A\* Search Droplet Routing for Digital Microfluidics

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## Executive Summary

This report details the implementation and testing of additions that were made to the UCR’s MFSimStatic Microfluidics framework. These additions were made as part of a CS 220 class project in Fall 2014. The project description is available in appendix A.

Two routing algorithms and two compaction algorithms that utilize A\* search were developed as part of this project.

The next section gives describes the work done as part of the project and gives details about the modifications made to the original codebase.

The third section has results from the tests conducted to verify the correct operation of the new routing and compaction algorithms.

## Framework Modification

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# Overview of Changes

We have implementations all four mini-projects described in the project description (appendix A). In this section we will briefly describe the state of the changes to the MFSimStatic framework for each mini-project.

**Mini-project 1:**

We have implemented both the basic and prioritized A\* search routers as described in [Bohringer 2006] (reference [2] in appendix A). The grid was modelled using custom grid cells. The movement cost (g) that we used was one plus the parent grid location for regular cells and a very large number for blockages. The heuristic cost (h) used was the Manhattan distance to the target. This was either the sum of distances to respective targets for all current droplets locations in the case of the basic A\* router; or the distance to the target of the droplet being routed in the case of the prioritized router.

Bohringer describes that the prioritized A\* routing algorithm can use a random priority order for droplets. However, the author also mentions routing success may be critically dependant on the priority order in some cases. To give more control to the user over droplet priorities we implemented all five priority schemes described in Abel’s routing study. Namely:

* S: Increasing Manhattan distance between droplet source and target
* L: Decreasing Manhattan distance between droplet source and target
* R: Random droplet order
* X: Increasing distance between the x-coordinates of the droplet source and target
* Y: Increasing distance between the y-coordinates of the droplet source and target

We also tried to add a bounding box scheme (labelled B in the code). In this scheme, we assign droplet priorities according to increasing number of points in their bounding boxes. A droplet’s bounding box is formed by its source and target and the points are the sources and sinks of other droplets. However, this implementation currently is buggy and is not operational. We have been able to narrow the issue down to two functions, both named ‘pointsInBoundingBox’ in the files ‘router.cc’ and ‘prioritized\_a\_star\_router.cc’. We believe that these are the functions that need to be debugged to get the bounding box scheme to work.

**Mini-projects 2 and 3:**

For these projects, we modelled the objectives of either re-using or avoiding previously used cells as additions to the movement cost in our A\* search. To reuse previously used cells, we added a penalty whenever a fresh cell was used for routing. To avoid using previously used cells, we added a penalty whenever such a cell was considered for routing.

**Mini-project 4**

For this project, we added two new functions to the base router implementation in MFSimStatic that perform basic and prioritized A\* search for compaction.

In all 18 new operational router types (3 types of basic A\* routers and 3x5 types of prioritized A\* routers) and 6 new operational compaction types (basic A\* compaction and 5x prioritized A\* compaction) were added to the MFSimStatic project.

The modified codebase can viewed and downloaded at the link below (UCR login required).

<https://drive.google.com/a/ucr.edu/file/d/0Bz0WzW_ybrAtTDdfSXJIYVprcm8/view?usp=sharing>

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# List of New and Modified Files

This section briefly describes the changes we made to each file. All the code changes made by us also have accompanying comments (in the respective files). The complete diff of modifications to the MFSimStatic framework is available in appendix B.

**router.h**

Location: MFSimStatic/Headers/Router/

We modified this file to add declarations for the two new compaction algorithms. This was done as part of the requirements for mini-project 4.

**router.cc**

Location: MFSimStatic/Source/Router/

We modified this file to add the two new compaction algorithms. This was done as part of the requirements for mini-project 4. The following functions and function objects were added:

* static void printCells(...)
* static bool doesInterfere(...)
* static void AddtoOpenSet(...)
* static void find\_neighbors(...)
* static void StarAddStalls(...)
* static bool checkGoalState(...)
* static OpenSetNode removeMin\_from\_open\_set(...)
* static void find\_init\_neighbors(...)
* void Router::compactRoutesWithAStarCompactor(...)
* static int pointsInBoundingBox(...)
* struct pr\_a\_star\_compactor\_less\_than
* static bool conflict(...)
* void Router::compactRoutesWithPrioritizedAStarCompactor(...)

**a\_star\_router.h**

Location: MFSimStatic/Headers/Router/

We modified this file to implement all three types of the basic A\* search routing algorithms. This was done as part of the requirements for mini-projects 1, 2 and 3. All the code from the previous version of this file was either appropriated and adapted for our implementation or deleted.

**a\_star\_router.cc**

Location: MFSimStatic/Source/Router/

We modified this file to implement all three types of the basic A\* search routing algorithms. This was done as part of the requirements for mini-projects 1, 2 and 3. All the code from the previous version of this file was either appropriated and adapted for our implementation or deleted.

**prioritized\_a\_star\_router.h**

Location: MFSimStatic/Headers/Router/

We created this file to implement all three types (each with six subtypes) of the prioritized A\* search routing algorithms. This was done as part of the requirements for mini-projects 1, 2 and 3. Some code from the previous version of the a\_star\_router.h file was appropriated and adapted for our implementation.

**prioritized\_a\_star\_router.cc**

Location: MFSimStatic/Source/Router/

We created this file to implement all three types (each with six subtypes) of the prioritized A\* search routing algorithms. This was done as part of the requirements for mini-projects 1, 2 and 3. Some code from the previous version of the a\_star\_router.cc file was appropriated and adapted for our implementation.

**synthesis.cc**

Location: MFSimStatic/Source/

We modified this file to add calls to the constructors of the two new routers. This was done as part of the requirements for mini-projects 1, 2 and 3.The following function was modified:

* Router\* Synthesis::getNewRoutingMethod(...)

**structs.h**

Location: MFSimStatic/Headers/Resources/

We modified this file to add the three structs used by the new AStarRouter and PrioritizedAStarRouter classes. This was done as part of the requirements for mini-projects 1, 2 and 3. The following structs were added:

* struct StarCell
* struct DropletPoint
* struct PrStarCell
* struct StarRoutePoint
* struct OpenSetNode

**enums.h**

Location: MFSimStatic/Headers/Resources/

We modified this file to add the enums for all the new routing algorithms as well as those for the new compaction algorithms. This was done as part of the requirements for mini-projects 1, 2, 3 and 4.

We had originally considered adding a RouterSubType enum so that we could have just two new RouterType enums for the two new routing algorithms. This way the RouterType would decide the particular class to be constructed and the RouterSubType would decide the particular router ‘type’ (corresponding to mini-project 1, 2 or 3) and ‘subtype’ (the selected priority scheme for the prioritized A\* router).

However, we decided to rollback the changes we made to the MFSimStatic project because we were not sure about how to correspondingly modify MFSimStaticGUI. The files that we had modified (before we rolled back the changes) were:

* MFSimStatic/Source/synthesis.cc
* MFSimStatic/Headers/synthesis.h
* MFSimStatic/Source/command\_line.cc

**compatibility\_check.cc**

Location: MFSimStatic/Source/

We modified this file to test the claim that the *INHERENT\_COMP* compaction type was used with the new routing algorithms. This was part of the requirements for mini-projects 1, 2 and 3.

## Framework Evaluation

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# Overview of Tests

**Router Tests**

To test the new routing algorithms, we used the five testing assays provided with the MFSimStatic framework. We tested these with the List scheduler for scheduling and the Kamer placer (with free process engine) and Grissom Path binder (with fixed process engine) for placement.

We tested all combinations of these assays, scheduler and placers with each of our router variants as well as the existing Roy router. Testing with the Roy router served two purposes. First, it served as a benchmark for our router implementations. Second, it served as a regression test to check for errors that may have been introduced into the rest of the framework.

All the A\* search routers were paired with the inherent compaction (*INHERENT\_COMP*) type. Roy’s router was paired with mid-stall compaction type (*MID\_COMP*).

We printed the computed routes out on to the console in all cases and checked for routing failures. For many of the initial tests that we performed while debugging the code we also examined the images and videos generated by DmfbSimVisualizer.

A total of 190 tests were performed. 10 test cases for each of the 19 routers tested.

**Compactor Tests**

To test the new compaction algorithms we tested all the testing assays. We used the list scheduler for scheduling; and the Kamer placer (with free process engine) and Grissom Path binder (with fixed process engine) for placement.

All the compactors were paired with the Roy maze router. The benchmark for these tests was the mid-stall compactor. Again, testing this compactor served two purposes as in the case of the router tests.

We printed out the computed routes to the console and checked for routing failures.

There were a total of 70 test cases. 10 cases for each of the 7 compactors tested.

# Summary of Test Results

The basic A\* router and two variants of the prioritized A\* router performed nearly as well as Roy's router on our test cases which was used as the benchmark. They also did not seg fault whereas Roy's router did so on 4/10 test cases.

The basic A\* compactor performed excellently, correctly compacting routes in 9/10 cases and did not seg fault in the last case. The mid-stall compactor used as the benchmark for the compactor tests correctly compacted routes in 6/10 cases and seg faulted in the other 4 cases.

**Indices to test results**

Test Cases:

* C1: Assay: Single\_2\_Input\_Mix, Scheduler: List scheduler, Placer: Kamer placer
* C2: Assay: Single\_2\_Input\_Mix, Scheduler: List scheduler, Placer: Grissom Path binder
* C3: Assay: Single\_2\_Output\_Split, Scheduler: List scheduler, Placer: Kamer placer
* C4: Assay: Single\_2\_Output\_Split, Scheduler: List scheduler, Placer: Grissom Path binder
* C5: Assay: Single\_3\_Input\_Mix, Scheduler: List scheduler, Placer: Kamer placer
* C6: Assay: Single\_3\_Input\_Mix, Scheduler: List scheduler, Placer: Grissom Path binder
* C7: Assay: Single\_Dilute, Scheduler: List scheduler, Placer: Kamer placer
* C8: Assay: Single\_Dilute, Scheduler: List scheduler, Placer: Grissom Path binder
* C9: Assay: Two\_Dilutes, Scheduler: List scheduler, Placer: Kamer placer
* C10: Assay: Two\_Dilutes, Scheduler: List scheduler, Placer: Grissom Path binder

Routers:

* R0: Roy’s maze router
* R1: Basic A\* search router, type 1
* R2: Basic A\* search router, type 2 (maximizes cell reuse)
* R3: Basic A\* search router, type 3 (avoids cell reuse)
* R4: Prioritized A\* search router, type 1, priority order S
* R5: Prioritized A\* search router, type 2, priority order S
* R6: Prioritized A\* search router, type 3, priority order S
* R7: Prioritized A\* search router, type 1, priority order L
* R8: Prioritized A\* search router, type 2, priority order L
* R9: Prioritized A\* search router, type 3, priority order L
* R10: Prioritized A\* search router, type 1, priority order R
* R11: Prioritized A\* search router, type 2, priority order R
* R12: Prioritized A\* search router, type 3, priority order R
* R13: Prioritized A\* search router, type 1, priority order X
* R14: Prioritized A\* search router, type 2, priority order X
* R15: Prioritized A\* search router, type 3, priority order X
* R16: Prioritized A\* search router, type 1, priority order Y
* R17: Prioritized A\* search router, type 2, priority order Y
* R18: Prioritized A\* search router, type 3, priority order Y

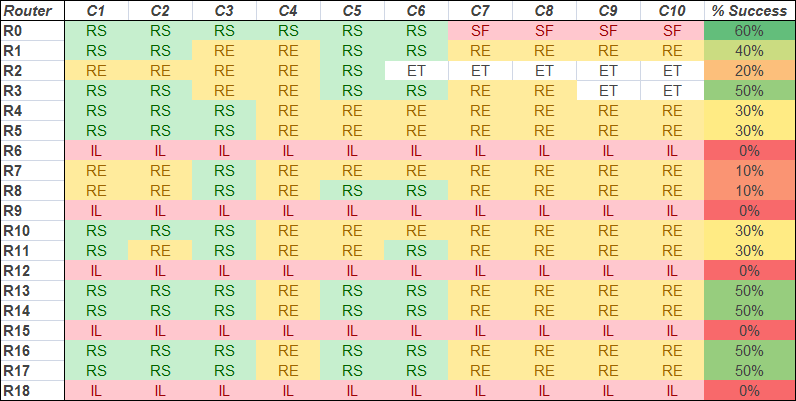
Compactor Types:

* C0: Mid-stall compaction
* C1: Basic A\* compaction
* C2: Prioritized A\* compaction, priority order S
* C3: Prioritized A\* compaction, priority order L
* C4: Prioritized A\* compaction, priority order R
* C5: Prioritized A\* compaction, priority order X
* C6: Prioritized A\* compaction, priority order Y

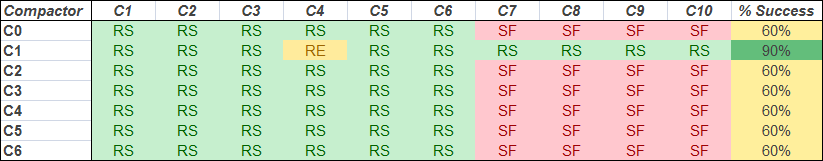
Result Types:

* RS: Routing Success - Properly compacted routes found.
* RE: Routing Error - Computed routes have conflicts. Need additional compaction.
* RF: Routing Failure - Unable to find route to target for one or more droplets.
* IL: Infinite Loop - Program fails to terminate.
* SF: Segmentation Fault - Program crashes.
* ET: Early Termination - Program ran longer than allocated testing time per test case.

**Router Tests Results**



**Compactor Test Results**



## Appendices

A: Project Description

Project: A\* Search Droplet Routing for Digital Microfluidics

Background

The process of synthesizing an assay (biochemical protocol), represented as a directed acyclic graph (DAG) involves solving four problems, all of which are NP-complete:

1. Scheduling

2. Module Selection (often omitted; module sizes are pre-selected by default)

3. Placement

4. Routing

Project Description

A\* Search is a general algorithmic technique from artificial intelligence that can be applied to solve NP-complete problems optimally, but in exponential worst-case time, (unless it is eventually proven that P=NP). In this project, the student will implement A\* search algorithms to solve different variations on the problem of droplet routing for DMFBs.

Ref. [1] provides a basic overview of the rules for collision avoidance during droplet routing. Ref. [2] describes two A\* search algorithms that solve the droplet routing problem optimally, where the goal is to minimize the length of the longest droplet route. Dr. Brisk has already obtained an implementation of the A\* search algorithm, as described in Ref. [2]. In this project, the student will modify the A\* search algorithm to optimize for different objectives, and in several different contexts.

*Objective #1: Minimize the Length of the Longest Droplet Route*

This is the default objective of the A\* search algorithm from ref. [2].

*Objective #2: Maximal Reuse of Cells While Routing*

Several early droplet routing papers (including ref. [1]) have suggested that the best objective should be to use the minimum number of “cells” in the DMFB as possible for routing; in other words, all things being equal, a droplet’s preferred routing path would maximally re-use cells that other droplets have already traversed, as opposed to using cells that have not yet been traversed. (Dr. Brisk considers this objective to be rather dubious, but would like to account for it regardless).

This creates a 2-part objective function: the foremost objective is still to minimize the length of the droplet routes; the second objective is to maximize the number of re-used cells along the droplet routing path.

*Objective #3: Disjoint-path routing*

A second objective is to reduce cross-contamination between droplets. In practice, droplets may leave residue behind as they travel across a DMFB. A droplet that enters a cell that contains residue may become contaminated, which is often unacceptable in chemistry. To eliminate or reduce cross-contamination, disjoint-path routing [3] can be adopted, in which the objective is to minimize the length of the longest droplet route while enforcing the constraint that no two routing paths overlap one another. If this cannot be achieved, then the objective is to minimize the number of cross-contamination points; minimizing the length of the longest path then becomes a secondary objective.

*Objective #4: Compaction of Pre-Computed Droplet Routes*

Many droplet routing algorithms, including several that have been implemented within the framework already, are broken up into two parts:

(1) A *path planning* algorithm that determines the paths that each droplet will take, under the assumption that droplets are routed one-at-a-time.

(2) A *compaction* algorithm which routes multiple droplets in parallel along the computed paths, thereby “compacting” the routes in the time dimension.

In principle, any path planning algorithm could be used in conjunction with any compaction algorithm; the framework has been implemented so that the two steps are modular; for example, this approach was taken by an implementation of the Roy Maze Router [4] in the framework.

In this part of the project, the student will implement an A\* search algorithm that computes an optimal compaction; the objective, here, is to minimize the length of the longest droplet route.

Implementation Details

This project will use the UC Riverside Digital Microfluidic Biochip (DMFB) Static Synthesis Simulator [5]. Source Code is available here,

http://microfluidics.cs.ucr.edu/staticsim.html

A paper and slides describing the simulator and its development can be downloaded here:

<http://www1.cs.ucr.edu/faculty/philip/papers/conferences/vlsi-soc12/vlsisoc12-framework.pdf>

<http://www1.cs.ucr.edu/faculty/philip/papers/conferences/vlsi-soc12/vlsisoc12-framework.pptx>

Each algorithm should be implemented as a distinct, standalone module within the synthesis framework; this way, it becomes easy to compare the performance of different algorithms against one another.

The framework includes a robust implementation of Roy’s Maze Router [4]; it may be a good idea to understand how this algorithm works and to look over its source code to familiarize yourself with how droplet routers are implemented within the framework.

