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Course Content

Week 1 : Practice Quiz

Type	:	Practice Assessment
Questions	:	10
Scoring Policy	:	Highest Score
Your Marks	:	9/10

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Attempt History

Attempt #1

May 21, 5:51 PM

Marks: 9



Q No: 1

[Correct Answer](#)

Marks: 1/1

Which of the following is a real-life example of the computational aspect of data science

Conducting user testing for a mobile application

Developing a recommendation system for a music streaming service

You Selected

Cleaning and organizing data in a spreadsheet

Conducting a survey to understand customer preferences for a new product

Explanation:

Conducting user testing for a new mobile app: While this is an important part of the app development process, it is not an example of the computational aspect of data science as it does not involve the use of algorithms or programming

Developing a recommendation system for a music streaming service: This is an example of the computational aspect of data science as it involves the use of machine learning algorithms to analyze customer data and provide personalized music recommendations.

Cleaning and organizing data in a spreadsheet: While this is an important part of data science, it is not an example of the computational aspect of data science, as it does not involve the use of algorithms or programming

Conducting a survey to understand customer preferences for a new product: While this is an important part of data science, it is not an example of the computational aspect of data science, as it does not involve the use of algorithms or programming.

Q No: 2

Incorrect Answer

Marks: 0/1

Which of the following is a potential drawback of the computational aspect of data science

Lack of computational power

Correct Option

Heavy reliance on Human Judgement

You Selected

Theoretical Nature of Data Science

Difficulty in identifying data sources

Explanation:

Option a - Lack of Computational Power: Complex algorithms and large datasets require significant computing power, which may result in increased costs

Option b - Heavy reliance on Human Judgement: Computational data analysis is designed to reduce the dependence on human judgment, not increase it

Option c - Theoretical nature of Data Science: Data science is an applied field that focuses on practical problems and applications, rather than just theory

Option d - Difficulty in identifying data sources: Computational data analysis typically involves large datasets, and the challenge is more about managing and processing the data rather than obtaining it

Q No: 3

Correct Answer

Marks: 1/1

Which computational method, developed in the 1940s, played a crucial role in the development of nuclear weapons during World War II?

Monte Carlo Method

You Selected

 Finite Element Method Newton Raphson Method Gradient Descent Method**Explanation:**

Monte Carlo method: The Monte Carlo method is a computational technique that uses random sampling to solve complex problems and simulate real-world scenarios.

Finite element method: The finite element method is a numerical technique used to solve partial differential equations and analyze complex systems by dividing them into smaller, simpler elements.

Newton-Raphson method: The Newton-Raphson method is an iterative numerical method used to find the root of an equation or solve nonlinear systems by using successive linear approximations.

Gradient descent method: The gradient descent method is an optimization algorithm used to minimize the error or cost function by iteratively adjusting the parameters in the direction of the steepest descent.

Q No: 4**Correct Answer**

Marks: 1/1

What is the difference between causation and correlation?

 Causation refers to a direct relationship between two variables, while correlation refers to an indirect relationship. Causation refers to a relationship where one variable directly influences another, while correlation refers to a relationship where two variables are related, but not necessarily causal. You Selected Causation and correlation are interchangeable terms that refer to the same thing Causation and correlation are unrelated concepts in data science.**Explanation:**

Causation implies a direct cause-and-effect relationship, whereas correlation measures the degree of association or relationship between two variables, which can be direct or indirect.

Causation implies a causal link, indicating that changes in one variable cause changes in another, while correlation only indicates a statistical relationship between variables without implying causation.

Causation and correlation have distinct meanings and are not interchangeable. Causation implies a cause-and-effect relationship, while correlation measures the strength and direction of the relationship between variables.

Causation and correlation are related concepts in data science, but they represent different aspects.

Causation deals with causality, while correlation focuses on the statistical relationship between variables.

Q No: 5

Correct Answer

Marks: 1/1

Which technology provides a distributed and decentralized ledger system for recording transactions in a secure and tamper-proof manner?

Edge Computing

Cloud Computing

Quantum Computing

Blockchain Technology

You Selected

Option a - Edge Computing: Edge computing refers to the computation and data storage being performed closer to the source of data generation, such as edge devices, to reduce latency and optimize network bandwidth\

Option b - Cloud computing refers to the delivery of computing resources, such as storage, databases, and applications, over the internet on-demand, offering scalability and flexibility.

