

# Report for Lab Assignment 1

## Question 1

Description: To perform a Map Reduce operation and to achieve the functionality of matrix addition.

Pseudocode:

Documentation of Matrix Addition using MapReduce

Take matrix A as an input from the console.

Take matrix B as as input from the console.

Matrix A:

1 2 3 ..... n

2 3 4 ..... n

.....

.....

n ..... n

Matrix B:

1 2 3 ..... n

2 3 4 ..... n

.....

.....

n ..... n

Validate the Rows of matrix A = Rows of matrix B

Validate the Columns of matrix A = Columns of matrix B

**Result:**

Rows:  $n=n$ ;

Columns :  $n=n$ ;

**Map Operation:**

Apply Map operation on the give matrices A,B.

The output of the Map Operation will be a set of (Key, Value) pairs.

The Key will be the row number and the value will be the set of values with in a row.

Result: (Key, V[])

Key will be the row value and V will be the set of values in that particular row.

Now pass this Key value pair which is the output of a Map operation to the Reduce operation.

Here is a place where we perform Arithmetic Addition.

**Reduce Operation:**

The reduce operation will be having two key value pairs each for a matrix.

From each (key,value) pair => consider the set of values (vector/ array) having the same key and add the elements accordingly.

As the two matrices A and B are generated as a key value pairs. We will be having two set of of values whose key is equal. (One from the matrix A and one from the matrix B)

ie; We will be taking the two set of values from the Vector/array and will be adding the two values as per their indices.

Now the obtained results will also be stored into a vector/array and will be associated with the same key number.

As the Key is the row number, the display of the result can be done accordingly.

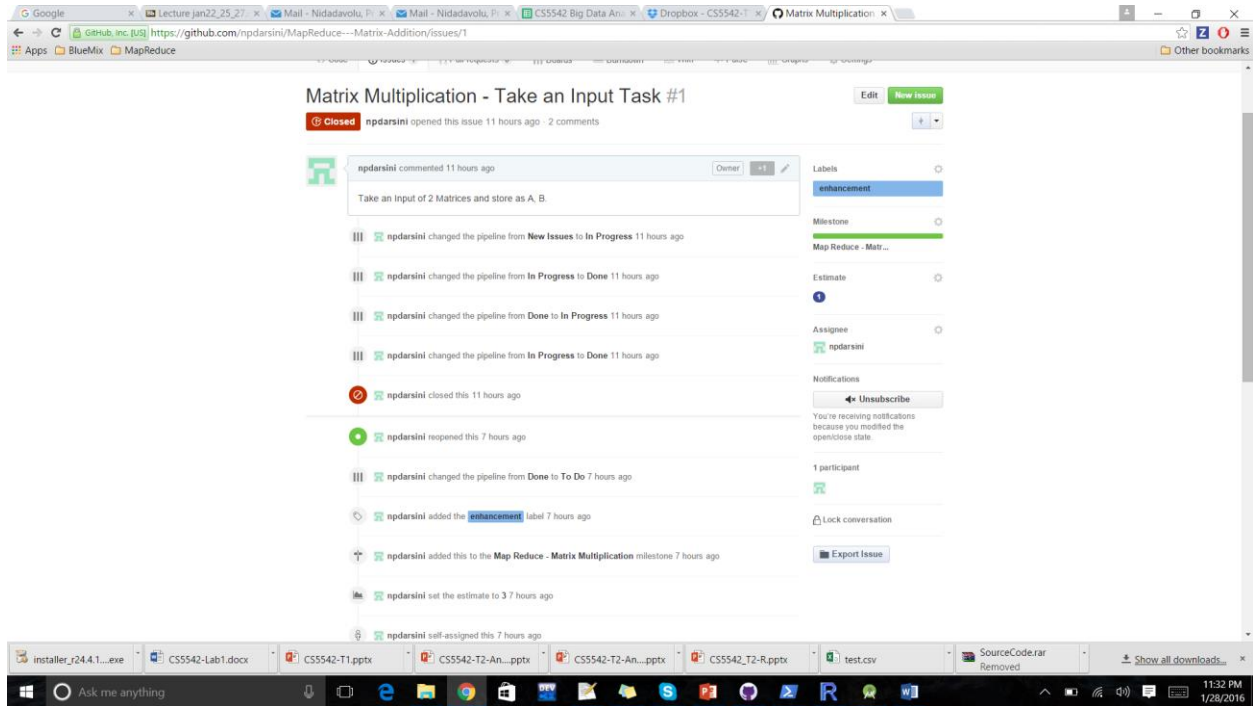
So, the output of the reduce operation is also a (key,value) pair after summing up.

