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QUESTION 1

- 1.1 Sort the table in alphabetical order of item then by name and lastly by week in descending order of week. Sort the text fields in alphabetical order. (4)

```
SELECT *
FROM tbldrinks ✓
ORDER BY item, ✓fullName, ✓week DESC;✓
```

- 1.2 List all the beer or food items sold in week 5. Display the full name, item and week fields. (6)

```
SELECT fullname, item, week ✓
FROM tbldrinks
WHERE (item = 'Beer' ✓ OR ✓ item = 'Food' ✓) AND ✓ week = 5;✓
```

- 1.3 List all the details of the people whose name starts with the letter "J". (4)

```
SELECT * ✓
FROM tbldrinks
WHERE fullname ✓ like ✓ 'J%';✓
```

- 1.4 Insert the sales for Jane who sold 20 cold drinks in week 2 costing R8.00 each. (4)

```
INSERT INTO sales.tbldrinks ('FullName', 'WEEK', 'ITEM', 'AMOUNT', 'COSTPRICE') ✓✓
VALUES ('Jane', 2.0, 'Cold drink', 20.0, 8.0);✓✓
```

- 1.5 In the fourth week, Beth sold 25 food items and not 17. Write a SQL statement to correct this. (5)

```
UPDATE tbldrinks ✓
SET amount = 25 ✓
WHERE fullname = 'Beth' ✓ AND week = 4 ✓ AND Item = 'Food';✓
```

- 1.6 Determine the total amount of items sold for each type of item. Rename this total as **TotalItems**. Display the Item and the **TotalItems**. (6)

```
SELECT Item ✓, AVG ✓ (Amount) ✓ as TotalItems ✓
FROM tbldrinks
GROUP BY ✓ item;✓
```

- 1.7 Determine the most amount of beer sold per week. (4)

```
SELECT Week, Item, MAX ✓ (Amount) as MaxItems
FROM tbldrinks
WHERE item = 'Beer' ✓
GROUP BY ✓ week;✓
```

- 1.8 Create a new field that will calculate the selling price if each item is sold at 50% more than the cost price. Name this field **SellingPrice**. Display the item, the cost price and the selling price. (4)

```
SELECT item, costPrice ✓, CostPrice ✓ * 1.5 ✓ As SellingPrice ✓
FROM tbldrinks
```

- 1.9 Calculate the total profit made over all the weeks if there is a 50% mark up on the cost price. (3)

```
SELECT SUM ✓ (costPrice) ✓ * 0.5 ✓ As Profit
FROM tbldrinks
```

QUESTION 2

```
package kench;
```

```
/**
```

```
*
```

```
* @author delia
```

```
*/
```

```
public class Word
```

```
{
```

```
    private String word, syn;
```

```
    public Word(String word, String syn) {
```

```
        this.word = word;
```

```
        this.syn = syn;
```

```
    }
```

```
    public String getSyn() {
```

```
        return syn;
```

```
    }
```

```
    public String getWord() {
```

```
        return word;
```

```
    }
```

```
    @Override
```

```
    public String toString() {
```

```
        return word + "\t" + syn;
```

```
    }
```

```
}
```

```
package kench;
```

```
import java.util.*;
```

```
import java.io.*;
```

```
/**
```

```
*
```

```
* @author delia
```

```
*/
```

```
public class WordArray
```

```
{
```

```
    private Word wArr[] = new Word[50];
```

```
    private int size = 0;
```

```
    public WordArray() {
```

```
        {
```

```
            String line, word, syn;
```

```
            try
```

```
            {
```

```
                Scanner scFile = new Scanner(new File("Words.txt"));
```

```
                while (scFile.hasNext())
```

```
                {
```

```
                    line = scFile.nextLine();
```

```
                    Scanner scLine = new Scanner(line).useDelimiter(",");
```

```
                    word = scLine.next();
```

```
                    syn = scLine.next();
```

```

        scLine.close();

        wArr[size] = new Word(word, syn);✓✓
        size++;✓
    }
    scFile.close();

} catch (FileNotFoundException e)
{
    System.out.println("File not found - check file name or path");
}
} //Constructor method

public String toString()✓
{
    sort();✓
    String temp = "";
    for (int i = 0; i < size; i++)✓
    {
        temp += wArr[i].toString() + "\n";✓
    }
    return temp;✓
} //toString method

public void sort()✓
{
    for (int i = 0; i < size - 1; i++)✓✓
    {
        int pos = i;
        for (int j = i + 1; j < size; j++)✓✓
        {
            if (wArr[pos].getWord().compareTo(wArr[j].getWord()) >= 0)✓
            {
                pos = j;
            }
        }
        Word temp = wArr[i];✓✓
        wArr[i] = wArr[pos];
        wArr[pos] = temp;
    } //Improved selection sort
} //sort method

public String search(String w)✓If search does not terminate when found
                                     -3 marks
{
    String temp = "";
    int i = 0, count = 1;✓
    boolean found = false;
    while (found == false && i < size)✓✓
    {
        if (wArr[i].getWord().indexOf(w) == 0)✓✓
        {
            if (wArr[i].getWord().equalsIgnoreCase(w))✓✓
            {
                return wArr[i].getWord();✓
            } else
            {
                temp = temp + count + ". " + wArr[i].getWord() + " ";✓✓
                count++;✓
            }
        }
    }
}

```

```

    }

    }
    i++;✓
}
return temp;✓
}

public String findSyn(String w)✓ If linear search used half marks.
{
    w = w.trim();
    int lo = 0, mid, hi = size-1;
    while (lo <= hi)✓✓
    {
        mid = (lo + hi)/2;✓
        if (w.compareTo(wArr[mid].getWord()) > 0 )✓
            lo = mid+1;✓
        else if (w.compareTo(wArr[mid].getWord()) < 0 )✓
            hi = mid-1;✓
        else return wArr[mid].getSyn();✓
    }
    return "Not found";✓
}

}

package kench;

import javax.swing.*;

/**
 *
 * @author delia
 */
public class WordApp
{
    public static void main(String[] args)
    {
        WordArray wa = new WordArray();✓
        System.out.println("All Words\n" + wa.toString());✓✓
        String input = JOptionPane.showInputDialog("Enter a word");✓
        String words = wa.search(input);✓
        System.out.println("The words(s) found are \n" + words);✓
        if (words.indexOf(" ") != -1)✓
        {
            String num = JOptionPane.showInputDialog("Which word do you
want?");✓
            int pos = words.indexOf(" " + num);✓
            int start = pos + 3;
            int end = words.indexOf(" ", pos + 3);
            if (end == -1)✓
            {
                words = words.substring(start);✓
            } else
            {
                words = words.substring(start, end);✓
            }
            System.out.println("here " + words);✓
        }
    }
}

```

```
System.out.println("The synonym of " + words + " is " +  
wa.findSyn(words));✓✓
```

```
    } //Main method  
}
```

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