Activity II: HCI

PART I:True/False questions:

1. One of the Speech recognition technical problems is: coping with different styles of handwriting.
2. Speech recognition Most successful when limited vocabulary systems.
3. In Optical Mouse Ball on underside of mouse turns as mouse is moved.
4. Touch-sensitive screen works by interrupting matrix of light beams, capacitance changes or ultrasonic reflections
5. Stylus is a small pen-like pointer to draw directly on screen.
6. Digitizing tablet is very accurate and used for digitizing maps.
7. One of the Health hints when dealing with computer is to look at the screen for long periods without a break.
8. data glove is a fibre optics used to detect finger position.
9. in desktop VR perspective and motion give 3D effect.
10. When printing; resolution means the size and spacing of the dots.
11. OCR converts bitmap back into text.

PART II: Short answers questions

1. What are the Advantages of Touch-sensitive screen?
2. what is an Eyegaze? How it works?
3. define the term Aspect ratio.
4. What is meant by Colour depth:
5. Define the term Jaggies.
6. Why do we need sounds in computer interaction?
7. Compare dot-matrix printers resolution to laser printer's one.
8. What is the difference between shop tills and Thermal printers?

Activity II (Monday 23-10-2022)

This Quiz Covers ch2

Answer The following questions

PART I: Correct the false statements

1. Cryptanalysis is the science and art of breaking codes.
2. A transposition cipher replaces one symbol with another.
3. Based on Kirchhoff's principle, one should always assume that the adversary, Eve, knows the encryption/decryption algorithm. The resistance of the cipher to attack must not be based only on the secrecy of the key.
4. Block cipher processes the input elements continuously, producing output one element at a time, as it goes along.
5. In Brute Force Attack On average, half of all possible keys must be tried to achieve success
6. Referred to as asymmetric, two-key, or public-key encryption if the sender and receiver each use a different key.

PART II: Descriptive

1. An encryption scheme is computationally secure if the ciphertext generated by the scheme meets one or both of two criteria, state briefly.

2. Use the Caesar cipher to encrypt and decrypt the message "JAVATPOINT," and the key (additive) value of this message is 3. (Show the operation)

3. Using Vigenère cipher encrypt the message is (WE ARE DISCOVERED SAVE YOURSELF) using the key: DECEPTIVE

Activity II

PART I: Correct the false statements

1. Based on Kerckhoff's principle, one should always assume that the adversary, Eve, knows the encryption/decryption algorithm. The resistance of the cipher to attack must not be based only on the secrecy of the key.
2. Cryptanalysis is the science and art of breaking codes. A transposition cipher replaces one symbol with another.
3. Block cipher processes the input elements continuously, producing output one element at a time, as it goes along.
4. Referred to as asymmetric, two-key, or public-key encryption if the sender and receiver each use a different key.
5. In Brute Force Attack On average, half of all possible keys must be tried to achieve success.
6. Eavesdropping is looking through information files to find something interesting.
7. Snooping is when someone listens in on a conversation that they are not a part of.
8. Good site security may prevent an insider from accessing information on paper, but may not prevent an outsider from gaining access.
9. A sniffer is someone who can capture all traffic on a network.
10. Denial-of-Service (DoS) attacks deny the use of resources, information, or capabilities of a system to illegitimate users.
11. A targeted hacker is one who hacks just for the fun of it.
12. The risk of a hacker being caught and convicted is high. Hence, the potential gain from hacking is low.
13. An eight-character password is easier to guess than a two-character one.
14. Address Resolution Protocol (ARP) is used to get the IP address associated with a particular MAC address.
15. Buffer overflow is an attempt to store too much information into an allocated space in a computer's memory.
16. Virus codes execute when the programs to which they are attached are executed.
17. A Trojan horse hides its malicious intent behind a facade of something useful or interesting.
18. A worm is a program that crawls from system to system without any assistance from its victims.
19. A stealth scan is an attempt to identify systems within an address range. A worm is a program that crawls from system to system without any assistance from its victims.
20. A ping sweep is an attempt to ping each address and see if a response is received.