The A\* search should be applied to every “routing subproblem” as described in ref. [1]. Since A\* Search runs in exponential worst-case time, it may not be feasible to run and test it on very large benchmarks.

For Objective #4, it is probably a good idea to base the source code on the compaction step from Roy’s Maze Router [4], which is included in the framework.

This project is broken down into three mini-projects

Mini-project #1 (Objective #1)

Duration: Four weeks

Download and install the UC Riverside Digital Microfluidic Static Synthesis Simulator [6]; watch the YouTube tutorial videos that are available on the project website. You may also want to install the Eclipse integrated development environment:

http://www.eclipse.org

Familiarize yourself with the framework source code, especially the routing moduleand its interfaces and internal data structures.

1. Implement the A\* search algorithm for droplet path planning as described in Section IV.A of Ref. [2].

2. Implement the prioritized A\* search algorithm for droplet path planning as described in Section IV.B of Ref. [2].

Mini-project #2 (Objective #2)

Duration: One week

1. Modify the A\* search algorithm for droplet path planning implemented as part of Mini-project #1 to maximize re-use of cells while routing (Objective #2).

2. Modify the prioritized A\* search algorithm for droplet path planning implemented as part of Mini-project #1 to maximize re-use of cells while routing (Objective #2).

Mini-project #3 (Objective #3)

Duration: One week

1. Modify the A\* search algorithm for droplet path planning implemented as part of Mini-project #1 to optimize for disjoint droplet routes (Objective #3).

2. Modify the prioritized A\* search algorithm for droplet path planning implemented as part of Mini-project #1 to optimize for disjoint routes (Objective #3).

Mini-project #4 (Objective #4)

Duration: Two weeks

1. Modify the A\* search algorithm to perform path compaction (Objective #4).

2. Modify the prioritized A\* search algorithm to perform path compaction (Objective #4).

The most straightforward way to implement Mini-project #4 is to replace the compaction code in the Maze Router [4] with the (prioritized) A\* search.

References

[1] Fei Su, William L. Hwang, Krishnendu Chakrabarty: Droplet routing in the synthesis of digital microfluidic biochips. DATE 2006: 323-328

[2] Karl-Friedrich Böhringer: Modeling and Controlling Parallel Tasks in Droplet-Based Microfluidic Systems. IEEE Trans. on CAD of Integrated Circuits and Systems 25(2):334-344 (2006)

[3] Yang Zhao, Krishnendu Chakrabarty: Cross-Contamination Avoidance for Droplet Routing in Digital Microfluidic Biochips. IEEE Trans. on CAD of Integrated Circuits and Systems 31(6): 817-830 (2012)

[4] Pranab Roy, Hafizur Rahaman, Parthasarathi Dasgupta: A novel droplet routing algorithm for digital microfluidic biochips. ACM Great Lakes Symposium on VLSI 2010: 441-446

[5] Daniel Grissom, Kenneth O'Neal, Benjamin Preciado, Hiral Patel, Robert Doherty, Nick Liao, Philip Brisk: A digital microfluidic biochip synthesis framework. VLSI-SoC 2012:177-182

# B: Complete Diff of Modifications

Output of git diff between fresh copy of MFSimStatic and our modified version:

|  |
| --- |
| diff --git a/Headers/Resources/enums.h b/Headers/Resources/enums.h  index 625a9da..cc58b2b 100644  --- a/Headers/Resources/enums.h  +++ b/Headers/Resources/enums.h  @@ -34,13 +34,21 @@ enum ModuleDeltaType { TS\_MDT, C\_MDT }; // Warning: Changing this order requires  // Synthesis types  enum SchedulerType { LIST\_S, PATH\_S, GENET\_S, RICKETT\_S, FD\_LIST\_S, FPPC\_S, FPPC\_PATH\_S, RT\_EVAL\_LIST\_S, SKYCAL\_S /\*,NEW\_S\*/};  enum PlacerType { GRISSOM\_LE\_B, GRISSOM\_PATH\_B, SA\_P, KAMER\_LL\_P, FPPC\_LE\_B, SKYCAL\_P /\*,NEW\_P\*/}; // Placer OR Binder  -enum RouterType { GRISSOM\_FIX\_R, GRISSOM\_FIX\_MAP\_R, ROY\_MAZE\_R, BIOROUTE\_R, FPPC\_SEQUENTIAL\_R, FPPC\_PARALLEL\_R, CHO\_R, A\_STAR\_R, LEE\_R, SKYCAL\_R /\*,NEW\_R\*/};  +enum RouterType { GRISSOM\_FIX\_R, GRISSOM\_FIX\_MAP\_R, ROY\_MAZE\_R, BIOROUTE\_R, FPPC\_SEQUENTIAL\_R, FPPC\_PARALLEL\_R, CHO\_R, LEE\_R, SKYCAL\_R ,  + A\_STAR\_TYPE\_1\_R, A\_STAR\_TYPE\_2\_R, A\_STAR\_TYPE\_3\_R,  + PR\_A\_STAR\_TYPE\_1S\_R, PR\_A\_STAR\_TYPE\_2S\_R, PR\_A\_STAR\_TYPE\_3S\_R,  + PR\_A\_STAR\_TYPE\_1L\_R, PR\_A\_STAR\_TYPE\_2L\_R, PR\_A\_STAR\_TYPE\_3L\_R,  + PR\_A\_STAR\_TYPE\_1R\_R, PR\_A\_STAR\_TYPE\_2R\_R, PR\_A\_STAR\_TYPE\_3R\_R,  + PR\_A\_STAR\_TYPE\_1X\_R, PR\_A\_STAR\_TYPE\_2X\_R, PR\_A\_STAR\_TYPE\_3X\_R,  + PR\_A\_STAR\_TYPE\_1Y\_R, PR\_A\_STAR\_TYPE\_2Y\_R, PR\_A\_STAR\_TYPE\_3Y\_R,  + PR\_A\_STAR\_TYPE\_1B\_R, PR\_A\_STAR\_TYPE\_2B\_R, PR\_A\_STAR\_TYPE\_3B\_R /\*,NEW\_R\*/};  // Scheduling utility types  enum ResourceAllocationType { GRISSOM\_FIX\_0\_RA, GRISSOM\_FIX\_1\_RA, GRISSOM\_FIX\_2\_RA, GRISSOM\_FIX\_3\_RA, PC\_INHERENT\_RA, INHERIT\_RA }; // Determines how many resources (and what type) will be available for the scheduler  // Routing utility types  -enum CompactionType { NO\_COMP, BEG\_COMP, MID\_COMP, CHO\_COMP, DYN\_COMP, INHERENT\_COMP };  +enum CompactionType { NO\_COMP, BEG\_COMP, MID\_COMP, CHO\_COMP, DYN\_COMP, INHERENT\_COMP,  + A\_STAR\_COMP, PR\_A\_STAR\_TYPE\_S\_COMP, PR\_A\_STAR\_TYPE\_L\_COMP, PR\_A\_STAR\_TYPE\_R\_COMP, PR\_A\_STAR\_TYPE\_X\_COMP, PR\_A\_STAR\_TYPE\_Y\_COMP, PR\_A\_STAR\_TYPE\_B\_COMP };  enum ProcessEngineType { FIXED\_PE, FREE\_PE, FPPC\_PE }; // How to move droplets in modules  // Pin-mapping types  diff --git a/Headers/Resources/structs.h b/Headers/Resources/structs.h  index 1cf298e..414aa2f 100644  --- a/Headers/Resources/structs.h  +++ b/Headers/Resources/structs.h  @@ -404,4 +404,68 @@ struct ModuleDependenceVertex  }  };  +/////////////////////////////////////////////////////////////////  +// StarCell: Holds the basic information for a cell to be used  +// with A\* search routing algorithm  +/////////////////////////////////////////////////////////////////  +struct StarCell  +{  + int x;  + int y;  + bool block;  + bool isUsed;  +};  +  +/////////////////////////////////////////////////////////////////  +// DropletPoint: Holds the basic information for droplet route point  +// to be used with A\* search routing algorithm  +/////////////////////////////////////////////////////////////////  +struct DropletPoint  +{  + int x;  + int y;  + int g\_score;  + vector<StarCell \*> camefrom;  + Droplet \*droplet;  +};  +  +/////////////////////////////////////////////////////////////////  +// PrStarCell: Holds the basic information for a cell to be used  +// with prioritized A\* search routing algorithm  +/////////////////////////////////////////////////////////////////  +struct PrStarCell  +{  + int x;  + int y;  + int score;  + int noOfStalls;  + bool block;  + bool isUsed;  + PrStarCell\* came\_from;  +};  +  +/////////////////////////////////////////////////////////////////  +// StarRoutePoint: Holds the basic information for droplet route point  +// to be used with A\* search compaction algorithm  +/////////////////////////////////////////////////////////////////  +struct StarRoutePoint  +{  + int rpindex;  + RoutePoint \*rp;  + bool isStalled;  + int score;  + int istarget;  +};  +  +/////////////////////////////////////////////////////////////////  +// OpenSetNode: Holds the basic information for routing state  +// to be used with A\* search compaction algorithm  +/////////////////////////////////////////////////////////////////  +struct OpenSetNode  +{  + vector<vector<StarRoutePoint> > cell;  + int h\_score;  +};  +  +  #endif  diff --git a/Headers/Router/a\_star\_router.h b/Headers/Router/a\_star\_router.h  index b06cd28..cbbabda 100644  --- a/Headers/Router/a\_star\_router.h  +++ b/Headers/Router/a\_star\_router.h  @@ -1,8 +1,8 @@  /\*  \* A\_Star\_Router.h  \*  - \* Created on: Feb 26, 2013  - \* Author: Chris Jaress  + \* Created on: Nov 15, 2014  + \* Authors: Mohiuddin Abdul Qader, Abhinand Menon  \*/  #ifndef A\_STAR\_ROUTER\_H  @@ -11,20 +11,7 @@  #include "../Testing/elapsed\_timer.h"  #include "post\_subprob\_compact\_router.h"  -//#include "../enums.h"  -#include "router.h"  -struct StarCell  -{  - int x;  - int y;  - int score;  - StarCell\* came\_from;  - bool block;  -};  -  -  -//struct RotuingPoint;  class AStarRouter : public PostSubproblemCompactionRouter  {  @@ -39,14 +26,22 @@ class AStarRouter : public PostSubproblemCompactionRouter  void routerSpecificInits();  private:  - vector<RoutePoint\*> \* find\_path(StarCell\* previous\_node, StarCell\* current\_node);  - StarCell\* score\_min(vector<StarCell\*> \*curr\_set);  - bool is\_in\_evaluated\_set(vector<StarCell\*> \*open\_set, StarCell\* in\_question);  +  + // Methods  + vector<RoutePoint\*> \* find\_path( DropletPoint\* current\_node);  + map<Droplet\*, DropletPoint>\* remove\_from\_open\_set(vector<map<Droplet\*, DropletPoint> \*> \*open\_set, int i);  + int score\_min(vector<map<Droplet\*, DropletPoint>\*> \*curr\_set, map<Droplet \*, StarCell \*> \*targetCell);  + bool is\_in\_evaluated\_set(map<Droplet \*, DropletPoint>\*, int\* score);  + bool is\_in\_open\_set(map<Droplet \*, DropletPoint>\*, int\* score);  + bool checkGoalState(map<Droplet\*, DropletPoint> \*currCell, map<Droplet \*, StarCell \*> \*targetCell);  + void find\_neighbors(int dropletIndex, map<Droplet\*, DropletPoint> currCell, map<Droplet \*, StarCell \*> \*targetCell);  + void printBlockages();  // Members  vector<vector<StarCell \*> \*> \*board;  - void remove\_from\_open\_set(vector<StarCell\*> \*open\_set, StarCell\* current\_node);  - void printBlockages();  + vector<map<Droplet\*, DropletPoint>\*> \*open\_set;  + vector<map<Droplet\*, DropletPoint>\*> \*evaluated;  + vector<Droplet \*> \*routingThisTS;  };  diff --git a/Headers/Router/post\_subprob\_compact\_router.h b/Headers/Router/post\_subprob\_compact\_router.h  index 688f848..86be89e 100644  --- a/Headers/Router/post\_subprob\_compact\_router.h  +++ b/Headers/Router/post\_subprob\_compact\_router.h  @@ -31,7 +31,6 @@  #include "../Testing/elapsed\_timer.h"  #include "router.h"  -struct RotuingPoint;  class PostSubproblemCompactionRouter : public Router  {  diff --git a/Headers/Router/router.h b/Headers/Router/router.h  index d21b9d1..3c04ba1 100644  --- a/Headers/Router/router.h  +++ b/Headers/Router/router.h  @@ -85,6 +85,8 @@ class Router  void compactRoutes(vector<Droplet \*> \*subDrops, vector<vector<RoutePoint \*> \*> \*subRoutes);  void compactRoutesWithBegStalls(vector<vector<RoutePoint \*> \*> \*subRoutes);  void compactRoutesWithMidStalls(vector<vector<RoutePoint \*> \*> \*subRoutes);  + void compactRoutesWithAStarCompactor(vector<vector<RoutePoint \*> \*> \*subRoutes);  + void compactRoutesWithPrioritizedAStarCompactor(vector<vector<RoutePoint \*> \*> \*subRoutes);  void compactRoutesWithDynamicProgramming(vector<Droplet \*> \*subDrops, vector<vector<RoutePoint \*> \*> \*subRoutes);  void decompact(vector<vector<RoutePoint \*> \*> \*subRoutes);  void printRoutes(vector<vector<RoutePoint \*> \*> \*routes);  diff --git a/Source/Router/a\_star\_router.cc b/Source/Router/a\_star\_router.cc  index 653ebc7..0a73202 100644  --- a/Source/Router/a\_star\_router.cc  +++ b/Source/Router/a\_star\_router.cc  @@ -2,8 +2,8 @@  /\*  \* A\_Star\_Router.h  \*  - \* Created on: Feb 26, 2013  - \* Author: Chris Jaress  + \* Created on: Nov 15, 2014  + \* Authors: Mohiuddin Abdul Qader, Abhinand Menon  \*/  @@ -20,11 +20,17 @@ AStarRouter::AStarRouter()  {  board = NULL;  claim(false, "Invalid constructor used for Router variant. Must use form that accepts DmfbArch.\n");  + open\_set = NULL;  + evaluated = NULL;  + routingThisTS = NULL;  }  AStarRouter::AStarRouter(DmfbArch \*dmfbArch)  {  board = NULL;  arch = dmfbArch;  + open\_set = NULL;  + evaluated = NULL;  + routingThisTS = NULL;  }  void AStarRouter::printBlockages()  @@ -86,43 +92,35 @@ void AStarRouter::routerSpecificInits()  c->x = x;  c->y = y;  c->block = false;  - c->came\_from = NULL;  - c->score = 0;  col->push\_back(c);  }  board->push\_back(col);  }  }  -///////////////////////////////////////////////////////////////////////////////////  -// Returns true if moving from curr to next will get a droplet closer to target.  -///////////////////////////////////////////////////////////////////////////////////  +///////////////////////////////////////////////////////////////////////////////////////  +//Print the currnet A\* Cell. Here a cell is a hash table of droplet to its route points  +////////////////////////////////////////////////////////////////////////////////////////  -///////////////////////////////////////////////////////////////////////////////////  -// Tells the direction that needs to be traveled when tracing back from next  -// to curr (the opposite direction traveled when going from curr to next)  -// DO NOT NEED FOR LEE'S  -///////////////////////////////////////////////////////////////////////////////////  -/\*int LeeRouter::getTraceBackDir(StarCell\* curr, StarCell\* next) {  - if(curr->x > next->x)  - return RightT; // Right  - else if(curr->x < next->x)  - return LeftT; // Left  - else if(curr->y > next->y)  - return DownT; // Down (grid Y-values are flipped  - else if(curr->y < next->y)  - return UpT; // Up  - else  - return OtherLayer;// Just some value  +static void printcurrstate(vector<Droplet \*> \*routingThisTS, map<Droplet\*, DropletPoint> currCell, map<Droplet \*, StarCell \*> \*targetCells)  +{  + for(int i = 0; i < routingThisTS->size(); ++i)  + {  +  + Droplet \*d = routingThisTS->at(i);  + DropletPoint t = currCell.at(d);  + StarCell\* sc = targetCells->at(d);  +  + cout<< "Droplet "<<i<<": Current Postion: ("<<t.x<<","<<t.y<<")"<<endl;  + cout<< "Droplet "<<i<<": Goal Postion: ("<<sc->x<<","<<sc->y<<")"<<endl<<endl;  +  + }  }  -\*/  -///////////////////////////////////////////////////////////////////////////////////  -//void LeeRouter::computeIndivSupProbRoutes(vector<vector<RoutePoint \*> \*> \*subRoutes, vector<Droplet \*> \*subDrops, map<Droplet \*, vector<RoutePoint \*> \*> \*routes)  +  void AStarRouter::computeIndivSupProbRoutes(vector<vector<RoutePoint \*> \*> \*subRoutes, vector<Droplet \*> \*subDrops, map<Droplet \*, vector<RoutePoint \*> \*> \*routes)  {  - // Get the nodes that need to be routed and sort  - //eliminateSubRouteDependencies(routes);  + // Get the nodes that need to be routed  vector<AssayNode \*> routableThisTS;  for (unsigned i = 0; i < thisTS->size(); i++)  if (thisTS->at(i)->GetType() != DISPENSE && thisTS->at(i)->GetStartTS() == startingTS)  @@ -133,10 +131,11 @@ void AStarRouter::computeIndivSupProbRoutes(vector<vector<RoutePoint \*> \*> \*subR  map<Droplet \*, StarCell \*> \*sourceCells = new map<Droplet \*, StarCell \*>();  map<Droplet \*, StarCell \*> \*targetCells = new map<Droplet \*, StarCell \*>();  set<ReconfigModule \*> storageModsWithMultDrops;  - vector<Droplet \*> \*routingThisTS = new vector<Droplet \*>();  + routingThisTS = new vector<Droplet \*>();  vector<StarCell\*> blockCells;  StarCell \*s = NULL;  StarCell \*t = NULL;  +  int score\_temp = 0;  for (unsigned i = 0; i < routableThisTS.size(); i++)  {  @@ -169,7 +168,6 @@ void AStarRouter::computeIndivSupProbRoutes(vector<vector<RoutePoint \*> \*> \*subR  else  s = board->at((\*routes)[pd]->back()->x)->at((\*routes)[pd]->back()->y); // last route point  sourceCells->insert(pair<Droplet \*, StarCell \*>(pd, s));  - //blockCells.push\_back(s);  // Now get targets  t = NULL;  @@ -186,31 +184,15 @@ void AStarRouter::computeIndivSupProbRoutes(vector<vector<RoutePoint \*> \*> \*subR  }  else  {  -// if(pd->getId() == 7)  -// {  -// cout << pd->getId() << endl;  -// cout << routeCycle << endl;  -// cout << n->GetReconfigMod()->getNumDrops() << endl;  -// }  -// else if(pd->getId() == 15)  -// {  -// cout << pd->getId() << endl;  -// cout << routeCycle << endl;  -// cout << n->GetReconfigMod()->getNumDrops() << endl;  -// }  - //cout << n->GetReconfigMod()->getNumDrops() << endl;  if (n->GetType() == STORAGE && n->GetReconfigMod()->getNumDrops() > 1)  {  - //cout << "Storage!" << endl;  t = board->at(n->GetReconfigMod()->getLX())->at(n->GetReconfigMod()->getTY()); // Top-Left if second Storage drop  storageModsWithMultDrops.insert(n->GetReconfigMod());  }  else  t = board->at(n->GetReconfigMod()->getLX())->at(n->GetReconfigMod()->getBY()); // Bottom-Left, else// DTG, this will need to be adjusted for storage etc., when/if more than one destination in a module  }  - //t = board->at(n->GetReconfigMod()->getLX())->at(n->GetReconfigMod()->getBY()); // last route point  targetCells->insert(pair<Droplet \*, StarCell \*>(pd, t));  - //blockCells.push\_back(t);  }  }  @@ -245,7 +227,6 @@ void AStarRouter::computeIndivSupProbRoutes(vector<vector<RoutePoint \*> \*> \*subR  if ((rp1->x == t2->x && rp1->y == t2->y) || (rp2->x == t1->x && rp2->y == t1->y))  {  - //cout << "Switched!" << endl;  targetCells->erase(d1);  targetCells->erase(d2);  targetCells->insert(pair<Droplet \*, StarCell \*>(d1, t2));  @@ -257,55 +238,41 @@ void AStarRouter::computeIndivSupProbRoutes(vector<vector<RoutePoint \*> \*> \*subR  }  + if(routingThisTS->size()==0)  + return;  + open\_set = new vector<map<Droplet\*, DropletPoint>\*>();  + evaluated = new vector<map<Droplet\*, DropletPoint>\*>();  - for(unsigned i = 0; i < routingThisTS->size(); ++i)  - {  - vector<StarCell\*> \*open\_set = new vector<StarCell\*>();  - vector<StarCell\* > \*evaluated = new vector<StarCell\*>();  - vector<RoutePoint \*> \*sr = new vector<RoutePoint \*>();  - vector<StarCell\*> neighbors;// = new vector<StarCell\*>();  - score\_temp = 0;  - routeCycle = cycle;  - //subRoutes->push\_back(sr);  -  -  - //stack<StarCell\*> stack\_route;  - Droplet \*d = routingThisTS->at(i);  - //cerr << "Got passed here!" << endl;  - subDrops->push\_back(d);  - //vector<StarCell\*> blockCells;  - //Loop used to block off cells that have a droplet in them  + routeCycle = cycle;  + map<Droplet\*, DropletPoint> \*dtodp = new map<Droplet\*, DropletPoint>();  +  + //Check for blocks for new reconfig areas  + for(unsigned i = 0; i < routingThisTS->size(); ++i)  + {  + Droplet \*d = routingThisTS->at(i);  + DropletPoint dp;  s = sourceCells->at(d);  - s->score = 0;  - t = targetCells->at(d);  - if ((\*routes)[d]->empty())  - {  - RoutePoint \*rp = new RoutePoint();  - rp->cycle = routeCycle;  - //routeCycle++;  - rp->dStatus = DROP\_NORMAL;  - rp->x = s->x;  - rp->y = s->y;  - sr->push\_back(rp);  - }  + dp.camefrom.push\_back(s);  + dp.droplet = d;  + dp.g\_score = 0;  + dp.x = s->x;  + dp.y = s->y;  + dp.droplet = d;  - //Reset board for new route  - for (int x = 0; x < arch->getNumCellsX(); x++)  + if(startingTS==12)  {  - for (int y = 0; y < arch->getNumCellsY(); y++)  - {  - StarCell \*c = board->at(x)->at(y);  - c->came\_from = NULL;  - c->score = 0;  - c->block = false;  - }  + cout<<dp.x<<" : "<<dp.y<<endl;  }  + dtodp->insert(pair<Droplet \*, DropletPoint>(d, dp));  +  + StarCell \*c = board->at(s->x)->at(s->y);  + c->isUsed = true; // set marker for router types 2 and 3  for (unsigned i = 0; i < thisTS->size(); i++)  {  @@ -315,210 +282,732 @@ void AStarRouter::computeIndivSupProbRoutes(vector<vector<RoutePoint \*> \*> \*subR  ReconfigModule \*rm = n->GetReconfigMod();  if (n->startTimeStep < startingTS && n->endTimeStep > startingTS)  {  - //persistingModules->push\_back(rm);  - //for (int j = 0; j < persistingModules->size(); j++)  - //{  - // ReconfigModule \*pm = persistingModules->at(j);  for (int x = rm->getLX()-1; x <= rm->getRX()+1; x++)  for (int y = rm->getTY()-1; y <= rm->getBY()+1; y++)  if (x >= 0 && y >= 0 && x < arch->getNumCellsX() && y < arch->getNumCellsY())  board->at(x)->at(y)->block = true;  - //}  }  }  }  + }  - //Blockages for other droplets  - for (unsigned j = 0; j < routingThisTS->size(); j++)  - {  - Droplet \*d2 = routingThisTS->at(j);  - if (d != d2)  - {  - StarCell \*c = sourceCells->at(d2);  - for (int x = c->x-1; x <= c->x+1; x++)  - for (int y = c->y-1; y <= c->y+1; y++)  - if (x >= 0 && y >= 0 && x < arch->getNumCellsX() && y < arch->getNumCellsY()) // On board?  - //if ( !(abs(x - s->x) <= 1 && abs(y - s->y) <= 1) ) // Don't block self  - //if ( !(abs(x - t->x) <= 1 && abs(y - t->y) <= 1) ) // Don't block self  - if (!(\*routes)[d2]->empty()) // Don't mark as blockage for dispense droplets; they wait in reservoir  - {  - //StarCell \* block\_cell = new StarCell();  - //block\_cell->x = d2->  - //evaluated->push\_back(\*d2);  - //StarCell\* tempBlock = new StarCell;  - //tempBlock->x = x;  - //tempBlock->y = y;  - //blockCells.push\_back(tempBlock);  - board->at(x)->at(y)->block = true;  - //board->at(x)->at(y)->score = 100000;  - }  -  - c = targetCells->at(d2);  - for (int x = c->x-1; x <= c->x+1; x++)  - for (int y = c->y-1; y <= c->y+1; y++)  - if (x >= 0 && y >= 0 && x < arch->getNumCellsX() && y < arch->getNumCellsY())  - {// On board?  - //if ( !(abs(x - t->x) <= 1 && abs(y - t->y) <= 1) ) // Don't block self  - //if ( !