## Question 2:

Description: To create tasks and Milestones using ZenHub in order to get used to Agile Methodology.

Screenshots:

Task Creation



Google | Lecture jan22\_25\_27 | Mail - Nidadavolu, P | Mail - Nidadavolu, P | CS5542 Big Data An... | Dropbox - CS5542-T | Matrix Multiplication

← → C GitHub, Inc. | https://github.com/npdarsini/MapReduce---Matrix-Addition/issues/2 | Apps BlueMix MapReduce | Other bookmarks

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### Matrix Multiplication - Validate whether they can be added. #2

**Closed** npdarsini opened this issue 11 hours ago · 1 comment

npdarsini commented 11 hours ago **Owner** **1**

Validate the Matrices rows and columns. And ensure whether the addition is possible:

- npdarsini changed the pipeline from **New Issues** to **To Do** 11 hours ago
- npdarsini changed the pipeline from **To Do** to **In Progress** 11 hours ago
- npdarsini changed the pipeline from **In Progress** to **Done** 11 hours ago
- npdarsini changed the pipeline from **Done** to **In Progress** 11 hours ago
- npdarsini changed the pipeline from **In Progress** to **Done** 11 hours ago
- npdarsini closed this 11 hours ago
- npdarsini reopened this 7 hours ago
- npdarsini changed the pipeline from **Done** to **To Do** 7 hours ago

Labels: enhancement, question

Milestone: Matrix Multiplication

Estimate: 3

Assignee: npdarsini

Notifications: Unsubscribe

1 participant

Lock conversation

installer\_r24.4.1...exe CS5542-Lab1.docx CS5542-T1.pptx CS5542-T2-An...pptx CS5542-T2-An...pptx CS5542-T2-R.pptx test.csv SourceCode.rar Removed Show all downloads...

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← → C GitHub, Inc. | https://github.com/npdarsini/MapReduce---Matrix-Addition/issues/4 | Apps BlueMix MapReduce | Other bookmarks

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### Matrix Multiplication - Reduce Task #4

**Closed** npdarsini opened this issue 11 hours ago · 7 comments

npdarsini commented 11 hours ago **Owner** **1**

Perform Reduce Operation - And sum the two matrices.

- npdarsini changed the pipeline from **New Issues** to **To Do** 11 hours ago
- npdarsini changed the pipeline from **To Do** to **Backlog** 7 hours ago
- npdarsini added **enhancement** **help wanted** labels 7 hours ago
- npdarsini added this to the **Map Reduce - Matrix Multiplication** milestone 7 hours ago
- npdarsini self-assigned this 7 hours ago
- npdarsini set the estimate to 8 7 hours ago
- npdarsini changed the pipeline from **Backlog** to **To Do** 7 hours ago
- npdarsini changed the pipeline from **To Do** to **In Progress** 7 hours ago
- npdarsini changed the estimate from 8 to 5.7 hours ago

Labels: enhancement, help wanted

Milestone: Map Reduce - Matr...

Estimate: 5.7

Assignee: npdarsini

Notifications: Unsubscribe

1 participant

Lock conversation

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← → C GitHub, Inc. | <https://github.com/npdarsini/MapReduce---Matrix-Addition/issues/3> | Apps | BlueMix | MapReduce | Other bookmarks

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### Matrix Multiplication - Map Task #3

**Closed** npdarsini opened this issue 11 hours ago · 1 comment

npdarsini commented 11 hours ago Owner 1

Perform Map Operation to generate (Key, Value) pairs.

npdarsini changed the pipeline from **New Issues** to **To Do** 11 hours ago

npdarsini changed the pipeline from **To Do** to **Backlog** 7 hours ago

npdarsini changed the pipeline from **Backlog** to **To Do** 7 hours ago

npdarsini added **enhancement** **help wanted** labels 7 hours ago

npdarsini added this to the **Matrix Multiplication - Mapping Operation** milestone 7 hours ago

npdarsini set the estimate to 5 7 hours ago

npdarsini self-assigned this 7 hours ago

npdarsini changed the pipeline from **To Do** to **In Progress** 7 hours ago

npdarsini removed the estimate of 5 7 hours ago

Labels: **enhancement** **help wanted**

Milestone: **Matrix Multiplication - Mapping Operation**

Estimate: No estimate yet

Assignee: npdarsini

Notifications: **Unsubscribe**  
You're receiving notifications because you modified the open/close state.

