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ST BENEDICT'S COLLEGE



SUBJECT	Information Technology Practical	DATE	November 2013
GRADE	11	MARKS	120
EXAMINER NAME	Mrs Kench	MODERATOR	Mr Gill
CLASS		DURATION	3 Hours

COGNITIVE LEVELS			
LOW ORDER	27 %	MIDDLE ORDER	42 %
		HIGH ORDER	32 %

STUDENT'S RESULT	
COMMENT	
TEACHER'S SIGNATURE	
PARENT'S SIGNATURE	

QUESTION 1

SQL

40 MARKS

A school has many parents who have worked in the food and beverage tent over the rowing season selling cool drinks, food and beer. A table called **tblDrinks** has been created in a database called **Sales**. The table stores the name of the seller, the week that they sold items, the type of item they sold and the amount that they sold of that particular item.

Design of tblDrinks Table

tblDrinks	
Field Name	Data Type
FullName	Text
WEEK	Number
ITEM	Text
AMOUNT	Number
COSTPRICE	Number

Sample data in tblDrinks Table

tblDrinks				
FullName	WEEK	ITEM	AMOUNT	COSTPRICE
Joe	3	Beer	18	12
Beth	4	Food	17	15
Janet	5	Beer	14	12
Joe	3	Food	12	15
Joe	4	Beer	19	12
Janet	5	Cold drink	12	8
Joe	3	Food	19	15
Beth	4	Beer	15	12
Janet	5	Beer	19	12
Joe	3	Cold drink	20	8
Joe	4	Beer	16	12
Beth	5	Food	12	15
Beth	3	Beer	16	12

- 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)
- 1.2 List all the beer or food items sold in week 5. Display the full name, item and week fields. (6)
- 1.3 List all the details of the people whose name starts with the letter "J". (4)
- 1.4 Insert the sales for Jane who sold 20 cold drinks in week 2 costing R8.00 each. (4)
- 1.5 In the fourth week, Beth sold 25 food items and not 17. Write a SQL statement to correct this. (5)
- 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)
- 1.7 Determine the most amount of beer sold per week. (4)
- 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)
- 1.9 Calculate the total profit made over all the weeks if there is a 50% mark up on the cost price. (3)

QUESTION 2

OOP

80 MARKS

A student called I. R. Lazy is writing an essay and needs to use many words describing emotions. He has a list of words together with their synonyms. He wants to write a program that will find a word in the list and provide a synonym. He is also used to using predictive text and wants the computer to find all words that match even if he only types the first letters of a word. For example is he types in “re” the program should return all words starting with “re”. He has created a text file called **Words.txt** with words and their synonyms. Only the first 10 lines have been shown. The words are separated with a comma.

Word, Synonym

```
fierce,brutal
heartfelt,sincere
primeval,basic
reluctant,loath
repressed,blocked
sentimental,romantic
sharp,harsh
bitter,vicious
ardent,fervent
intense,frantic
```

- 2.1 Create a class called **Word**. Add fields to store the word and its synonym. (4)
- 2.1.1 Code a parameterised constructor to assign values to the fields. (4)
- 2.1.2 Code an accessor method for both fields. (2)
- 2.1.3 Code a **toString** method to return the fields separated by a tab. (4)
- [14]**
- 2.2 Create a class called **WordArray** to store 100 word objects and a suitable variable to record the number of elements in the array. (5)
- 2.2.1 Code a method to instantiate the elements in the array using the text file **Words.txt**. (10)
- 2.2.2 Code a **toString** method to display all the elements in the array. (5)
- 2.2.3 Code a method to **sort** the array in alphabetical order of the words. (8)
- 2.2.4 Code a method called **search** to look for a word in the array. The word to be searched for will be sent as a parameter. If the parameter only contains the first part of a word, then this method must return all the words that match as a string with each word being numbered one underneath each other. For example if the parameter is “re” then the method must return
- ```
1. reluctant
2. repressed
```
- If the complete word is sent as a parameter, and it is found, then the complete word must be returned but do not number the word. If no match is found then an empty string must be returned. Marks will be awarded for efficiency of code. (14)
- 2.2.5 Code a method called **findSynonym** to find a word and return the synonym as a String. The method will be called with the complete word as a String parameter. Note the array will be sorted before this method is called. Marks will be awarded for efficiency of code. (10)

- 2.3 Code an application called **WordApp** that will:
- 2.3.1 Instantiate a **WordArray** object. (1)
  - 2.3.2 Display all the words and their synonyms in alphabetical order of the words. (2)
  - 2.3.3 Search for a particular word given the word or part of the word from the user. The method will return the word or a list of numbered words. If a list is provided then the application must ask the user which word do they would like. The user will input the number. Using the number, then assign the correct word to the variable to store the word the user wants. Marks will be awarded for efficiency of code. (9)
  - 2.3.4 Using the word from the previous question, call a method to display the synonym to the above word. (2)

[14]