COP 3503C Computer Science II Section 2 – Fall 2019

ASSIGNMENT 5

Due Date: December 3, 2019, 11:59 pm.

Please write your very own version of the Rabin-Karp's algorithm for string matching:

Given a text in the form of `char[] text_arr` of length *n*, and a fragment `char[] fragment_arr` of length *m*<*n*, find all the occurrences of `fragment_arr` in `text_arr`. The output should be an array of indexes of `text_arr` the fragment starts with.

Example:

Input:

text_arr = {'H','a','l','i','m',' ','g','e','t','s',' ','a','l','i','g','n','m','e','n',t'}

fragment_arr = {'a','l','i'}

Output:

{1,11}.

The method's signature is

```
public int[] CheckStringMatch(char[] text_arr, char[] fragment_arr){…}
```

Estimate the worst-case running time of your algorithm depending on *n* and *m*.

THERE ARE SOME TECHNICAL REQUIREMENTS:

- Homework 5 submissions must be in files named "StringMatch.java", and "RunningTimeHW5.docx". Files submitted under any other name will **not** be considered (with the notable exception of "*ClassName*-n.java" or "RunningTimeHW5-n.docx", where n is the automatic value assigned to duplicate submissions by WebCourses).

- Homework 5 submissions must contain the exact method signature described above.

- Homework 5 submissions must be tested with the provided test cases on Eustis before submitting. Test cases and instructions for using the Eustis test server will be released soon.

- Homework 5 submissions **must compile** or they will receive an automatic 0.

- Homework 5 submissions may not generate extraneous console output. For this assignment your methods should not produce any console output.