernel useful compared to the normal neural network for images?
- What is hypothesis testing?
- How do you handle skewed data distribution in the case of classification, and what metric should one use in this case?
- What is a decision tree? What is entropy? Make a decision tree for a sample example.
- How to merge k sorted arrays?

And there you have it. When I was preparing for it myself, I honestly couldn't find a single article that encompassed everything I needed to know regarding the interview process. So, I had vowed to myself that I will share whatever I learn in the hopes that it will benefit someone else on the lookout for such resources.

**Answer with the "What — So what — Now What" Formula**

An interviewer would like to probe the breadth and depth of a candidate on a topic. This formula prepares you to provide a thorough answer or at least intent to. It lets you articulate

- What the answer is (80%),
- What it can do and what the advantages or disadvantages are (20%).

You do not need to answer every question with the "what — so what" formula. Some of the questions in this article are worded in a specific way that the formula cannot apply.

**Q. Name a few alternative measures to the mean square error (MSE). Comment on their advantages and disadvantages.**

**Q. What is the Gini Impurity in decision trees?**

**Q. How is variable importance determined in a random forest?**

**Q. Why is the ROC not an effective measure when the target is extremely imbalanced?**

**Q. What is the bias-variance trade-off?**

**Q. What is regularization and why is it useful?**

**Q. Why is LASSO used for feature selection?**

**Q. How does an XGB control overfitting?**

**Q. Why is lightGBM prone to overfitting?**

**Q. Why does training an SVM takes a long time? How can I speed up?**

**Q. Please mention at least three modeling techniques that can solve a multi-class classification problem.**

**Q. Which of the two neural network models is more complex?**

- **Model 1: 3 hidden layers with 300 neurons each.**
- **Model 2: 1 hidden layer with 500 neurons,**

**for a dataset that has 1 binary target variable, 150 numerical variables, and 50 categorical variables every 400 categories.**

**Q. If two predictors are highly correlated, what is the effect on the coefficients in the logistic regression? What are the confidence intervals of the coefficients? (Google)**

**Q. What are the remedies for multicollinearity?**

**Q. Please describe the Central Limit Theorem**

**Q. How do you derive the confidence interval from a series of coin tosses? (Google)**

**Q. What is the standard error of the mean? (Google)**

**Q. What will happen if you simply duplicate the number of observations in linear regression?**

**Q. What is the assumption of error in linear regression? (Google)**

**Q. What is the difference between K-means and the Gaussian mixture model (GMM)?**

**Q. What is the difference between the maximum likelihood estimation (MLE) and the expectation-maximization (EM) algorithm? (Google)**

**Q. How could you do an A/B test if we see a 3% increase for the product? (Google)**

**Q. To find the causal relationship between the two measures, we may set up a randomized control trial (RCT) to identify. But suppose an RCT is infeasible, what can we do?**

**Q7. What is the difference between parametric and non-parametric testing?**