(abs(x - s->x) <= 1 && abs(y - s->y) <= 1) ) // Don't block self  - //{  - //StarCell\* tempBlock = new StarCell;  - //tempBlock->x = x;  - //tempBlock->y = y;  - //blockCells.push\_back(tempBlock);  - //}  - board->at(x)->at(y)->block = true;  - //board->at(x)->at(y)->score = 100000;  - //evaluated->push\_back(c);  - //blockCells.push\_back(c);  - }  - //StarCell \* c = targetCells->at(d2);  - //blockCells.push\_back(c);  - }  - }  -// if(routeCycle >=2000 && routeCycle < 3000)// 2120)  -// {  -// cout << routeCycle << endl;  - //printBlockages();  -// //exit(1);  -// }  + map<Droplet\*, DropletPoint> \*currCell;  + currCell = dtodp;  - //Blockages for modules  -  - StarCell \* currCell = s;  - open\_set->push\_back(s);  + open\_set->push\_back(dtodp);  //while loop to go through A\*  while(!open\_set->empty())  {  - currCell = score\_min(open\_set);  + int minIndex = score\_min(open\_set, targetCells);  + currCell = remove\_from\_open\_set(open\_set, minIndex);  +  + if(checkGoalState(currCell, targetCells) == true)  + {  + cout<<"goal\n";  + for(unsigned i = 0; i < routingThisTS->size(); ++i)  + {  +  + Droplet \*d = routingThisTS->at(i);  + DropletPoint t = currCell->at(d);  + StarCell \*c = board->at(t.x)->at(t.y);  + c->isUsed = true;  +  + subRoutes->push\_back(find\_path(&t));  + subDrops->push\_back(d);  - if(currCell == t)  + }  +  + break;  + }  +  +  + //Find all the neighbors  + map<Droplet \*, DropletPoint> dtodp;  + for(unsigned i = 0; i < routingThisTS->size(); ++i)  {  - sr = find\_path(s,t);  +  + Droplet \*d = routingThisTS->at(i);  + dtodp.insert(pair<Droplet \*, DropletPoint>(d, currCell->at(d)));  }  - remove\_from\_open\_set(open\_set, currCell);  +  +  +  + find\_neighbors(0 , dtodp, targetCells);  +  evaluated->push\_back(currCell);  - int cx = currCell->x; // Current x,y  - int cy = currCell->y;  - //grab the neighbor cells to find best possible  - if (cx+1 >= 0 && cx+1 < arch->getNumCellsX() && cy >= 0 && cy < arch->getNumCellsY()) // Right neighbor  - neighbors.push\_back(board->at(cx+1)->at(cy));  - if (cx-1 >= 0 && cx-1 < arch->getNumCellsX() && cy >= 0 && cy < arch->getNumCellsY()) // Left neighbor  - neighbors.push\_back(board->at(cx-1)->at(cy));  - if (cx >= 0 && cx < arch->getNumCellsX() && cy+1 >= 0 && cy+1 < arch->getNumCellsY()) // Bottom neighbor  - neighbors.push\_back(board->at(cx)->at(cy+1));  - if (cx >= 0 && cx < arch->getNumCellsX() && cy-1 >= 0 && cy-1 < arch->getNumCellsY()) // Top neighbor  - neighbors.push\_back(board->at(cx)->at(cy-1));  - for(unsigned k = 0; k < neighbors.size(); ++k)  + }  +  + delete routingThisTS;  + delete sourceCells;  + delete targetCells;  +  +  +  +}  +  +//Find all the nighbors of the currnet A\* cell, each droplet can go up, down, forward, back or stall, creating 5^d new cells for each cell  +//Where d is number of droplets. Here recursively the funcion computes different movements for all the droplets  +  +void AStarRouter::find\_neighbors(int dropletIndex, map<Droplet\*, DropletPoint> currCell, map<Droplet \*, StarCell \*> \*targetCells)  +{  + Droplet\* d = routingThisTS->at(dropletIndex);  + DropletPoint dp = currCell.at(d);  + int cx = dp.x; // Current x,y  + int cy = dp.y;  + int shouldStall = 0;  + int blockWieght = 10;  + DropletPoint dpOriginal = currCell.at(d);  +  + if(targetCells->at(d)->x == dp.x && targetCells->at(d)->y == dp.y)  + {  + if(dropletIndex == routingThisTS->size()-1)  + {  + //Add to open set  + map<Droplet \*, DropletPoint> \*dtodp = new map<Droplet \*, DropletPoint> ();  + int score = 0;  + for(unsigned i = 0; i <= dropletIndex; ++i)  {  - neighbors[k]->score = currCell->score+1;  - //if(board->at(neighbors[k]->x)->at(neighbors[k]->y)->block)  - if(neighbors[k]->block)  +  + Droplet \*d1 = routingThisTS->at(i);  + DropletPoint dp1= currCell.at(d1);  + StarCell \*c = board->at(dp1.x)->at(dp1.y);  +  + dtodp->insert(pair<Droplet \*, DropletPoint>(d1, dp1));  + score += dp1.g\_score;  + score += abs(targetCells->at(d1)->x - dp1.x);  + score += abs(targetCells->at(d1)->y - dp1.y);;  + }  + int eScore = 0;  + if(is\_in\_evaluated\_set(dtodp, &eScore))  + {  + }  + else if(!is\_in\_open\_set(dtodp, &eScore) || score < eScore)  + {  + open\_set->push\_back(dtodp);  + }  +  +  +  + }  + else  + find\_neighbors(dropletIndex+1, currCell, targetCells );  +  + return;  + }  +  +  + dp = dpOriginal;  + //grab the neighbor cells to find best possible  + if (cx+1 >= 0 && cx+1 < arch->getNumCellsX() && cy >= 0 && cy < arch->getNumCellsY()) // Right neighbor  + {  + //Find whether if its a block for other droplets  + StarCell \*c = board->at(cx+1)->at(cy);  + {  + bool f = false;  + for (unsigned j = 0; j < routingThisTS->size(); j++)  + {  + Droplet \*d1 = routingThisTS->at(j);  + DropletPoint dp1= currCell.at(d1);  + if(targetCells->at(d1)->x == dp1.x && targetCells->at(d1)->y == dp1.y)  + continue;  + if (j != dropletIndex)  + {  + StarCell \*sc = board->at(dp1.x)->at(dp1.y);  + for (int x = sc->x-1; x <= sc->x+1; x++)  + for (int y = sc->y-1; y <= sc->y+1; y++)  + if (x >= 0 && y >= 0 && x < arch->getNumCellsX() && y < arch->getNumCellsY()) // On board?  + //if ( !(abs(x - s->x) <= 1 && abs(y - s->y) <= 1) ) // Don't block self  + //if ( !(abs(x - t->x) <= 1 && abs(y - t->y) <= 1) ) // Don't block self  + //if (!(\*routes)[d2]->empty()) // Don't mark as blockage for dispense droplets; they wait in reservoir  + if(c->x == x && c->y == y)  + {  + f=true;  +  + break;  + }  + }  + }  +  + if(!f) // No conflicts  + {  + dp.camefrom.push\_back(board->at(cx)->at(cy));  + dp.x = c->x;  + dp.y = c->y;  + dp.g\_score = dp.g\_score+1;  + if(type==A\_STAR\_TYPE\_2\_R)  + {  + if(!c->isUsed)  + {  + dp.g\_score += 10;  + }  + }  + else if(type==A\_STAR\_TYPE\_3\_R)  {  - neighbors[k]->score = 100000;  - //evaluated->push\_back(neighbors[k]);  + if(c->isUsed)  + {  + dp.g\_score += 10;  + }  }  - score\_temp = neighbors[k]->score + 1;  - if(is\_in\_evaluated\_set(evaluated , neighbors[k]))  + if(c->block == true)  + dp.g\_score = blockWieght;  + currCell[d] = dp;  +  + if(dropletIndex == routingThisTS->size()-1)  {  - if(score\_temp >= neighbors[k]->score)  + //Add to open set  + map<Droplet \*, DropletPoint> \*dtodp = new map<Droplet \*, DropletPoint> ();  + int score = 0;  + for(unsigned i = 0; i <= dropletIndex; ++i)  {  + Droplet \*d1 = routingThisTS->at(i);  + DropletPoint dp1= currCell.at(d1);  + StarCell \*c = board->at(dp1.x)->at(dp1.y);  +  + dtodp->insert(pair<Droplet \*, DropletPoint>(d1, dp1));  + score += dp1.g\_score;  + score += abs(targetCells->at(d1)->x - dp1.x);  + score += abs(targetCells->at(d1)->y - dp1.y);;  + }  + int eScore = 0;  + if(is\_in\_evaluated\_set(dtodp, &eScore))  + {  + }  + else if(!is\_in\_open\_set(dtodp, &eScore) || score < eScore)  + {  + open\_set->push\_back(dtodp);  + }  +  +  +  + }  + else  + {  + // recursive call for next droplet  +  + find\_neighbors(dropletIndex+1, currCell, targetCells );  + }  + }  + else  + shouldStall++;  +  + }  + }  + dp = dpOriginal;  + if (cx-1 >= 0 && cx-1 < arch->getNumCellsX() && cy >= 0 && cy < arch->getNumCellsY()) // Left neighbor  + {  + //Find whether if its a block for other droplets  + StarCell \*c = board->at(cx-1)->at(cy);  + {  + bool f = false;  + for (unsigned j = 0; j < routingThisTS->size(); j++)  + {  + Droplet \*d1 = routingThisTS->at(j);  + DropletPoint dp1= currCell.at(d1);  + if(targetCells->at(d1)->x == dp1.x && targetCells->at(d1)->y == dp1.y)  + continue;  + if (j != dropletIndex)  + {  + StarCell \*sc = board->at(dp1.x)->at(dp1.y);  + for (int x = sc->x-1; x <= sc->x+1; x++)  + for (int y = sc->y-1; y <= sc->y+1; y++)  + if (x >= 0 && y >= 0 && x < arch->getNumCellsX() && y < arch->getNumCellsY()) // On board?  + if(c->x == x && c->y == y)  + {  + f=true;  +  + break;  + }  + }  + }  + if(!f)// No conflicts  + {  + dp.camefrom.push\_back(board->at(cx)->at(cy));  + dp.x = c->x;  + dp.y = c->y;  + dp.g\_score = dp.g\_score+1;  + if(type==A\_STAR\_TYPE\_2\_R)  + {  + if(!c->isUsed)  + {  + dp.g\_score += 10;  + }  + }  + else if(type==A\_STAR\_TYPE\_3\_R)  + {  + if(c->isUsed)  + {  + dp.g\_score += 10;  + }  + }  + if(c->block == true)  + dp.g\_score = blockWieght;  + currCell[d] = dp;  +  + if(dropletIndex >= routingThisTS->size()-1)  + {  + //Add to open set  + map<Droplet \*, DropletPoint> \*dtodp = new map<Droplet \*, DropletPoint> ();  + int score = 0;  + for(unsigned i = 0; i <= dropletIndex; ++i)  + {  +  + Droplet \*d1 = routingThisTS->at(i);  + DropletPoint dp1= currCell.at(d1);  + StarCell \*c = board->at(dp1.x)->at(dp1.y);  +  + dtodp->insert(pair<Droplet \*, DropletPoint>(d1, dp1));  + score += dp1.g\_score;  + score += abs(targetCells->at(d1)->x - dp1.x);  + score += abs(targetCells->at(d1)->y - dp1.y);;  + }  + int eScore = 0;  + if(is\_in\_evaluated\_set(dtodp, &eScore))  + {  + }  + else if(!is\_in\_open\_set(dtodp, &eScore) || score < eScore)  + {  + open\_set->push\_back(dtodp);  + }  +  +  +  }  else  - cerr << "Error " << endl;  + {  + //call recursive for next droplet  +  + find\_neighbors(dropletIndex+1, currCell, targetCells );  + }  }  - else if(!is\_in\_evaluated\_set(open\_set,neighbors[k]) || score\_temp < neighbors[k]->score)// && (!find(blockCells.begin(),blockCells.end(),neighbors[k]) || neighbors[k] == t))  + else  + shouldStall++;  +  + }  + }  + dp = dpOriginal;  + if (cx >= 0 && cx < arch->getNumCellsX() && cy+1 >= 0 && cy+1 < arch->getNumCellsY()) // Bottom neighbor  + {  + //Find whether if its a block for other droplets  + StarCell \*c = board->at(cx)->at(cy+1);  + {  + bool f = false;  + for (unsigned j = 0; j < routingThisTS->size(); j++)  + {  + Droplet \*d1 = routingThisTS->at(j);  + DropletPoint dp1= currCell.at(d1);  + if(targetCells->at(d1)->x == dp1.x && targetCells->at(d1)->y == dp1.y)  + continue;  + if (j != dropletIndex)  + {  + StarCell \*sc = board->at(dp1.x)->at(dp1.y);  + for (int x = sc->x-1; x <= sc->x+1; x++)  + for (int y = sc->y-1; y <= sc->y+1; y++)  + if (x >= 0 && y >= 0 && x < arch->getNumCellsX() && y < arch->getNumCellsY()) // On board?  + if(c->x == x && c->y == y)  + {  + f=true;  +  + break;  + }  + }  + }  + if(!f)// No conflicts  + {  + dp.camefrom.push\_back(board->at(cx)->at(cy));  + dp.x = c->x;  + dp.y = c->y;  + dp.g\_score = dp.g\_score+1;  + if(type==A\_STAR\_TYPE\_2\_R)  + {  + if(!c->isUsed)  + {  + dp.g\_score += 10;  + }  + }  + else if(type==A\_STAR\_TYPE\_3\_R)  + {  + if(c->isUsed)  + {  + dp.g\_score += 10;  + }  + }  + if(c->block == true)  + dp.g\_score = blockWieght;  + currCell[d] = dp;  + if(dropletIndex == routingThisTS->size()-1)  + {  + //Add to open set  + map<Droplet \*, DropletPoint> \*dtodp = new map<Droplet \*, DropletPoint> ();  + int score = 0;  + for(unsigned i = 0; i <= dropletIndex; ++i)  + {  +  + Droplet \*d1 = routingThisTS->at(i);  + DropletPoint dp1= currCell.at(d1);  + StarCell \*c = board->at(dp1.x)->at(dp1.y);  +  + dtodp->insert(pair<Droplet \*, DropletPoint>(d1, dp1));  + score += dp1.g\_score;  + score += abs(targetCells->at(d1)->x - dp1.x);  + score += abs(targetCells->at(d1)->y - dp1.y);;  + }  + int eScore = 0;  + if(is\_in\_evaluated\_set(dtodp, &eScore))  + {  + }  + else if(!is\_in\_open\_set(dtodp, &eScore) || score < eScore)  + {  + open\_set->push\_back(dtodp);  + }  +  + }  + else  {  - //cerr << "Got passed here!" << endl;  - neighbors[k]->came\_from = currCell;  - neighbors[k]->score = score\_temp;  - if(!is\_in\_evaluated\_set(open\_set, neighbors[k]))  - open\_set->push\_back(neighbors[k]);  + //call recursive for next droplet  +  + find\_neighbors(dropletIndex+1, currCell, targetCells );  }  -// neighbors[k]->score = currCell->score + 1;  + }  + else  + shouldStall++;  }  - neighbors.erase(neighbors.begin(), neighbors.end());  + }  + dp = dpOriginal;  + if (cx >= 0 && cx < arch->getNumCellsX() && cy-1 >= 0 && cy-1 < arch->getNumCellsY()) // Top neighbor  + {  + //Find whether if its a block for other droplets  + StarCell \*c = board->at(cx)->at(cy-1);  + {  + bool f = false;  + for (unsigned j = 0; j < routingThisTS->size(); j++)  + {  + Droplet \*d1 = routingThisTS->at(j);  + DropletPoint dp1= currCell.at(d1);  + if(targetCells->at(d1)->x == dp1.x && targetCells->at(d1)->y == dp1.y)  + continue;  + if (j != dropletIndex)  + {  + StarCell \*sc = board->at(dp1.x)->at(dp1.y);  + for (int x = sc->x-1; x <= sc->x+1; x++)  + for (int y = sc->y-1; y <= sc->y+1; y++)  + if (x >= 0 && y >= 0 && x < arch->getNumCellsX() && y < arch->getNumCellsY()) // On board?  + if(c->x == x && c->y == y)  + {  + f=true;  +  + break;  + }  + }  + }  + if(!f)// No conflicts  + {  + dp.camefrom.push\_back(board->at(cx)->at(cy));  + dp.x = c->x;  + dp.y = c->y;  + dp.g\_score = dp.g\_score+1;  + if(type==A\_STAR\_TYPE\_2\_R)  + {  + if(!c->isUsed)  + {  + dp.g\_score += 10;  + }  + }  + else if(type==A\_STAR\_TYPE\_3\_R)  + {  + if(c->isUsed)  + {  + dp.g\_score += 10;  + }  + }  + if(c->block == true)  + dp.g\_score = blockWieght;  + currCell[d] = dp;  + if(dropletIndex == routingThisTS->size()-1)  + {  + //Add to open set  + map<Droplet \*, DropletPoint> \*dtodp = new map<Droplet \*, DropletPoint> ();  + int score = 0;  + for(unsigned i = 0; i <= dropletIndex; ++i)  + {  +  + Droplet \*d1 = routingThisTS->at(i);  + DropletPoint dp1= currCell.at(d1);  + StarCell \*c = board->at(dp1.x)->at(dp1.y);  +  + dtodp->insert(pair<Droplet \*, DropletPoint>(d1, dp1));  + score += dp1.g\_score;  + score += abs(targetCells->at(d1)->x - dp1.x);  + score += abs(targetCells->at(d1)->y - dp1.y);;  + }  + int eScore = 0;  + if(is\_in\_evaluated\_set(dtodp, &eScore))  + {  + }  + else if(!is\_in\_open\_set(dtodp, &eScore) || score < eScore)  + {  + open\_set->push\_back(dtodp);  + }  +  + }  + else  + {  + //call recursive for next droplet  +  + find\_neighbors(dropletIndex+1, currCell, targetCells );  + }  + }  + else  + shouldStall++;  +  +  + }  +  + }  + dp = dpOriginal;  + //Add no movement also as a possible transition  + //if(shouldStall==4)  + {  +  + StarCell \*sc = board->at(dp.x)->at(dp.y);  + dp.camefrom.push\_back(sc);  +  + dp.g\_score = dp.g\_score+1;  + if(type==A\_STAR\_TYPE\_2\_R)  + {  + if(!sc->isUsed)  + {  + dp.g\_score += 10;  + }  + }  + else if(type==A\_STAR\_TYPE\_3\_R)  + {  + if(sc->isUsed)  + {  + dp.g\_score += 10;  + }  + }  + if(sc->block == true)  + dp.g\_score = blockWieght;  + currCell[d] = dp;  + if(dropletIndex == routingThisTS->size()-1)  + {  + //Add to open set  + map<Droplet \*, DropletPoint> \*dtodp = new map<Droplet \*, DropletPoint> ();  + int score = 0;  + for(unsigned i = 0; i <= dropletIndex; ++i)  + {  +  + Droplet \*d1 = routingThisTS->at(i);  + DropletPoint dp1= currCell.at(d1);  + StarCell \*c = board->at(dp1.x)->at(dp1.y);  +  + dtodp->insert(pair<Droplet \*, DropletPoint>(d1, dp1));  + score += dp1.g\_score;  + score += abs(targetCells->at(d1)->x - dp1.x);  + score += abs(targetCells->at(d1)->y - dp1.y);;  + }  + int eScore = 0;  + if(is\_in\_evaluated\_set(dtodp, &eScore))  + {  + }  + else if(!is\_in\_open\_set(dtodp, &eScore) || score < eScore)  + {  + open\_set->push\_back(dtodp);  + }  +  + }  + else  + {  + //call recursive for next droplet  + find\_neighbors(dropletIndex+1, currCell, targetCells );  }  - subRoutes->push\_back(sr);  - //cerr << "Finished" << endl;  }  +}  +//Check for gaol state for a\* algo, whether all droplets reach their destination  +bool AStarRouter::checkGoalState(map<Droplet\*, DropletPoint> \*currCell, map<Droplet \*, StarCell \*> \*targetCell)  +{  + int i = 0;  + bool f = true;  + for( map<Droplet\*, DropletPoint>::const\_iterator it = currCell->begin(); it != currCell->end(); ++it )  + {  - // Now, A\_Star search algorithm  + Droplet\* d = it->first;  + DropletPoint dp = it->second;  - delete routingThisTS;  - delete sourceCells;  - delete targetCells;  + i++;  + if(!(targetCell->at(d)->x == dp.x && targetCell->at(d)->y == dp.y))  + {  + f= false;  + }  + }  + return f;  }  -void AStarRouter::remove\_from\_open\_set(vector<StarCell\*> \*open\_set, StarCell\* current\_node)  +//Remove item from openset  +map<Droplet\*, DropletPoint> \*AStarRouter::remove\_from\_open\_set(vector<map<Droplet\*, DropletPoint> \*> \*open\_set, int i)  {  - for(unsigned i = 0; i< open\_set->size(); ++i)  - if(((\*open\_set)[i])->x == current\_node->x && ((\*open\_set)[i])->y == current\_node->y)  - {  - open\_set->erase(open\_set->begin() + i);  - }  + map<Droplet\*, DropletPoint> \* currCell = open\_set->at(i);  + open\_set->erase(open\_set->begin() + i);  + return currCell;  }  -vector<RoutePoint\*> \* AStarRouter::find\_path(StarCell\* previous\_node, StarCell\* current\_node)  +//Find the route paths and add it to subroute  +vector<RoutePoint\*> \* AStarRouter::find\_path( DropletPoint\* current\_node)  {  - stack<StarCell\*> stack\_points;  - StarCell \* next = current\_node;  + int j = routeCycle;  vector<RoutePoint \*> \*sr = new vector<RoutePoint \*>();  - while(next->x != previous\_node->x || next->y != previous\_node->y)  + int prevx = 0;  + int prevy = 0;  + int i;  + for(i = 1; i<current\_node->camefrom.size();i++)  {  - //RoutePoint\* rp = new RoutePoint();  - //rp->cycle = routeCycle++;  - //rp->dStatus = DROP\_NORMAL;  - //rp->x = next->x;  - //rp->y = next->y;  - stack\_points.push(next);  - next = next->came\_from;  - //sr->push\_back(rp);  + StarCell \*s = current\_node->camefrom.at(i);  + RoutePoint\* rp = new RoutePoint();  + rp->cycle = j;  + if(i!=1 && prevx == s->x && prevy == s->y)  + {  + rp->dStatus = DROP\_INT\_WAIT;  +  + }  + else  + {  +  + rp->dStatus = DROP\_NORMAL;  + }  + j++;  + rp->x = s->x;  + rp->y = s->y;  + sr->push\_back(rp);  + prevx = s->x;  + prevy = s->y;  }  - stack\_points.push(next);  - while(!stack\_points.empty())  + StarCell \*s = board->at(current\_node->x)->at(current\_node->y);;  + RoutePoint\* rp = new RoutePoint();  + rp->cycle = j;  + j++;  + if(i!=1 && prevx == s->x && prevy == s->y)  {  - RoutePoint\* rp = new RoutePoint();  - rp->cycle = routeCycle;  - routeCycle++;  + rp->dStatus = DROP\_INT\_WAIT;  +  + }  + else  + {  +  rp->dStatus = DROP\_NORMAL;  - rp->x = stack\_points.top()->x;  - rp->y = stack\_points.top()->y;  - sr->push\_back(rp);  - stack\_points.pop();  }  + rp->x = s->x;  + rp->y = s->y;  + sr->push\_back(rp);  return sr;  }  -StarCell\* AStarRouter::score\_min(vector<StarCell\*> \*curr\_set)  +  +//Return the min score cell of the open set in A\*  +int AStarRouter::score\_min(vector<map<Droplet\*, DropletPoint>\*> \*curr\_set, map<Droplet \*, StarCell \*> \*targetCell )  {  - StarCell\* min = new StarCell();  - min->score = -1;  - //cerr << curr\_set->size();  +  + int minScore = -1;  + int minIndex = 0;  +  for(unsigned i = 0; i < curr\_set->size(); ++i)  - if(min->score > (\*curr\_set)[i]->score || min->score == -1)  - min = (\*curr\_set)[i];  - return min;  + {  + map<Droplet\*, DropletPoint>\* node = curr\_set->at(i);  +  + int manhattanDistance = 0;  + int g\_score = 0;  + int f\_score = 0;  + for( map<Droplet\*, DropletPoint>::const\_iterator it = node->begin(); it != node->end(); ++it )  + {  + Droplet\* d = it->first;  + DropletPoint dp = it->second;  + manhattanDistance+= abs(targetCell->at(d)->x - dp.x);  + manhattanDistance+= abs(targetCell->at(d)->y - dp.y);  +  + g\_score += dp.g\_score;  +  + }  +  + f\_score = g\_score+manhattanDistance;  +  + if(minScore > f\_score || minScore == -1)  + {  + minScore = f\_score;  + minIndex = i;  + }  +  + }  + if(startingTS == 19)  + cout<<minScore<<endl<<open\_set->size()<<endl;  + return minIndex;  }  +//Check whether in evaluated set  +bool AStarRouter::is\_in\_evaluated\_set(map<Droplet \*, DropletPoint> \*in\_question, int\* score)  +{  + for(int i = 0; i< evaluated->size(); ++i)  + {  + bool f = false;  +  + map<Droplet \*, DropletPoint> \*in\_ev;  + in\_ev = evaluated->at(i);  + for(int j = 0; j< routingThisTS->size(); ++j)  + {  + Droplet \*d1 = routingThisTS->at(j);  + DropletPoint dp1= in\_question->at(d1);  + DropletPoint dp2= in\_ev->at(d1);  + if(dp1.x != dp2.x || dp1.y != dp2.y)  + {  + f = true;  + break;  + }  -bool AStarRouter::is\_in\_evaluated\_set(vector<StarCell\*> \*open\_set, StarCell\* in\_question)  + }  + if(!f)  + {  + return true;  + }  + }  +  + return false;  +}  +//Check whether in open set  +bool AStarRouter::is\_in\_open\_set(map<Droplet \*, DropletPoint> \*in\_question, int\* score)  {  - for(unsigned i = 0; i< open\_set->size(); ++i)  - if(((\*open\_set)[i])->x == in\_question->x && ((\*open\_set)[i])->y == in\_question->y)  + for(int i = 0; i< open\_set->size(); ++i)  {  - return true;  + bool f = false;  + map<Droplet \*, DropletPoint> \*in\_ev;  + in\_ev = open\_set->at(i);  + for(int j = 0; j< routingThisTS->size(); ++j)  + {  + Droplet \*d1 = routingThisTS->at(j);  + DropletPoint dp1= in\_question->at(d1);  + DropletPoint dp2= in\_ev->at(d1);  +  + if(dp1.x != dp2.x || dp1.y != dp2.y)  + {  + f = true;  + break;  + }  +  + }  + if(!f)  + {  + return true;  + }  }  +  return false;  }  diff --git a/Source/Router/post\_subprob\_compact\_router.cc b/Source/Router/post\_subprob\_compact\_router.cc  index c1db70d..a8d26dd 100644  --- a/Source/Router/post\_subprob\_compact\_router.cc  +++ b/Source/Router/post\_subprob\_compact\_router.cc  @@ -1563,7 +1563,7 @@ void PostSubproblemCompactionRouter::addSubProbToGlobalRoutes(vector<Droplet \*>  // all droplet-route dependencies. If a source is in the IR of another droplet's  // target, the droplet with the conflicting source is simply moved out of the way  // before we compute the individual routes in computeIndivSupProbRoutes() so that  -// it has a new source. This funciton simply tries to move the droplet x=5 cells  +// it has a new source. This function simply tries to move the droplet x=5 cells  // in each cardinal direction until it finds a clear path/destination for the  // conflicting source droplet; if it cannot find a clear path/dest, it reports a  // failure.  @@ -2113,7 +2113,7 @@ void PostSubproblemCompactionRouter::route(DAG \*dag, DmfbArch \*arch, vector<Reco  if (!(getPastPlacerType() == GRISSOM\_LE\_B || getPastPlacerType() == GRISSOM\_PATH\_B))  eliminateSubRouteDependencies(routes); // Optional; ensures that no source is in the IR of a target (moves the source out of way)  computeIndivSupProbRoutes(subRoutes, subDrops, routes);  - //printSubRoutes(subRoutes, subDrops);  + printSubRoutes(subRoutes, subDrops);  ///////////////////////////////////////////////////////////////////////  // Then, compact and do maintenance on the routes  diff --git a/Source/Router/router.cc b/Source/Router/router.cc  index fe20838..6ec1681 100644  --- a/Source/Router/router.cc  +++ b/Source/Router/router.cc  @@ -27,6 +27,7 @@  #include "../../Headers/Router/router.h"  #include "../../Headers/Router/cho\_router.h"  #include <climits>  +#include <algorithm>  ///////////////////////////////////////////////////////////////////////////////////  // Constructors  @@ -178,6 +179,11 @@ void Router::compactRoutes(vector<Droplet \*> \*subDrops, vector<vector<RoutePoint  compactRoutesWithBegStalls(subRoutes);  else if (compactionType == MID\_COMP)  compactRoutesWithMidStalls(subRoutes);  + //else if (compactionType == A\_STAR\_COMP)  + // compactRoutesWithAStarCompactor(subRoutes);  + else if (compactionType == PR\_A\_STAR\_TYPE\_S\_COMP || compactionType == PR\_A\_STAR\_TYPE\_L\_COMP || compactionType == PR\_A\_STAR\_TYPE\_R\_COMP ||  + compactionType == PR\_A\_STAR\_TYPE\_X\_COMP || compactionType == PR\_A\_STAR\_TYPE\_Y\_COMP || compactionType == PR\_A\_STAR\_TYPE\_B\_COMP )  + compactRoutesWithPrioritizedAStarCompactor(subRoutes);  else if (compactionType == CHO\_COMP)  ((ChoRouter\*)this)->compactRoutesByTimingAndFaultTolerance(subDrops, subRoutes);  else if (compactionType == DYN\_COMP)  @@ -603,6 +609,891 @@ void Router::compactRoutesWithMidStalls(vector<vector<RoutePoint \*> \*> \*subRoute  //printRoutes(subRoutes);  }  +  +  +///////////////////////////////////////////////////////////////////////////////  +// Given a vector full of sequential routes, compacts them according to an  +// A\* search algorithm similar to the algorithm described in Bohringer 2006.  +// Adds any necessary stalls in the middle of routes.  +/////////////////////////////////////////////////////////////////////////////////  +static vector<OpenSetNode >\* open\_set;  +static int iserror;  +  +//Print a A\*Star Cell where a cell is the routepoints computed so far for all the droplets  +static void printCells(vector<vector<StarRoutePoint> > currCell)  +{  + cout<<"\nPrinting Cells\n";  + for(int i =0; i<currCell.size();i++)  + {  + cout<<i<<": \n";  +  + for(int j =0; j<currCell.at(i).size(); j++)  + {  + cout<<"(" << currCell.at(i).at(j).rp->x << ","<< currCell.at(i).at(j).rp->y<<","<<currCell.at(i).at(j).isStalled<<") ";  + }  +  + cout<<"\n";  + }  + cout<<"\n\n";  +}  +  +  +//Checks whether two interfaces intersect  +  +static bool doesInterfere(StarRoutePoint r1, StarRoutePoint r2)  +{  + if(r1.rp!=NULL&&r2.rp!=NULL)  + return (abs(r1.rp->x - r2.rp->x) <= 1 && abs(r1.rp->y - r2.rp->y) <= 1);  + return false;  +}  +  +//Before adding to open set, update this state's h\_score by checking whether there is a conflict  +  +static void AddtoOpenSet(vector<vector<StarRoutePoint> > currCell, int h\_score)  +{  +  + //cout<< "AddtoOpenSet\n";  +  + int h\_weight = 100;  + bool r1;  + bool r2;  + bool r3;h\_score = 0;  + //printCells(currCell);  + if(currCell.size()==0)  + return;  + //int size = currCell[0].size();  + for(int i =0; i<currCell.size();i++)  + {  + r1 = false;  + r2= false;  + r3 = false;  + vector<StarRoutePoint> subRoute = currCell.at(i);  +  + for(int j =i+1; j<currCell.size(); j++)  + {  + //cout<<i<<j<<endl;  + if(currCell.at(i).size()-1<0||currCell.at(j).size()-1<0)  + continue;  + if(currCell.at(i).at(currCell.at(i).size()-1).isStalled && currCell.at(j).at(currCell.at(j).size()-1).isStalled)  + continue;  + //cout<<i<<j<<" Checking Rules\n";  + if((!currCell.at(j).at(currCell.at(j).size()-1).isStalled&&currCell.at(i).at(currCell.at(i).size()-1).istarget>1)||(currCell.at(j).at(currCell.at(j).size()-1).istarget>1&&!currCell.at(i).at(currCell.at(i).size()-1).isStalled))  + {  + continue;  + }  +  +  +  + int cl = currCell.at(j).size()-2;  +  + StarRoutePoint rp;  + if (cl>=0 && cl <= subRoute.size()-1)  + rp = subRoute.at(cl);  + else  + rp = subRoute.back();  + vector<StarRoutePoint> pastRoute = currCell.at(j);  +  + StarRoutePoint rpLc; // This route's last cycle  + if (cl > 0 && cl <= subRoute.size()-1)  + rpLc = subRoute.at(cl-1);  + else  + rpLc = subRoute.back();  +  + StarRoutePoint rpNc; // This route's next cycle  + if (cl+1 <= subRoute.size()-1)  + rpNc = subRoute.at(cl+1);  + else  + rpNc = subRoute.back();  +  + bool bprp= true;  + bool bprpNc= true;  + bool bprpLc= true;  +  + StarRoutePoint prp; // Past route's current cycle  + if (cl>=0 && cl <= pastRoute.size()-1)  + prp = pastRoute.at(cl);  + else if (pastRoute.back().rp && pastRoute.back().rp->dStatus != DROP\_OUTPUT)  + prp = pastRoute.back();  + else  + bprp = false;  +  + StarRoutePoint prpLc; // Past route's last cycle  +  +  + if (cl > 0 && cl <= pastRoute.size()-1)  + prpLc = pastRoute.at(cl-1);  + else if (pastRoute.back().rp&& pastRoute.back().rp->dStatus != DROP\_OUTPUT)  + prpLc = pastRoute.back();  + else if (cl <= pastRoute.size()+1)  + prpLc = pastRoute.back();  + else  + bprpLc = false;  +  + StarRoutePoint prpNc; // Past route's next cycle  + if (cl>0 && cl+1 <= pastRoute.size()-1)  + prpNc = pastRoute.at(cl+1);  + else if (pastRoute.back().rp &&pastRoute.back().rp->dStatus != DROP\_OUTPUT)  + prpNc = pastRoute.back();  + else  + bprpNc = false;  +  + //!subRoute.at(subRoute.size()-1).istarget>1  + // Check dynamic droplet rules so this and last droplet locations don't interfere  + bool interference = false;  +  + if (bprp && doesInterfere(rp, prp) )  + {  + interference = true;  +  + }  + if (bprpLc && doesInterfere(rp, prpLc) ) // DTG, is this if-statement necessary??  + {  + interference = true;  +  + }  + if (bprp && doesInterfere(rpNc, prp) )  + {  + interference = true;  +  + }  + if ( bprpNc && doesInterfere(rp, prpNc) )  + {  + interference = true;  +  + }  + if ( bprp && doesInterfere(rpLc, prp) )  + {  + interference = true;  +  + }  + if (bprpLc && doesInterfere(rpLc, prpLc) )  + {  + interference = true;  +  + }  +  + if(interference)  + h\_score+=h\_weight;  +  + }  + }  + OpenSetNode opnode;  + opnode.cell= currCell;  + opnode.h\_score = h\_score;  + open\_set->push\_back(opnode);  +  +}  +  +  +//Find out the all the neghbors from the current state, i.e. a droplet can go forward or stall,  +//generate both for all the droplets recursively and added to the open\_set once all droplets are considered for this cycle.  +static void find\_neighbors(int dropletIndex, vector<vector<StarRoutePoint> > currCell, vector<vector<RoutePoint \*> \*> \*subRoutes ,int h\_score)  +{  + vector<StarRoutePoint> rps = currCell.at(dropletIndex);  + StarRoutePoint dp = rps.at(rps.size()-1);  +  +  + if(subRoutes->at(dropletIndex)->at(subRoutes->at(dropletIndex)->size()-1)==dp.rp)  + {  + dp.istarget += 1;  + currCell.at(dropletIndex).push\_back(dp);  + //Destination for this droplet  + if(dropletIndex == currCell.size()-1)  + {  + //Add to open Set  + AddtoOpenSet(currCell, h\_score);  + }  + else  + {  +  + find\_neighbors(dropletIndex+1, currCell, subRoutes, h\_score);  + }  +  + return;  + }  +  + if(dropletIndex == currCell.size()-1)  + {  + StarRoutePoint dp2;  + vector<vector<StarRoutePoint> > currCell2 = currCell;  +  + //Add stall  + dp.isStalled = true;  + dp.score = dp.score + 1;  +  + currCell.at(dropletIndex).push\_back(dp);  +  + //Compute H-Score and Add to open set  + AddtoOpenSet(currCell,h\_score);  + //open\_set->push\_back(currCell);  +  +  + //Don't add stall/Proceed to next cycle  +  + dp2.isStalled = false;  + dp2.score = dp.score+1;  + if(dp.rp)  + {  + dp2.rp = subRoutes->at(dropletIndex)->at(dp.rpindex+1);  + dp2.rpindex = dp.rpindex+1;  + }  + else  + {  + dp2.rp = subRoutes->at(dropletIndex)->at(0);  + dp2.rpindex = 0;  + }  +  +  + dp2.istarget = 0;  + currCell2.at(dropletIndex).push\_back(dp2);  +  + //Add to open set  + AddtoOpenSet(currCell2,h\_score);  + //open\_set->push\_back(currCell2);  +  +  + }  + else  + {  + StarRoutePoint dp2;  + vector<vector<StarRoutePoint> > currCell2 = currCell;  +  + //Add Stall and find neighbors for next droplet  + dp.isStalled = true;  + dp.score = dp.score + 1;  +  + currCell.at(dropletIndex).push\_back(dp);  + find\_neighbors(dropletIndex+1, currCell, subRoutes,h\_score);  +  +  + //Proceed and find neighbors for next droplet  + dp2.isStalled = false;  + dp2.score = dp.score+1;  + if(dp.rp)  + {  + dp2.rp = subRoutes->at(dropletIndex)->at(dp.rpindex+1);  + dp2.rpindex = dp.rpindex+1;  + }  + else  + {  + dp2.rp = subRoutes->at(dropletIndex)->at(0);  + dp2.rpindex = 0;  + }  + dp2.istarget = 0;  + currCell2.at(dropletIndex).push\_back(dp2);  + find\_neighbors(dropletIndex+1, currCell2, subRoutes,h\_score);  + }  +  +  +}  +  +//Add stalls whereever necessary  +static void StarAddStalls(vector<vector<StarRoutePoint> > currCell,vector<vector<RoutePoint \*> \*> \*subRoutes )  +{  + //cout<< "StarAddStalls\n";  + int numStallsToPrepend = 1;  + int insertionOffset = 2; // # of cycles to offset the insertion of stalls before actual interference  +  +  + for(int i =0; i<currCell.size();i++)  + {  + vector<RoutePoint \*> \*subRoute = subRoutes->at(i);  + for(int j=0 ; j<currCell.at(i).size(); j++)  + {  + if(currCell.at(i).at(j).isStalled)  + {  + //subRoutes->at(i)->  + int insertionIndex = j; // Tells where the interference is  +  + insertionIndex = j; // Tells where the interference is  +  + if ((insertionIndex - insertionOffset <= 0) || (insertionIndex - insertionOffset >= subRoute->size()-1))  + for (int m = 0; m < numStallsToPrepend; m++)  + subRoute->insert(subRoute->begin(), NULL);  + else  + {  + for (int m = 0; m < numStallsToPrepend; m++)  + {  + //cout << subRoute->size() << endl;  + RoutePoint \*rpLast = subRoute->at(insertionIndex-insertionOffset);  + if (rpLast)  + {  + RoutePoint \*rpStall = new RoutePoint();  + rpStall->x = rpLast->x;  + rpStall->y = rpLast->y;  + rpStall->dStatus = DROP\_INT\_WAIT;  + subRoute->insert(subRoute->begin()+insertionIndex-1, rpStall);  + }  + else  + subRoute->insert(subRoute->begin()+insertionIndex-1, NULL);  + }  + }  + //}  + }  + }  +  + }  +}  +  +//check whether we have reached gaol, i.e. all routepoints reached destination without conflicts  +  +static bool checkGoalState(vector<vector<StarRoutePoint> > currCell,vector<vector<RoutePoint \*> \*> \*subRoutes )  +{  + //cout<< "checkGoalState\n";  + //printCells(currCell);  + bool flag = true;  + for( int j =0;j<currCell.size(); j++)  + {  + if(currCell.at(j).at(currCell.at(j).size()-1).rp)  + if(currCell.at(j).at(currCell.at(j).size()-1).rp->x != subRoutes->at(j)->at(subRoutes->at(j)->size()-1)->x || currCell.at(j).at(currCell.at(j).size()-1).rp->y != subRoutes->at(j)->at(subRoutes->at(j)->size()-1)->y)  + {  + flag = false;  + break;  + }  + }  + return flag;  +}  +  +//Remove the minimum score node from the open set. Min\_score = f\_score + manhattan\_distance + h\_score  +  +static OpenSetNode removeMin\_from\_open\_set(vector<vector<RoutePoint \*> \*> \*subRoutes)  +{  + cout<< open\_set->size()<<" :removeMin\_from\_open\_set\n";  + int minScore = -1;  + int minIndex = 0;  +  + for(unsigned i = 0; i < open\_set->size(); ++i)  + {  + OpenSetNode opnode = open\_set->at(i);  + vector<vector<StarRoutePoint> > node = opnode.cell;  +  +  + int f\_score = opnode.h\_score;  + int manh\_distance = 0;  + for( int j =0;j<node.size(); j++)  + {  + if(node.at(j).back().rp)  + {  + manh\_distance+= abs(node.at(j).back().rp->x - subRoutes->at(j)->back()->x);  + manh\_distance+= abs(node.at(j).back().rp->y - subRoutes->at(j)->back()->y);  + }  + else  + manh\_distance+=subRoutes->at(j)->size();  +  + f\_score+= node.at(j).at(node.at(j).size()-1).score;  + }  +  + f\_score += manh\_distance;  +  +  + if(minScore > f\_score || minScore == -1)  + {  + minScore = f\_score;  + minIndex = i;  + }  +  + }  +  + OpenSetNode node = open\_set->at(minIndex);  + open\_set->erase(open\_set->begin() + minIndex);  + return node;  +}  +  +//Generate the initail neighbors where a droplet may or may not stall before start  +static void find\_init\_neighbors(int dropletIndex, vector<vector<StarRoutePoint> > currCell, vector<vector<RoutePoint \*> \*> \*subRoutes)  +{  + if(dropletIndex == subRoutes->size()-1)  + {  +  + if(subRoutes->at(dropletIndex)->size()>0)  + {  + vector<vector<StarRoutePoint> > currCell1= currCell;  + //Do not add stall  + StarRoutePoint srp;  + srp.isStalled = false;  + srp.rp = subRoutes->at(dropletIndex)->at(0);  + srp.rpindex = 0;  + srp.score = 0;  + srp.istarget = 0;  +  + vector<StarRoutePoint> srpList;  + srpList.push\_back(srp);  +  + currCell.push\_back(srpList);  + AddtoOpenSet(currCell,0);  +  + //Add Stall  +  + StarRoutePoint srp1;  + srp1.isStalled = true;  + srp1.rp = NULL;  + srp1.rpindex = 0;  + srp1.score = 0;  + srp1.istarget = 0;  +  + vector<StarRoutePoint> srpList1;  + srpList1.push\_back(srp1);  +  + currCell1.push\_back(srpList1);  + AddtoOpenSet(currCell1,0);  +  + }  + else  + AddtoOpenSet(currCell, 0);  +  + }  + else  + {  + if(subRoutes->at(dropletIndex)->size()>0)  + {  + vector<vector<StarRoutePoint> > currCell1= currCell;  + //Do not add stall  + StarRoutePoint srp;  + srp.isStalled = false;  + srp.rp = subRoutes->at(dropletIndex)->at(0);  + srp.rpindex = 0;  + srp.score = 0;  + srp.istarget = 0;  +  + vector<StarRoutePoint> srpList;  + srpList.push\_back(srp);  +  + currCell.push\_back(srpList);  + find\_init\_neighbors(dropletIndex+1, currCell, subRoutes);  +  + //Add Stall  +  + StarRoutePoint srp1;  + srp1.isStalled = true;  + srp1.rp = NULL;  + srp1.rpindex = 0;  + srp1.score = 0;  + srp1.istarget = 0;  +  + vector<StarRoutePoint> srpList1;  + srpList1.push\_back(srp1);  +  + currCell1.push\_back(srpList1);  + find\_init\_neighbors(dropletIndex+1, currCell1, subRoutes);  +  + }  + else  + AddtoOpenSet(currCell, 0);  + }  +  +  +}  +  +//Basic A\* star Compaction Algorithm  +  +void Router::compactRoutesWithAStarCompactor(vector<vector<RoutePoint \*> \*> \*subRoutes)  +{  + cout<<"Not Compacted----\n";  + printRoutes(subRoutes);  + //compactRoutesWithMidStalls(subRoutes);  + //printRoutes(subRoutes);  + //return;  + open\_set = new vector<OpenSetNode >();  + if(subRoutes->size()<2)  + return;  + vector<vector<StarRoutePoint> > init\_state;  +  + find\_init\_neighbors(0 , init\_state, subRoutes);  +/\*  + OpenSetNode opnode;  + int i = -1;  + for( ; ++i< subRoutes->size() ; )  + {  + if(subRoutes->at(i)->size()>0)  + {  + StarRoutePoint srp;  + srp.isStalled = false;  + srp.rp = subRoutes->at(i)->at(0);  + srp.rpindex = 0;  + srp.score = 0;  + srp.istarget = 0;  +  + vector<StarRoutePoint> srpList;  + srpList.push\_back(srp);  +  + init\_state.push\_back(srpList);  + }  + else  + break;  + }  +  + iserror = false;  +  +  + opnode.cell = init\_state;  + opnode.h\_score = 0;  + open\_set->push\_back(opnode);  +\*/  + //AddtoOpenSet(opnode.cell ,opnode.h\_score);  +  + vector<vector<StarRoutePoint> > currCell;  + OpenSetNode currNode;  + int loop =0 ;  +  + //Loop for A\* check open\_set for min score states  +  + while(!open\_set->empty())  + {  +  + //cout<<"Pull\n\n";  + currNode = removeMin\_from\_open\_set(subRoutes);  + currCell = currNode.cell;  + //printCells(currCell);  + //cout<<"cost: "<<currNode.h\_score<<endl;  +  + if(checkGoalState(currCell, subRoutes) == true)  + {  + StarAddStalls(currCell,subRoutes );  + break;  + }  +  + //Find all the neighbors  + find\_neighbors(0 , currCell, subRoutes, currNode.h\_score);  +  + //If it takes too long, go back to Beg Stalls  + if(loop++==100)  + {  + //cerr<<"ERROR! NO COMPACTION!";  + compactRoutesWithBegStalls(subRoutes);  + cout<<"Compacted----compactRoutesWithBegStalls\n";  + printRoutes(subRoutes);  + return;  + }  +  + }  +  + cout<<"Compacted----A\_Star\n";  + printRoutes(subRoutes);  +  +}  +  +  +  +  +///////////////////////////////////////////////////////////////////////////////  +// Given a vector full of sequential routes, compacts them according to a  +// prioritized A\* search algorithm similar to the algorithm described in Bohringer 2006.  +// Adds any necessary stalls in the middle of routes.  +//  +// The routes are selected according to the input priority order.  +///////////////////////////////////////////////////////////////////////////////  +static int pointsInBoundingBox(vector<RoutePoint \*> \*sourceCells, vector<RoutePoint \*> \*targetCells, int d) {  + // Returns the number of points in the bounding box for a given droplet's net  + //  + // The increasing 'Points in bounding box' priority scheme is based on the descriptions at  + // http://www.ece.umn.edu/~sachin/jnl/integration01.pdf and  + // http://users.ece.gatech.edu/limsk/course/ece6133/slides/multi-net.pdf  +  + // get coordinates of bounding box  + int d\_sx = sourceCells->at(d)->x;  + int d\_sy = sourceCells->at(d)->y;  + int d\_tx = targetCells->at(d)->x;  + int d\_ty = targetCells->at(d)->y;  +  + // initialize number of points accounting for the counting of this droplet's own source and sink  + int num\_points = -2;  +  + // count sources in bounding box  + for (int i = 0; i != sourceCells->size(); i++) {  + if ( ( d\_sx <= d\_tx && d\_sx <= sourceCells->at(i)->x && sourceCells->at(i)->x <= d\_tx ) ||  + ( d\_sx >= d\_tx && d\_sx >= sourceCells->at(i)->x && sourceCells->at(i)->x >= d\_tx ) ||  + ( d\_sy <= d\_ty && d\_sy <= sourceCells->at(i)->y && sourceCells->at(i)->y <= d\_ty ) ||  + ( d\_sx >= d\_ty && d\_sy >= sourceCells->at(i)->y && sourceCells->at(i)->y >= d\_ty ) )  + num\_points++;  + }  +  + // count sinks in bounding box  + for (int i = 0; i != targetCells->size(); i++) {  + if ( ( d\_sx <= d\_tx && d\_sx <= targetCells->at(i)->x && targetCells->at(i)->x <= d\_tx ) ||  + ( d\_sx >= d\_tx && d\_sx >= targetCells->at(i)->x && targetCells->at(i)->x >= d\_tx ) ||  + ( d\_sy <= d\_ty && d\_sy <= targetCells->at(i)->y && targetCells->at(i)->y <= d\_ty ) ||  + ( d\_sx >= d\_ty && d\_sy >= targetCells->at(i)->y && targetCells->at(i)->y >= d\_ty ) )  + num\_points++;  + }  +  + return num\_points;  +};  +  +struct pr\_a\_star\_compactor\_less\_than {  + // Function object passed into std::sort to sort subRoutes according to selected priority type  +  + vector<RoutePoint \*> \*sc;  + vector<RoutePoint \*> \*tc;  + CompactionType ct;  +  + pr\_a\_star\_compactor\_less\_than(vector<RoutePoint \*> \*sourceCells, vector<RoutePoint \*> \*targetCells, CompactionType type) {  + this->sc = sourceCells;  + this->tc = targetCells;  + this->ct = type;  + }  +  + bool operator() (int d1, int d2) {  +  + if (ct == PR\_A\_STAR\_TYPE\_S\_COMP) {  + // Order Droplets by increasing length (Manhattan distance between source and sink)  + return ( (abs(tc->at(d1)->x - sc->at(d1)->x) + abs(tc->at(d1)->y - sc->at(d1)->y)) <  + (abs(tc->at(d2)->x - sc->at(d2)->x) + abs(tc->at(d2)->y - sc->at(d2)->y)) );  + }  + else if (ct == PR\_A\_STAR\_TYPE\_L\_COMP) {  + // Order Droplets by decreasing length (Manhattan distance between source and sink)  + return ( (abs(tc->at(d1)->x - sc->at(d1)->x) + abs(tc->at(d1)->y - sc->at(d1)->y)) >  + (abs(tc->at(d2)->x - sc->at(d2)->x) + abs(tc->at(d2)->y - sc->at(d2)->y)) );  + }  + else if (ct == PR\_A\_STAR\_TYPE\_X\_COMP) {  + // Order Droplets by increasing X-component length, overall length used to break ties  + int delx\_d1 = abs(tc->at(d1)->x - sc->at(d1)->x);  + int delx\_d2 = abs(tc->at(d2)->x - sc->at(d2)->x);  +  + if (delx\_d1 != delx\_d2) {  + return ( delx\_d1 < delx\_d2 );  + }  + return ( (delx\_d1 + abs(tc->at(d1)->y - sc->at(d1)->y)) < (delx\_d2 + abs(tc->at(d2)->y - sc->at(d2)->y)) );  + }  + else if (ct == PR\_A\_STAR\_TYPE\_Y\_COMP) {  + // Order Droplets by increasing Y-component length, overall length used to break ties  + int dely\_d1 = abs(tc->at(d1)->x - sc->at(d1)->x);  + int dely\_d2 = abs(tc->at(d2)->x - sc->at(d2)->x);  +  + if (dely\_d1 != dely\_d2) {  + return ( dely\_d1 < dely\_d2 );  + }  + return ( (abs(tc->at(d1)->x - sc->at(d1)->x) + dely\_d1) < (abs(tc->at(d2)->y - sc->at(d2)->y) + dely\_d2) );  + }  + else if (ct == PR\_A\_STAR\_TYPE\_B\_COMP) {  + // Order Droplets by increasing number of points (sources and sinks from other nets) in its bounding box  + return ( pointsInBoundingBox(sc, tc, d1) < pointsInBoundingBox(sc, tc, d2) );  + }  +  + return true; // Return statement added to remove compile-time warnings, never executed  + };  +};  +  +static bool conflict(RoutePoint \*p1, RoutePoint \*p2) {  +  + if ( abs(p1->x - p2->x) < 2 || abs(p1->y - p2->y) < 2 )  + return true;  + return false;  +};  +  +void Router::compactRoutesWithPrioritizedAStarCompactor(vector<vector<RoutePoint \*> \*> \*subRoutes) {  +  + int num\_routes = subRoutes->size();  +  + vector<int> indices;  + for (int i=0; i<num\_routes; i++) indices.push\_back(i);  +  + vector<RoutePoint \*> sourceCells, targetCells;  + for (int i=0; i<num\_routes; i++) {  + sourceCells.push\_back(subRoutes->at(i)->front());  + targetCells.push\_back(subRoutes->at(i)->back());  + }  +  + // reorder indices into subRoutes rather than subRoutes itself  + if (compactionType == PR\_A\_STAR\_TYPE\_R\_COMP)  + random\_shuffle(indices.begin(), indices.end());  + else  + sort(indices.begin(), indices.end(), pr\_a\_star\_compactor\_less\_than(&sourceCells, &targetCells, compactionType));  +  +  + bool deadlock = false;  + int numStallsToPrepend = 1;  + int insertionOffset = 2; // # of cycles to offset the insertion of stalls before actual interference  +  + int longestRoute = 0;  + if (subRoutes->size() > 0)  + longestRoute = subRoutes->at(0)->size();  + // the prioritized A\* search  + // For Each Droplet in priority order add stalls wherever possible to resolve conflits with higher priority droplets  +  + for (int i=1; i<num\_routes; i++) {  +  +  +  +  + if (deadlock)  + break;  +  + vector<RoutePoint \*> \*subRoute = subRoutes->at(i);  + RoutePoint \*destPt = NULL;  + if (subRoute->size() > 0)  + destPt = subRoute->back();  + int numStallsAdded = 0;  +  + // Check entire route  + bool isInterference = false;  + int j = 0; // The index used to traverse a specific route/cycle  +  + // If not outputting, check the max length b/c droplet will remain at destination.  + // If is an output, then only check its own length b/c it will be off the DMFB.  + int cyclesToCheck = max((int)subRoute->size(), longestRoute);  + if (subRoute->size() > 0 && subRoute->at(subRoute->size()-1)->dStatus == DROP\_OUTPUT)  + cyclesToCheck = (int)subRoute->size()+2;  +  + while (j != cyclesToCheck && subRoute->size() > 0)  + {  + RoutePoint \*rp = NULL;  + if (j <= subRoute->size()-1)  + rp = subRoute->at(j);  + else  + rp = subRoute->back();  +  + int insertionIndex = -1;  +  + if (rp)  + {  + // Check against the previous routes that have been compacted  + for (int k = 0; k < i; k++)  + {  + vector<RoutePoint \*> \*pastRoute = subRoutes->at(k);  +  + RoutePoint \*rpLc = NULL; // This route's last cycle  + if (j > 0 && j <= subRoute->size()-1)  + rpLc = subRoute->at(j-1);  + else  + rpLc = subRoute->back();  +  + RoutePoint \*rpNc = NULL; // This route's next cycle  + if (j+1 <= subRoute->size()-1)  + rpNc = subRoute->at(j+1);  + else  + rpNc = subRoute->back();  +  + RoutePoint \*prp = NULL; // Past route's current cycle  + if (j <= pastRoute->size()-1)  + prp = pastRoute->at(j);  + else if (pastRoute->back()->dStatus != DROP\_OUTPUT)  + prp = pastRoute->back();  +  + RoutePoint \*prpLc = NULL; // Past route's last cycle  + if (j > 0 && j <= pastRoute->size()-1)  + prpLc = pastRoute->at(j-1);  + else if (pastRoute->back()->dStatus != DROP\_OUTPUT)  + prpLc = pastRoute->back();  + else if (j <= pastRoute->size()+1)  + prpLc = pastRoute->back();  +  + RoutePoint \*prpNc = NULL; // Past route's next cycle  + if (j+1 <= pastRoute->size()-1)  + prpNc = pastRoute->at(j+1);  + else if (pastRoute->back()->dStatus != DROP\_OUTPUT)  + prpNc = pastRoute->back();  +  + // Check dynamic droplet rules so this and last droplet locations don't interfere  + if (prp && doesInterfere(rp, prp) && !(doesInterfere(rp, destPt) && prp->dStatus == DROP\_WAIT))  + {  + isInterference = true;  + break;  + }  + if (prpLc && doesInterfere(rp, prpLc) && !(doesInterfere(rp, destPt) && prpLc->dStatus == DROP\_WAIT)) // DTG, is this if-statement necessary??  + {  + isInterference = true;  + break;  + }  + if (prp && rpNc && doesInterfere(rpNc, prp) && !(doesInterfere(rpNc, destPt) && prp->dStatus == DROP\_WAIT))  + {  + isInterference = true;  + break;  + }  + if (prpNc && doesInterfere(rp, prpNc) && !(doesInterfere(rp, destPt) && prpNc->dStatus == DROP\_WAIT))  + {  + isInterference = true;  + break;  + }  + if (prp && rpLc && doesInterfere(rpLc, prp) && !(doesInterfere(rpLc, destPt) && prp->dStatus == DROP\_WAIT))  + {  + isInterference = true;  + break;  + }  + if (prpLc && rpLc && doesInterfere(rpLc, prpLc) && !(doesInterfere(rpLc, destPt) && prpLc->dStatus == DROP\_WAIT))  + {  + isInterference = true;  + break;  + }  + }  + }  + if (isInterference)  + { // Add a few stalls at the beginning and try again  +  + numStallsAdded++;  + if (numStallsAdded >= 100)  + {  + deadlock = true;  + break;  + }  +  + insertionIndex = j; // Tells where the interference is  +  + if ((insertionIndex - insertionOffset <= 0) || (insertionIndex - insertionOffset >= subRoute->size()-1))  + for (int m = 0; m < numStallsToPrepend; m++)  + subRoute->insert(subRoute->begin(), NULL);  + else  + {  + for (int m = 0; m < numStallsToPrepend; m++)  + {  + //cout << subRoute->size() << endl;  + RoutePoint \*rpLast = subRoute->at(insertionIndex-insertionOffset);  + if (rpLast)  + {  + RoutePoint \*rpStall = new RoutePoint();  + rpStall->x = rpLast->x;  + rpStall->y = rpLast->y;  + rpStall->dStatus = DROP\_INT\_WAIT;  + subRoute->insert(subRoute->begin()+insertionIndex-1, rpStall);  + }  + else  + subRoute->insert(subRoute->begin()+insertionIndex-1, NULL);  + }  + }  + isInterference = false;  + j = 0;  + }  + else  + j++;  + }  + if (j > longestRoute)  + longestRoute = j;  +  +  + // If found a deadlock (inserting stalls in middle did not work), remove all inserts and try  + // adding stalls to beginning.  + if (deadlock)  + {  + //cout << "TRY WITH STALLS AT BEGINNING." << endl;  +  + for (unsigned i = 0; i < subRoutes->size(); i++)  + {  + vector<RoutePoint \*> \*subRoute = subRoutes->at(i);  + for (int j = subRoute->size()-1; j >=0; j--)  + {  + if (subRoute->at(j) == NULL || subRoute->at(j)->dStatus == DROP\_INT\_WAIT)  + {  + RoutePoint \*rp = subRoutes->at(i)->at(j);  + subRoutes->at(i)->erase(subRoutes->at(i)->begin()+j);  + if (rp)  + delete rp;  + }  + }  + }  + compactRoutesWithBegStalls(subRoutes);  + }  + }  +  +};  +  +  +  +  +  +  +  +  +  +  ///////////////////////////////////////////////////////////////////////////////  // Given the droplet locations in routes, computes which cells are dirty at  // any particular time  diff --git a/Source/compatibility\_check.cc b/Source/compatibility\_check.cc  index 5120c6e..5e52593 100644  --- a/Source/compatibility\_check.cc  +++ b/Source/compatibility\_check.cc  @@ -45,7 +45,7 @@ void CompatChk::PreScheduleChk(Scheduler \*s, DmfbArch \*arch, bool runAsEntireFlo  PinMapType pmt = arch->getPinMapper()->getType();  claim(pmt == ORIGINAL\_FPPC\_PM || pmt == ENHANCED\_FPPC\_PIN\_OPT\_PM || pmt == ENHANCED\_FPPC\_ROUTE\_OPT\_PM, "The field-programmable pin-constrained (FPPC) scheduler must be paired with the FPPC pin-mapper.");  }  - else if (s->getType() == SKYCAL\_R)  + else if (s->getType() == SKYCAL\_S)  claim(runAsEntireFlow, "The routing-based-synthesis scheduler must be run as an entire flow with its corresponding placer/router.");  // General checks  @@ -117,6 +117,17 @@ void CompatChk::PreRouteChk(Router \*r, DmfbArch \*arch, bool runAsEntireFlow)  claim(r->getPastPlacerType() == SKYCAL\_P, "The routing-based-synthesis router must be paired with the routing-based-synthesis placer.");  claim(r->getCompactionType() == INHERENT\_COMP, "The routing-based-synthesis router must be paired with the inherent compaction type.");  }  + else if (r->getType() == A\_STAR\_TYPE\_1\_R || r->getType() == A\_STAR\_TYPE\_2\_R || r->getType() == A\_STAR\_TYPE\_3\_R ||  + r->getType() == PR\_A\_STAR\_TYPE\_1S\_R || r->getType() == PR\_A\_STAR\_TYPE\_2S\_R || r->getType() == PR\_A\_STAR\_TYPE\_3S\_R ||  + r->getType() == PR\_A\_STAR\_TYPE\_1L\_R || r->getType() == PR\_A\_STAR\_TYPE\_2L\_R || r->getType() == PR\_A\_STAR\_TYPE\_3L\_R ||  + r->getType() == PR\_A\_STAR\_TYPE\_1R\_R || r->getType() == PR\_A\_STAR\_TYPE\_2R\_R || r->getType() == PR\_A\_STAR\_TYPE\_3R\_R ||  + r->getType() == PR\_A\_STAR\_TYPE\_1X\_R || r->getType() == PR\_A\_STAR\_TYPE\_2X\_R || r->getType() == PR\_A\_STAR\_TYPE\_3X\_R ||  + r->getType() == PR\_A\_STAR\_TYPE\_1Y\_R || r->getType() == PR\_A\_STAR\_TYPE\_2Y\_R || r->getType() == PR\_A\_STAR\_TYPE\_3Y\_R ||  + r->getType() == PR\_A\_STAR\_TYPE\_1B\_R || r->getType() == PR\_A\_STAR\_TYPE\_2B\_R || r->getType() == PR\_A\_STAR\_TYPE\_3B\_R )  + {  + // The A\* routers do not require an additional compaction step  + claim(r->getCompactionType() == INHERENT\_COMP, "The A\* and prioritized A\* routers must be paired with the inherent compaction type.");  + }  else  {  claim(r->getCompactionType() != INHERENT\_COMP, "You must select the 'Beginning', 'Middle', or 'No' compaction type.");  diff --git a/Source/main.cc b/Source/main.cc  index bc7036d..5b70b44 100644  --- a/Source/main.cc  +++ b/Source/main.cc  @@ -53,7 +53,7 @@ int main(int argc, char \*\*argv)  cmdLine.ExecuteCommand(argc, argv);  else // Hard-coded Sandbox  {  - cmdLine.ForceCorrectUsage(); // Comment out to be able to run following code  + //cmdLine.ForceCorrectUsage(); // Comment out to be able to run following code  cout << "Executing Hard-coded Sandbox MF Simulation" << endl << "-----------------------------------------------"<< endl;  //BiocodeTest::Create\_B1\_PCRMix(1);  @@ -73,7 +73,7 @@ int main(int argc, char \*\*argv)  ////////////////////////////////////////////////////////////////////////////  // Entire Standard Synthesis Flow Tests  ////////////////////////////////////////////////////////////////////////////  - //Synthesis::EntireFlow("Assays/B1/Dilute/PCRDilute.txt", "DmfbArchs/IndividuallyAddressable/B1/Arch\_16\_16\_B1.txt", LIST\_S, GRISSOM\_LE\_B, ROY\_MAZE\_R, GRISSOM\_FIX\_1\_RA, INDIVADDR\_PM, NONE\_WR, BEG\_COMP, FIXED\_FULL\_PE, ALL\_EX, maxDropsPerStorageMod, minCellsBetweenIrMods, 3, 3);  + //Synthesis::EntireFlow("Assays/B1/Dilute/PCRDilute.txt", "DmfbArchs/IndividuallyAddressable/B1/Arch\_16\_16\_B1.txt", LIST\_S, GRISSOM\_LE\_B, PR\_A\_STAR\_TYPE\_1B\_R, GRISSOM\_FIX\_1\_RA, INDIVADDR\_PM, NONE\_WR, BEG\_COMP, FIXED\_PE, ALL\_EX, maxDropsPerStorageMod, minCellsBetweenIrMods, 3, 3);  ////////////////////////////////////////////////////////////////////////////  // Entire SkyCal Synthesis Flow Tests  ////////////////////////////////////////////////////////////////////////////  @@ -121,7 +121,7 @@ int main(int argc, char \*\*argv)  // Individual Synthesis Steps Tests - Independently Addressed Electrodes  ////////////////////////////////////////////////////////////////////////////  //Synthesis::Schedule("Assays/B3\_ProteinSplit2FT.txt", "DmfbArchs/IndividuallyAddressable/B3/Arch\_15\_19\_B3.txt", "Output/1\_SCHED\_to\_PLACE.txt", LIST\_S, GRISSOM\_FIX\_0\_RA, INDIVADDR\_PM, maxDropsPerStorageMod);  - //Synthesis::Schedule("Assays/Testing/Single\_2\_Input\_Mix.txt", "DmfbArchs/IndividuallyAddressable/Testing/Arch\_8\_7\_Simple.txt", "Output/1\_SCHED\_to\_PLACE.txt", LIST\_S, GRISSOM\_FIX\_0\_RA, INDIVADDR\_PM, maxDropsPerStorageMod); // Good for debugging pin-assignment and wire-routing  + Synthesis::Schedule("Assays/Testing/Single\_3\_Input\_Mix.txt", "DmfbArchs/IndividuallyAddressable/Testing/Arch\_8\_7\_Simple.txt", "Output/1\_SCHED\_to\_PLACE.txt", LIST\_S, GRISSOM\_FIX\_0\_RA, INDIVADDR\_PM, maxDropsPerStorageMod); // Good for debugging pin-assignment and wire-routing  //Synthesis::Schedule("Assays/Testing/Two\_Dilutes.txt", "DmfbArchs/IndividuallyAddressable/B1/Arch\_15\_19\_B1.txt", "Output/1\_SCHED\_to\_PLACE.txt", PATH\_S, GRISSOM\_FIX\_0\_RA, INDIVADDR\_PM, maxDropsPerStorageMod); // Good for debugging new dilution operator  //Synthesis::Schedule("Assays/B1/MixSplit/PCR.txt", "DmfbArchs/IndividuallyAddressable/B1/Arch\_15\_19\_B1.txt", "Output/1\_SCHED\_to\_PLACE.txt", LIST\_S, GRISSOM\_FIX\_0\_RA, INDIVADDR\_PM, maxDropsPerStorageMod);  //Synthesis::Schedule("Assays/B2/InVitro\_Ex1\_2s\_2r.txt", "DmfbArchs/IndividuallyAddressable/B2/Arch\_15\_19\_B2.txt", "Output/1\_SCHED\_to\_PLACE.txt", LIST\_S, GRISSOM\_FIX\_0\_RA, INDIVADDR\_PM, maxDropsPerStorageMod);  @@ -129,12 +129,18 @@ int main(int argc, char \*\*argv)  //Synthesis::Schedule("Assays/B2/InVitro\_Ex3\_3s\_3r.txt", "DmfbArchs/IndividuallyAddressable/B2/Arch\_15\_19\_B2.txt", "Output/1\_SCHED\_to\_PLACE.txt", LIST\_S, GRISSOM\_FIX\_0\_RA, INDIVADDR\_PM, maxDropsPerStorageMod);  //Synthesis::Schedule("Assays/B2/InVitro\_Ex4\_3s\_4r.txt", "DmfbArchs/IndividuallyAddressable/B2/Arch\_15\_19\_B2.txt", "Output/1\_SCHED\_to\_PLACE.txt", LIST\_S, GRISSOM\_FIX\_0\_RA, INDIVADDR\_PM, maxDropsPerStorageMod);  //Synthesis::Schedule("Assays/B2/InVitro\_Ex5\_4s\_4r.txt", "DmfbArchs/IndividuallyAddressable/B2/Arch\_15\_19\_B2.txt", "Output/1\_SCHED\_to\_PLACE.txt", LIST\_S, GRISSOM\_FIX\_0\_RA, INDIVADDR\_PM, maxDropsPerStorageMod);  - Synthesis::Schedule("Assays/B4/MixSplit/ProteinSplit\_03\_Eq.txt", "DmfbArchs/IndividuallyAddressable/B3and4/Arch\_15\_19\_B3.txt", "Output/1\_SCHED\_to\_PLACE.txt", PATH\_S, GRISSOM\_FIX\_0\_RA, INDIVADDR\_PM, maxDropsPerStorageMod);  + //Synthesis::Schedule("Assays/B4/MixSplit/ProteinSplit\_03\_Eq.txt", "DmfbArchs/IndividuallyAddressable/B3and4/Arch\_15\_19\_B3.txt", "Output/1\_SCHED\_to\_PLACE.txt", PATH\_S, GRISSOM\_FIX\_0\_RA, INDIVADDR\_PM, maxDropsPerStorageMod);  //Synthesis::Schedule("Assays/B4/Dilute/ProteinSplitDilute\_03\_Eq.txt", "DmfbArchs/IndividuallyAddressable/B3and4/Arch\_15\_19\_B3.txt", "Output/1\_SCHED\_to\_PLACE.txt", PATH\_S, GRISSOM\_FIX\_0\_RA, INDIVADDR\_PM, maxDropsPerStorageMod);  Synthesis::Place("Output/1\_SCHED\_to\_PLACE.txt", "Output/2\_PLACE\_to\_ROUTE.txt", GRISSOM\_PATH\_B, minCellsBetweenIrMods);  - Synthesis::Route("Output/2\_PLACE\_to\_ROUTE.txt", ROY\_MAZE\_R, false, BEG\_COMP, FIXED\_PE, SIM\_EX);  - Synthesis::WireRoute("Output/3\_ROUTE\_to\_SIM.txt", PATH\_FINDER\_WR, 3, 3);  + //Synthesis::Route("Output/2\_PLACE\_to\_ROUTE.txt", ROY\_MAZE\_R, false, BEG\_COMP, FIXED\_PE, SIM\_EX);  + //Synthesis::WireRoute("Output/3\_ROUTE\_to\_SIM.txt", PATH\_FINDER\_WR, 3, 3);  +  + ////////////////////////////////////////////////////////////////////////////  + /////////////////////////// A\* ROUTER ///////////////////////////////  + ////////////////////////////////////////////////////////////////////////////  + Synthesis::Route("Output/2\_PLACE\_to\_ROUTE.txt", PR\_A\_STAR\_TYPE\_1X\_R, false, INHERENT\_COMP , FIXED\_PE, SIM\_EX);  + ////////////////////////////////////////////////////////////////////////////  // SHARP TEST  //Synthesis::Schedule("Assays/B4/MixSplit/ProteinSplit\_12\_Eq.txt", "DmfbArchs/Sharp/Demo.txt", "Output/1\_SCHED\_to\_PLACE.txt", PATH\_S, GRISSOM\_FIX\_0\_RA, INDIVADDR\_PM, maxDropsPerStorageMod);  diff --git a/Source/synthesis.cc b/Source/synthesis.cc  index aaa073c..69ccdaf 100644  --- a/Source/synthesis.cc  +++ b/Source/synthesis.cc  @@ -54,6 +54,7 @@  #include "../Headers/Router/roy\_maze\_router.h"  #include "../Headers/Router/bioroute\_router.h"  #include "../Headers/Router/a\_star\_router.h"  +#include "../Headers/Router/prioritized\_a\_star\_router.h"  #include "../Headers/Router/skycal\_router.h"  #include "../Headers/Router/lee\_router.h"  #include "../Headers/Router/cho\_router.h"  @@ -88,7 +89,6 @@ Synthesis::Synthesis(SchedulerType st, PlacerType pt, RouterType rt, bool perfor  scheduler->setType(st);  placer->setType(pt);  placer->setPastSchedType(st);  - router->setType(rt);  router->setPastSchedType(st);  router->setPastPlacerType(pt);  @@ -851,8 +851,15 @@ Router \* Synthesis::getNewRoutingMethod(RouterType rt, DmfbArch \*arch)  return new GrissomFppcParallelRouter(arch);  else if (rt == CHO\_R)  return new ChoRouter(arch);  - else if (rt == A\_STAR\_R)  + else if (rt == A\_STAR\_TYPE\_1\_R || rt == A\_STAR\_TYPE\_2\_R || rt == A\_STAR\_TYPE\_3\_R)  return new AStarRouter(arch);  + else if (rt == PR\_A\_STAR\_TYPE\_1S\_R || rt == PR\_A\_STAR\_TYPE\_2S\_R || rt == PR\_A\_STAR\_TYPE\_3S\_R ||  + rt == PR\_A\_STAR\_TYPE\_1L\_R || rt == PR\_A\_STAR\_TYPE\_2L\_R || rt == PR\_A\_STAR\_TYPE\_3L\_R ||  + rt == PR\_A\_STAR\_TYPE\_1R\_R || rt == PR\_A\_STAR\_TYPE\_2R\_R || rt == PR\_A\_STAR\_TYPE\_3R\_R ||  + rt == PR\_A\_STAR\_TYPE\_1X\_R || rt == PR\_A\_STAR\_TYPE\_2X\_R || rt == PR\_A\_STAR\_TYPE\_3X\_R ||  + rt == PR\_A\_STAR\_TYPE\_1Y\_R || rt == PR\_A\_STAR\_TYPE\_2Y\_R || rt == PR\_A\_STAR\_TYPE\_3Y\_R ||  + rt == PR\_A\_STAR\_TYPE\_1B\_R || rt == PR\_A\_STAR\_TYPE\_2B\_R || rt == PR\_A\_STAR\_TYPE\_3B\_R)  + return new PrioritizedAStarRouter(arch);  else if (rt == LEE\_R)  return new LeeRouter(arch);  else if (rt == SKYCAL\_R) |

