Academy of Technology

Department of Computer Science & Engineering, Semester: 5TH

Paper Name: Object Oriented Programming Lab

Paper Code: PCC-CS593

Laboratory Assignment: 10

10.1 A string is said to be 'Unique' if none of the letters present in the string are repeated. Write a program to accept a string and check whether the string is Unique or not. The program displays a message accordingly.

Sample Input: COMPUTER
Sample Output: Unique String

10.2 A 'Happy Word' is defined as:
Take a word and calculate the word's value based on position of the letters in English alphabet. On the basis of word's value, find the sum of the squares of its digits. Repeat the process with the resultant number until the number equals 1 (one). If the number ends with 1 then the word is called a 'Happy Word'.
Write a program to input a word and check whether it a 'Happy Word' or not. The program displays a message accordingly.
Sample Input: VAT
Place value of V = 22, A= 1, T = 20
[Hint: A = 1, B = 2, ----------, Z = 26]
Solution:
22120 $\Rightarrow 2^2 + 2^2 + 1^2 + 2^2 + 0^2 = 13$
$\Rightarrow 1^2 + 3^2 = 10$
$\Rightarrow 1^2 + 0^2 = 1$
Sample Output: A Happy Word

10.3 Special words are those words which start and end with the same letter.
Example: EXISTENCE, COMIC, WINDOW
Palindrome words are those words which read the same from left to right and vice-versa.
Example: MALYALAM, MADAM, LEVEL, ROTATOR, CIVIC
All palindromes are special words but all special words are not palindromes.
Write a program to accept a word. Check and display whether the word is a palindrome or only a special word or none of them.

10.4 Write a program to input a sentence. Convert the sentence into upper case letters. Display the words along with frequency of the words which have at least a pair of consecutive letters.
Sample Input: MO**DE**M IS AN ELECTRONIC **DE**VICE
Sample Output:
MO**DE**M
DEVICE
Number of words containing consecutive letters: 2

10.5 Write a program to accept the names of 10 cities in a single dimensional string array and their STD (Subscribers Trunk Dialing) codes in another single dimension integer array. Search for the name of a city input by the user in the list. If found, display "Search Successful" and print the name of the city along with its STD code, or else display the message "Search unsuccessful, no such city in the list".