

Programming Fundamentals: Lab-13

BS-CS-F21 Morning

Spring 2022 Semester

Monday 28th of November, 2022

Instructor: Dr. Saadia Shahzad

Instructions:

- 1) Always start with the name of Allah Almighty, most beneficial and most merciful.
- 2) Read the document carefully before starting.
- 3) Don't hesitate to ask any questions from teacher and TAs but not from your fellows.
- 4) Use of mobile and internet is strictly not allowed.
- 5) Use the traditional naming conventions for file names.
- 6) In case of any negligence/violation of instructions, your lab work will be graded with **zero/negative** marks.

Question 1:

A text file named "*inputData.txt*" contains two matrices, A and B with format given below:

<nRA> <nCA>

<data of A i.e. nRA x nCA>

<empty row>

<nRB> <nCB>

<data of B i.e. nRB x nCB>

For example:

3 4

1 2 3 4

5 6 7 8

9 8 7 4

2 3

2 3 4

6 4 3

Create a new file named “outputData.txt”. This file will contain two matrices. First matrix will be the result of multiplication of two matrices read from “inputData.txt”. Second matrix will be obtained by normalizing matrix A row-wise. By normalizing it means here that divide each value with its row-sum and multiply by 255.

For example: Result of normalization of matrix A in example above:

Row sums are: 10, 21 and 28.

Values (as floating point numbers) will be:

$1/10*255$	$2/10*255$	$3/10*255$	$4/10*255$
$5/21*255$	$6/21*255$	$7/21*255$	$8/21*255$
$9/28*255$	$8/28*255$	$7/28*255$	$4/28*255$

Question 2:

Write a program that asks the user for his or her name, then asks the user to enter a sentence that describes himself or herself.

For example:

Enter your name: Tanveer Abbas

Describe yourself: I am a student of life sciences. My aim is to provide help to students. I want to motivate student to improve their self-learning and time-management skills.

Once the user has entered the requested input, the program should create a text file (named <rollno>.htm) with HTML tags, containing the input, for a simple webpage. Here is an example of the HTML content, using the sample input previously shown:

```
<html>
<head>
</head>
<body>
```

```
<center>
```

```
    <h1> Tanveer Abbas </h1>
```

```
</center>
```

```
<hr />
```

I am a student of life sciences. My aim is to provide help to students. I want to motivate student to improve their self-learning and time-management skills.

```
<hr />
```

```
</body>
```

```
</html>
```

Verify the output by opening this html document in a browser.

Best of Luck