# C: Complete Test Results

**Console output for router tests**

Assay: Single\_2\_Input\_Mix, Scheduler: List scheduler, Placer: Kamer placer

|  |  |
| --- | --- |
| Router | Console Output |
| R0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  4 total nodes; 1 non-I/O nodes.  LS Time: 6  --------------------TIMER----------------------  Elapsed time for "Scheduling Time" = 0ms  -----------------------------------------------  Analyzing schedule for errors...Done.  Random seed for KAMER placer: 1420577383  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 12 (0.12s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (3, 3) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  goal  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 5ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 10 (0.1s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  goal  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 7925ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (3, 3) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  goal  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 3ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 10 (0.1s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R7 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 10 (0.1s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (2, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (2, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R8 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (4, 1) (4, 2) (3, 2) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 10 (0.1s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (2, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R9 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R10 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R11 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R12 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R13 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R14 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R15 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R16 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R17 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R18 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |

Assay: Single\_2\_Input\_Mix, Scheduler: List scheduler, Placer: Grissom Path binder

|  |  |
| --- | --- |
| Router | Console Output |
| R0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  goal  Routing to TS 5:  1: (5, 2) (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 8040ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 12 (0.12s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 0). Please make sure routing and compaction are performed properly.  Done.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (3, 3) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  goal  Routing to TS 5:  1: (5, 2) (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 4ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R7 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (2, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (2, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R8 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (4, 1) (4, 2) (3, 2) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (2, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R9 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R10 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R11 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (4, 1) (4, 2) (3, 2) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (2, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R12 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R13 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R14 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R15 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R16 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 3ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R17 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R18 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |

