Usman Institute of Technology

Department of Computer Science – Fall 2018

CS-211 Data Structures and Algorithms
Lab Manual

OBJECTIVE:

1. *Understand and implement String algorithms.*

Name : _____

Roll No. : _____

Semester : _____ Section: _____

Date : _____

Remarks : _____

Signature : _____

Lab 12: Implementation of String algorithms

EXERCISES:

a. Create a class StringOP in order to implement string algorithms.

class StringOP

b. Create a function StrLength() which takes a string value as a parameter and returns the length of that string.

Public int StrLength(string Text)

c. Create a function StrConcat() which takes two string values as parameters and returns the concatenated sting of them.

Public string StrConcat (string Text1, string Text2)

e. Create a function SubString() which takes a string, a starting index and an ending index as input parameters, and returns a substring consisting of the elements between those indices in the given string.

public string SubString(string data, int start, int end)

f. Create a function InsertStr() which takes a data string, an index and a text string as input parameters, and returns a resulting string by inserting the text string in the data string at the given index.

public string InsertStr (string data, string text, int pos)

g. Create a function DeleteStr() which takes a data string, an index from which the element is to be deleted and length of the element to be deleted as input parameters, and returns a resulting string.

public string DeleteStr (string data, int pos, int length)

h. Create a function Naive() which takes two string values as parameters, one is the data and the other is a pattern, the function checks if the pattern is a substring of the data, if yes then it prints the index of the data at which the pattern started.

public void Naive(string Data, string Pattern)

i. Create a function RabinKarp() which takes two string values, one is the data and the other is a pattern, and two numbers as parameters, one for the radix value and the other for prime value. The function checks if the pattern is a substring of the data using Rabin Karp algorithm, if yes then it prints the index of the data at which the pattern started.

public void RabinKarp (string Data, string Pattern, int d, int q)