PART II: Descriptive

1. An encryption scheme is computationally secure if the ciphertext generated by the scheme meets one or both of two criteria, state briefly.
2. Use the Caesar cipher to encrypt and decrypt the message "JAVATPOINT," and the key (additive) value of this message is 3. (Show the operation)
3. Using Vigenère cipher encrypt the message is (WE ARE DISCOVERED SAVE YOURSELF) using the key: DECEPTIVE
4. Compare Principle of separation of privilege to Principle of least privilege. (3 Marks)
5. Security of a mechanism should not depend upon secrecy of its design or implementation, this statement reflects the …… design principle.
6. Sometimes, the email inbox itself can become the target of attackers, Explain the Principle of fail-safe defaults.
7. Explain the System Takeover Email Security Threats. Can we consider it as a phishing attack?
8. What is Business Email Compromise (BEC)? Give a brief explanation

Activity II: Business Intelligence

PART I: True/False Questions:

1. Bad data Quality means: Same name but different things, Different Units.
2. Metadata means: Database that describes various aspects of data in the warehouse.
3. Managed Query means Simple query and analysis functions while Ad hoc query means Business layer between end users and database.
4. Data optimization refers to the collection of company data and managing it efficiently to maximize the speed and effectiveness.

PART II: Essay Questions:

1. What are the types of Data Warehouse?
2. What are the uses of Data warehouse?
3. What are the advantages of data warehouse?
4. Mention the Roadmap to Data Warehousing.
5. What are the types of metadata?
6. What is meant by Data Cleaning?
7. Define the term ERP.
8. Why ERP? (mention 4 reasons)
9. What are the ERP – Options ?
10. How can ERP assist BI?
11. What are the benefits of BI in ERP
12. Define the term Customer Relationship Management (CRM)
13. What is the Focus of CRM:
14. What are the Benefits of CRM to the Small Firm?
15. There are three phases in the evolution of CRM , explain briefly.

Activity III

PART I: Correct the False Statement

1. Gulf of Execution: user's expectation of changed system state ≠actual presentation of this state.
2. Ergonomics is the Study of the physical characteristics of interaction.
3. Ergonomics not suitable when defining standards and guidelines for constraining the way we design certain aspects of systems.
4. Industrial interface cheaper, more flexible, multiple representations, precise values. Direct manipulation substitutes words and text, such as pull-down or pop-up menus, for symbols and substitutes typing for pointing.
5. GUI is a way of expressing instructions to the computer directly.
6. Question/answer interfaces used to retrieve information from database.

PART II: Descriptive

1. Differentiate between Human error - slips and mistakes. How to fix each one of them?

2. Differentiate between Donnald and Abowd frameworks.

3. why do we use Command line interface interactive style?

4. e the issues in using Natural language interactive style? What are the solutions?

5. explain the Question/answer interfaces interaction style.

6. what are the types of menu bars?

Activity

T/F Questions

1. Unstructured/textual data targeted for humans to process/digest.
2. Data integration techniques ensure that these diverse data sources are combined into a unified and coherent dataset.
3. Predictive analytics is a form of technology that makes predictions about certain unknowns in the future.
4. Data Integration and Cleansing is to ensure the accuracy of the data and their conversion from raw form to reduced and classified forms that are more appropriate for analysis.
5. BI encompasses the ....., ..., and tools that organizations use to collect, analyze, and present business data to support decision-making.
6. In dimensional modeling, there are two important concepts: ..... and .....

MCQs:

1. ..... tools enable users to analyses multidimensional data interactively from multiple perspectives:
    a. Online Analytical Processing (OLAP).
    b. Regression.
    c. Online Transaction Processing OLTP.
    d. All above is true
2. …… consists of three basic analytical operations: consolidation (roll-up), drill-down, and slicing and dicing:
    a. a cleaning.
    b. Online Analytical Processing (OLAP).
    c. Online Transaction Processing OLTP.
    d. All above is true
3. Predictive techniques:
    a. Used to make important decisions.
    b. Describe the current state.
    c. Diagnose the current state.
    d. All above is true

4. Data transformation:
    a. Discretize or aggregate the
    b. Find and eliminate erroneous data.
    c. Balance skewed data.
    d. Reduce number of attributes.
    e. All above is true.
5. Diagnostic analytics looks at:
    a. What has happened?
    b. What is most likely to happen in the future?
    c. What is the best course of action to take to avoid the worst in the future?
    d. None of the above.

Descriptive

1. Readying the data for analytics is needed, what do this process includes?
2. Briefly state the Decision Action Cycle.
3. Compare OLTP to OLAP in the context of Function and Usage.
4. Who Makes Decisions? Mention the three Decision making levels.
5. The Nine-Step Methodology -also known as the "Nine-Step Problem-Solving Process, is a systematic approach used in various fields, mention three of these fields.
6. Briefly explain the differences between discrete and continuous data.
7. How primary data can be obtained? mention three methods with no details.
8. Define Business Requirements. Mention the business requirements areas.

All the best