1 participant

Lock conversation

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## Agile Board

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← → C GitHub, Inc. | <https://github.com/npdarsini/MapReduce---Matrix-Addition/issues/4#boards?repos=5061116> | Apps | BlueMix | MapReduce | Other bookmarks

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Repos (17) | show one | Labels | Milestones | Assignees | Search ( / ) | New issue

**New Issues** (0) | **Backlog** (0) | **To Do** (0) | **In Progress** (1) | **Done** (0) | **Closed** (4) | Add a Pipeline ...

**In Progress** (1)

- MapReduce---Matrix Multiplication - Result Display #5 **enhancement**

**Closed** (4)

- MapReduce---Matrix Multiplication - Reduce Task #4 **enhancement** **help wanted**
- MapReduce---Matrix Multiplication - Map Task #3 **enhancement** **help wanted**
- MapReduce---Matrix Multiplication - Validate whether they can be added #2 **enhancement** **question**
- MapReduce---Matrix Multiplication - Take an Input Task #1 **enhancement**

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## Milestones and burndown charts:

Matrix Multiplication - Result Display #5

npdarsini commented 11 hours ago

Display the result. The Addition of two matrices must be the end result.

npdarsini changed the pipeline from **New Issues** to **Backlog** 11 hours ago

npdarsini added the **enhancement** label 7 hours ago

npdarsini modified the milestone: **Matrix Multiplication - Reduce Operation. Map Reduce - Matrix Multiplication** 7 hours ago

npdarsini set the estimate to 3 7 hours ago

npdarsini self-assigned this 7 hours ago

npdarsini changed the pipeline from **Backlog** to **To Do** 7 hours ago

npdarsini commented 7 hours ago

Cannot Perform as the Reduce job results are not yet available.

npdarsini changed the estimate from 3 to 2 7 hours ago

npdarsini commented 7 hours ago

Can make it simple.

Pipeline: In Progress

Labels: enhancement

Milestone: Matrix Multiplication - Reduce Operation. Map Reduce - Matrix Multiplication

Estimate: 3

Assignee: npdarsini

Notifications: Unsubscribe

1 participant

Lock conversation

Export Issue

Matrix Multiplication - Validation

No Input Matrix.