Option c - Quantum computing is a field that utilizes quantum bits (qubits) to perform computations, leveraging principles of quantum mechanics to potentially solve complex problems more efficiently.

Option d - Blockchain Technology is a decentralized and distributed ledger system that records transactions across multiple nodes in a secure and transparent manner, ensuring immutability and integrity of data through cryptographic techniques and consensus algorithms.

Q No: 6

Correct Answer

Marks: 1/1

What was the primary purpose of the operating systems developed in the 1960s and 1970s?

Resource Management

You Selected

 Data Visualization Network Connectivity User Interface Design

Option a - Resource Management: : The operating systems developed in the 1960s and 1970s were primarily designed to efficiently allocate system resources such as CPU time, memory, and input/output devices among different processes and users.

Option b - Data Visualization: This was not the primary purpose of operating systems developed in the 1960s and 1970s, as graphical user interfaces were not widely used at that time.

Option c - Network Connectivity: While network connectivity was a feature of some operating systems developed in the 1960s and 1970s, it was not their primary purpose.

Option d - User Interface Design: User interface design was not the primary purpose of operating systems developed in the 1960s and 1970s, as command-line interfaces were the norm at that time.

Q No: 7

Correct Answer

Marks: 1/1

What is the primary goal of non-parametric methods in data science?

 To make assumptions about the underlying distribution of the data To estimate the parameters of a statistical model To improve the interpretability of the model To handle data that do not conform to normal distributions

You Selected

Option a - To make assumptions about the underlying distribution of the data :Parametric methods make assumptions about the underlying distribution of the data to estimate the parameters of a statistical model

Option b - To estimate the parameters of a statistical model: Parametric methods estimate the parameters of a statistical model.

Option c - To improve the interpretability of the model: Interpretability of the model can be improved using techniques such as feature selection and dimensionality reduction.

Option d - To handle data that do not conform to normal distributions: Non-parametric methods are used to handle data that do not conform to normal distributions.

Q No: 8

Correct Answer

Marks: 1/1

Which of the following is an advantage of the inferential paradigm in data science?

- It allows for generalization to a larger population.
- It focuses on automated data processing and analysis.
- It is suitable for handling small datasets.
- It does not require any assumptions about the data.

You Selected

Option a - It allows for generalization to a larger population: This is a key advantage of the inferential paradigm, as it allows us to make inferences about a population based on a sample of data.

Option b - It focuses on automated data processing and analysis : This option describes a feature of the computational paradigm, not the inferential paradigm.

Option c - It is suitable for handling small datasets : The inferential paradigm can handle both small and large datasets.

Option d - It does not require any assumptions about the data : Assumptions are necessary for inferential statistics to be valid, such as the assumption of normality of the data.

Q No: 9

Correct Answer

Marks: 1/1

Which Time Sharing System was developed by MIT in 1960s?

- CTSS
- Multics
- Unix
- CP/CMS

You Selected

Option a- CTSS (Compatible Time-Sharing System) - developed by MIT in the 1960s as one of the earliest time-sharing systems.

Option b - Multics (Multiplexed Information and Computing Service) - a collaborative project by MIT, General Electric, and Bell Labs in the 1960s and 1970s to develop a time-sharing operating system.

Option c - Unix - a popular time-sharing operating system developed in the 1960s and 1970s by AT&T Bell Labs.

Option d - CP/CMS (Control Program/Cambridge Monitor System) - a time-sharing operating system developed by IBM in the 1960s.

Q No: 10

Correct Answer

Marks: 1/1

Which of the following statements is true about robust statistics?

Robust statistics assume that the data follows a normal distribution

Robust statistics are only useful for small datasets

Robust statistics are not affected by outliers

You Selected

Robust statistics cannot handle missing data

Explanation:

Robust statistics do not rely on the assumption of normality and can be used for non-normal data.

Robust statistics can be used for both small and large datasets and do not have a specific size requirement.

← Previous Statistics are less sensitive to outliers and can still provide accurate estimates even if there are present in the data Next →

Robust statistics can handle missing data, but may require imputation or other methods to handle the missing values.

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