Start: Jan 26, 2016 | Due: Jan 26, 2016

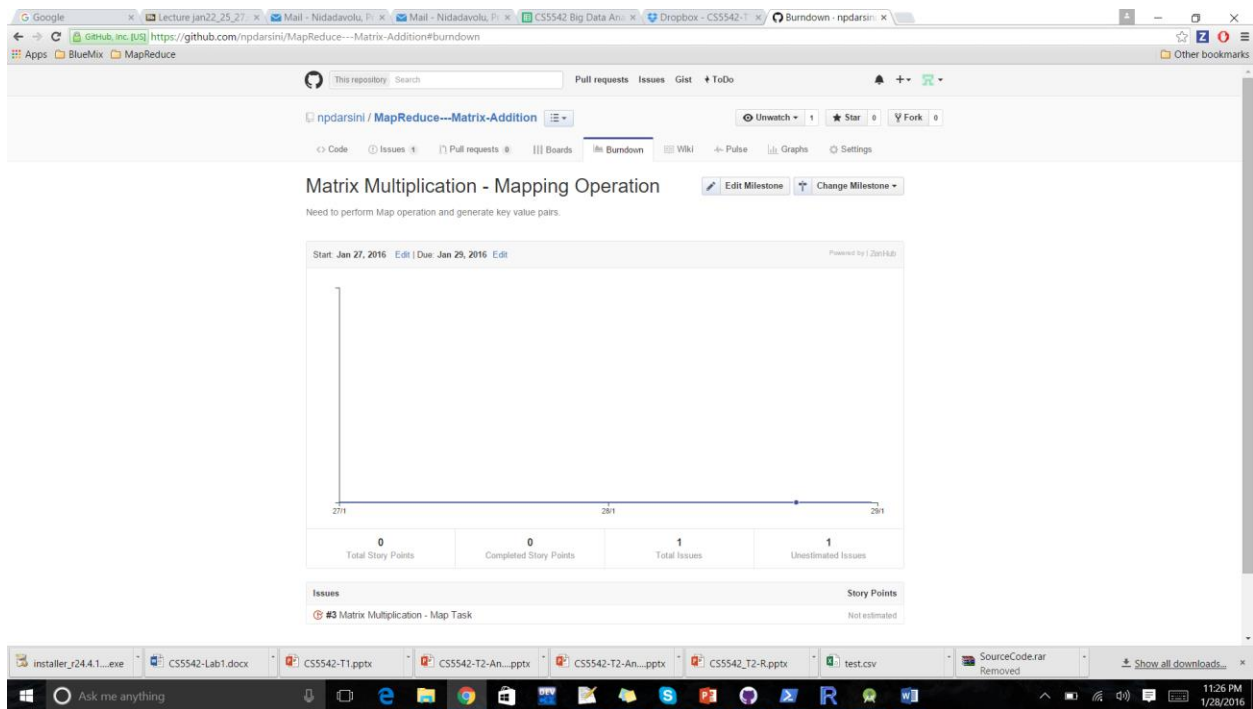
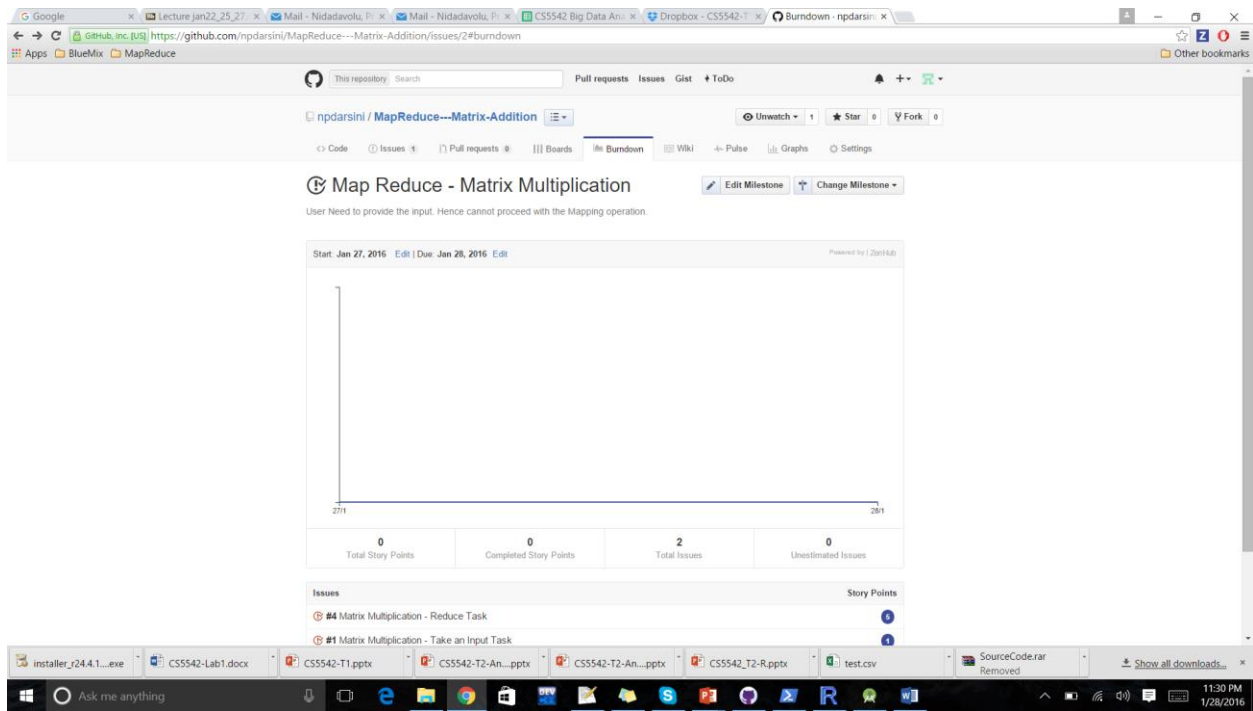
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0 Total Story Points | 0 Completed Story Points | 1 Total Issues | 0 Unestimated Issues

Issues

#2 Matrix Multiplication - Validate whether they can be added.

Story Points



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Burndown - npdarsini

github.com/npdarsini/MapReduce---Matrix-Addition#burndown

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Matrix Multiplication - Reduce Operation

Mapping not performed. Hence cannot proceed.

Start: Jan 27, 2016 | Edit | Due: Jan 28, 2016 | Edit

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0	0	1	0
Total Story Points	Completed Story Points	Total Issues	Unestimated Issues

Issues

Story Points

#5 Matrix Multiplication - Result Display

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CS5542-Lab1.docx

CS5542-T1.pptx

CS5542-T2-An...pptx

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1/28/2016