Assays: Single\_2\_Output\_Split, Scheduler: List scheduler, Placer: Kamer placer

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| --- | --- |
| Router | Console Output |
| R0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  4 total nodes; 1 non-I/O nodes.  LS Time: 4  --------------------TIMER----------------------  Elapsed time for "Scheduling Time" = 0ms  -----------------------------------------------  Analyzing schedule for errors...Done.  Random seed for KAMER placer: 1420677545  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  1: (2, 5) (2, 6) (3, 6) (4, 6) (5, 6) (6, 6) (7, 6) (7, 5) (7, 4) (7, 3)  2: (5, 4) (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  goal  Routing to TS 3:  2: (4, 4) (5, 4) (6, 4) (7, 4) (7, 3)  1: (2, 4) (3, 4) (4, 4) (5, 4) (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 17ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 12 (0.12s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 305 at (4, 4) interferes with droplet 1 at cycle 306 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 306 at (5, 4) interferes with droplet 1 at cycle 307 at (4, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 306 at (3, 4) interferes with droplet 2 at cycle 305 at (4, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 307 at (6, 4) interferes with droplet 1 at cycle 308 at (5, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 307 at (4, 4) interferes with droplet 2 at cycle 306 at (5, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 308 at (7, 4) interferes with droplet 1 at cycle 309 at (6, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 308 at (5, 4) interferes with droplet 2 at cycle 307 at (6, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 3) interferes with droplet 1 at cycle 309 at (6, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 3) interferes with droplet 1 at cycle 310 at (7, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 309 at (6, 4) interferes with droplet 2 at cycle 308 at (7, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 309 at (6, 4) interferes with droplet 2 at cycle 309 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 4) interferes with droplet 2 at cycle 309 at (7, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  goal  Routing to TS 3:  2: (4, 4) (5, 4) (6, 4) (7, 4) (7, 3)  1: (2, 4) (3, 4) (4, 4) (5, 4) (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 29875ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 12 (0.12s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 305 at (4, 4) interferes with droplet 1 at cycle 306 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 306 at (5, 4) interferes with droplet 1 at cycle 307 at (4, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 306 at (3, 4) interferes with droplet 2 at cycle 305 at (4, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 307 at (6, 4) interferes with droplet 1 at cycle 308 at (5, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 307 at (4, 4) interferes with droplet 2 at cycle 306 at (5, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 308 at (7, 4) interferes with droplet 1 at cycle 309 at (6, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 308 at (5, 4) interferes with droplet 2 at cycle 307 at (6, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 3) interferes with droplet 1 at cycle 309 at (6, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 3) interferes with droplet 1 at cycle 310 at (7, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 309 at (6, 4) interferes with droplet 2 at cycle 308 at (7, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 309 at (6, 4) interferes with droplet 2 at cycle 309 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 4) interferes with droplet 2 at cycle 309 at (7, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  goal  Routing to TS 3:  2: (4, 4) (5, 4) (6, 4) (7, 4) (7, 3)  1: (2, 4) (3, 4) (3, 3) (4, 3) (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 14ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 12 (0.12s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  \*\*\*FAIL - Droplet 2 at cycle 305 at (4, 4) interferes with droplet 1 at cycle 306 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 306 at (3, 4) interferes with droplet 2 at cycle 305 at (4, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 3) interferes with droplet 1 at cycle 310 at (6, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (6, 3) interferes with droplet 2 at cycle 309 at (7, 3). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (4, 4) (5, 4) (5, 3) (6, 3) (7, 3)  1: (2, 4) (2, 3) (2, 2) (3, 2) (4, 2) (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 16 (0.16s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (4, 4) (5, 4) (5, 3) (6, 3) (7, 3)  1: (2, 4) (2, 3) (2, 2) (3, 2) (4, 2) (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 16 (0.16s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R7 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  1: (2, 4) (2, 3) (2, 2) (3, 2) (4, 2) (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  2: (4, 4) (5, 4) (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 16 (0.16s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R8 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  1: (2, 4) (2, 3) (2, 2) (3, 2) (4, 2) (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  2: (4, 4) (5, 4) (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 16 (0.16s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R9 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R10 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  1: (2, 4) (2, 3) (2, 2) (3, 2) (4, 2) (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  2: (4, 4) (5, 4) (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 16 (0.16s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R11 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  1: (2, 4) (2, 3) (2, 2) (3, 2) (4, 2) (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  2: (4, 4) (5, 4) (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 16 (0.16s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R12 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R13 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (4, 4) (5, 4) (5, 3) (6, 3) (7, 3)  1: (2, 4) (2, 3) (2, 2) (3, 2) (4, 2) (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 16 (0.16s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R14 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (4, 4) (5, 4) (5, 3) (6, 3) (7, 3)  1: (2, 4) (2, 3) (2, 2) (3, 2) (4, 2) (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 16 (0.16s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R15 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R16 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (4, 4) (5, 4) (5, 3) (6, 3) (7, 3)  1: (2, 4) (2, 3) (2, 2) (3, 2) (4, 2) (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 16 (0.16s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R17 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (4, 4) (5, 4) (5, 3) (6, 3) (7, 3)  1: (2, 4) (2, 3) (2, 2) (3, 2) (4, 2) (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 16 (0.16s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R18 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |

Assays: Single\_2\_Output\_Split, Scheduler: List scheduler, Placer: Grissom Path binder

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| Router | Console Output |
| R0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (6, 2) (7, 2) (7, 3)  1: (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  goal  Routing to TS 3:  2: (5, 2) (6, 2) (7, 2) (7, 3)  1: (5, 4) (5, 4) (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 5ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 10 (0.1s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 306 at (6, 2) interferes with droplet 1 at cycle 307 at (5, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 307 at (5, 3) interferes with droplet 2 at cycle 306 at (6, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 307 at (7, 2) interferes with droplet 1 at cycle 308 at (6, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 308 at (6, 3) interferes with droplet 2 at cycle 307 at (7, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 308 at (6, 3) interferes with droplet 2 at cycle 308 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 308 at (7, 3) interferes with droplet 1 at cycle 308 at (6, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 308 at (7, 3) interferes with droplet 1 at cycle 309 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 309 at (7, 3) interferes with droplet 2 at cycle 308 at (7, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  goal  Routing to TS 3:  2: (5, 2) (6, 2) (7, 2) (7, 3)  1: (5, 4) (5, 4) (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 3452ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 10 (0.1s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 306 at (6, 2) interferes with droplet 1 at cycle 307 at (5, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 307 at (5, 3) interferes with droplet 2 at cycle 306 at (6, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 307 at (7, 2) interferes with droplet 1 at cycle 308 at (6, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 308 at (6, 3) interferes with droplet 2 at cycle 307 at (7, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 308 at (6, 3) interferes with droplet 2 at cycle 308 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 308 at (7, 3) interferes with droplet 1 at cycle 308 at (6, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 308 at (7, 3) interferes with droplet 1 at cycle 309 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 309 at (7, 3) interferes with droplet 2 at cycle 308 at (7, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  goal  Routing to TS 3:  2: (5, 2) (6, 2) (7, 2) (7, 1) (7, 2) (7, 3)  1: (5, 4) (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 48ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  \*\*\*FAIL - Droplet 2 at cycle 307 at (7, 2) interferes with droplet 1 at cycle 308 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 308 at (7, 3) interferes with droplet 2 at cycle 307 at (7, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 308 at (7, 3) interferes with droplet 2 at cycle 309 at (7, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 2) interferes with droplet 1 at cycle 308 at (7, 3). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  1: (5, 4) (5, 5) (6, 5) (7, 5) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 309 at (7, 4) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 2) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 309 at (7, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 309 at (7, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  1: (5, 4) (5, 5) (6, 5) (7, 5) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  \*\*\*FAIL - Droplet 1 at cycle 309 at (7, 4) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 2) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 309 at (7, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 309 at (7, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R7 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  1: (5, 4) (5, 5) (6, 5) (7, 5) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 2) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 309 at (7, 4) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 309 at (7, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 309 at (7, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R8 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  1: (5, 4) (5, 5) (6, 5) (7, 5) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 309 at (7, 4) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 2) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 309 at (7, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 309 at (7, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R9 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R10 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  1: (5, 4) (5, 5) (6, 5) (7, 5) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 2) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 309 at (7, 4) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 309 at (7, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 309 at (7, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R11 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  1: (5, 4) (5, 5) (6, 5) (7, 5) (7, 4) (7, 3)  2: (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 309 at (7, 4) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 2) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 309 at (7, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 309 at (7, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R12 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R13 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  1: (5, 4) (5, 5) (6, 5) (7, 5) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  \*\*\*FAIL - Droplet 1 at cycle 309 at (7, 4) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 2) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 309 at (7, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 309 at (7, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R14 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  1: (5, 4) (5, 5) (6, 5) (7, 5) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 2) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 309 at (7, 4) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 309 at (7, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 309 at (7, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.-------------------------  Exiting MF Simulator |
| R15 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R16 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  1: (5, 4) (5, 5) (6, 5) (7, 5) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 2) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 309 at (7, 4) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 309 at (7, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 309 at (7, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R17 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (5, 2) (5, 1) (6, 1) (7, 1) (7, 2) (7, 3)  1: (5, 4) (5, 5) (6, 5) (7, 5) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  \*\*\*FAIL - Droplet 2 at cycle 309 at (7, 2) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 309 at (7, 4) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 309 at (7, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 310 at (7, 3) interferes with droplet 1 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 309 at (7, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 310 at (7, 3) interferes with droplet 2 at cycle 310 at (7, 3). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R18 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |

Assays: Single\_3\_Input\_Mix, Scheduler: List scheduler, Placer: Kamer placer

|  |  |
| --- | --- |
| Router | Console Output |
| R0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  5 total nodes; 1 non-I/O nodes.  LS Time: 6  --------------------TIMER----------------------  Elapsed time for "Scheduling Time" = 0ms  -----------------------------------------------  Analyzing schedule for errors...Done.  Random seed for KAMER placer: 1420683764  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (3, 3) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  goal  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 20ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 10 (0.1s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (3, 3) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  goal  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 29ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 10 (0.1s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  3: (0, 4) (1, 4) (2, 4)  1: (2, 0) (2, 1) (2, 2) (3, 2) (4, 2) (4, 3) (4, 4) (3, 4) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (3, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 12 (0.12s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 202 at (4, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (4, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (4, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (4, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  3: (0, 4) (1, 4) (2, 4)  1: (2, 0) (2, 1) (2, 2) (3, 2) (4, 2) (4, 3) (4, 4) (3, 4) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (3, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 12 (0.12s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 202 at (4, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (4, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (4, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (4, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R7 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 10 (0.1s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R8 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (4, 1) (4, 2) (3, 2) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 10 (0.1s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R9 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R10 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  1: (2, 0) (2, 1) (2, 2) (3, 2) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 3ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 16 (0.16s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 204 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (2, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (2, 1) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (2, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R11 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  3: (0, 4) (1, 4) (2, 4)  1: (2, 0) (2, 1) (2, 2) (3, 2) (4, 2) (4, 3) (4, 4) (3, 4) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (3, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 12 (0.12s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 202 at (4, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (4, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (4, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (4, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R12 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R13 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R14 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R15 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R16 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R17 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 3) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R18 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |

Assays: Single\_3\_Input\_Mix, Scheduler: List scheduler, Placer: Grissom Path binder

|  |  |
| --- | --- |
| Router | Console Output |
| R0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (3, 3) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  goal  Routing to TS 5:  1: (5, 2) (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 23ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (3, 3) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  goal  Routing to TS 5:  1: (5, 2) (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 24ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  3: (0, 4) (1, 4) (2, 4)  1: (2, 0) (2, 1) (2, 2) (3, 2) (4, 2) (4, 3) (4, 4) (3, 4) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (3, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 202 at (4, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (4, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (4, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (4, 3). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  3: (0, 4) (1, 4) (2, 4)  1: (2, 0) (2, 1) (2, 2) (3, 2) (4, 2) (4, 3) (4, 4) (3, 4) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (3, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 5ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 202 at (4, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (4, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (4, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (4, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R7 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R8 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (4, 1) (4, 2) (3, 2) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R9 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R10 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  3: (0, 4) (1, 4) (2, 4)  1: (2, 0) (2, 1) (2, 2) (3, 2) (4, 2) (4, 3) (4, 4) (3, 4) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (3, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 202 at (4, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (4, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (4, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (4, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R11 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (4, 1) (4, 2) (3, 2) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R12 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R13 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R14 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R15 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R16 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 3ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R17 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (5, 2) (6, 2) (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R18 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |

Assays: Single\_Dilute, Scheduler: List scheduler, Placer: Kamer placer

|  |  |
| --- | --- |
| Router | Console Output |
| R0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  5 total nodes; 1 non-I/O nodes.  PS TIME: 4  --------------------TIMER----------------------  Elapsed time for "Scheduling Time" = 0ms  -----------------------------------------------  Analyzing schedule for errors...Done.  Random seed for KAMER placer: 1420697675  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 14) (3, 13) (3, 12) (3, 11) (3, 10) (3, 9) (3, 8) (4, 8) (5, 8) (6, 8) (7, 8) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  3: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 39 (0.39s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 334 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 335, when moving from (14, 11)-->(14, 10). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 at cycle 336 at (14, 9) interferes with droplet 1 at cycle 337 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 337 at (14, 8) interferes with droplet 1 at cycle 337 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 337 at (14, 8) interferes with droplet 1 at cycle 338 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 337 at (13, 8) interferes with droplet 3 at cycle 336 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 337 at (13, 8) interferes with droplet 3 at cycle 337 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 338 at (14, 8) interferes with droplet 3 at cycle 337 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information. |
| R1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4) (2, 5) (2, 6) (2, 7) (2, 8) (2, 9) (2, 10) (2, 11) (2, 12) (2, 13) (2, 14) (2, 15) (3, 15)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (4, 7) (4, 8) (4, 9) (4, 10) (4, 11) (4, 12) (4, 13) (4, 13) (3, 13) (3, 14) (3, 15)  goal  Routing to TS 3:  3: (5, 15) (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  1: (3, 15) (4, 15) (5, 15) (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (12, 14) (12, 13) (12, 12) (12, 11) (12, 10) (12, 9) (13, 9) (14, 9) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 4847ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 37 (0.37s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 214 at (2, 14) interferes with droplet 2 at cycle 215 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 215 at (3, 13) interferes with droplet 1 at cycle 214 at (2, 14). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 318 at (5, 15) interferes with droplet 1 at cycle 319 at (4, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (4, 15) interferes with droplet 3 at cycle 318 at (5, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (6, 15) interferes with droplet 1 at cycle 320 at (5, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (5, 15) interferes with droplet 3 at cycle 319 at (6, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (7, 15) interferes with droplet 1 at cycle 321 at (6, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (6, 15) interferes with droplet 3 at cycle 320 at (7, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (8, 15) interferes with droplet 1 at cycle 322 at (7, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (7, 15) interferes with droplet 3 at cycle 321 at (8, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (9, 15) interferes with droplet 1 at cycle 323 at (8, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (8, 15) interferes with droplet 3 at cycle 322 at (9, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (10, 15) interferes with droplet 1 at cycle 324 at (9, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 324 at (9, 15) interferes with droplet 3 at cycle 323 at (10, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 324 at (11, 15) interferes with droplet 1 at cycle 325 at (10, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 325 at (10, 15) interferes with droplet 3 at cycle 324 at (11, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 325 at (12, 15) interferes with droplet 1 at cycle 326 at (11, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 326 at (11, 15) interferes with droplet 3 at cycle 325 at (12, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 326 at (13, 15) interferes with droplet 1 at cycle 327 at (12, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 327 at (12, 15) interferes with droplet 3 at cycle 326 at (13, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 333 at (14, 9) interferes with droplet 1 at cycle 334 at (13, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 334 at (13, 9) interferes with droplet 3 at cycle 333 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 334 at (13, 9) interferes with droplet 3 at cycle 334 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 334 at (14, 8) interferes with droplet 1 at cycle 334 at (13, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 334 at (14, 8) interferes with droplet 1 at cycle 335 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 335 at (14, 9) interferes with droplet 3 at cycle 334 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4) (2, 5) (2, 6) (2, 7) (2, 8) (2, 9) (2, 10) (2, 11) (2, 12) (2, 13) (2, 14) (2, 15) (3, 15)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (4, 7) (4, 8) (4, 9) (4, 10) (4, 11) (4, 12) (4, 13) (4, 13) (3, 13) (3, 14) (3, 15)  goal  Routing to TS 3:  3: (5, 15) (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  1: (3, 15) (4, 15) (4, 14) (5, 14) (6, 14) (7, 14) (8, 14) (9, 14) (10, 14) (11, 14) (12, 14) (12, 13) (12, 12) (12, 11) (12, 10) (12, 9) (13, 9) (14, 9) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 4311ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 37 (0.37s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 214 at (2, 14) interferes with droplet 2 at cycle 215 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 215 at (3, 13) interferes with droplet 1 at cycle 214 at (2, 14). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 318 at (5, 15) interferes with droplet 1 at cycle 319 at (4, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (4, 15) interferes with droplet 3 at cycle 318 at (5, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 333 at (14, 9) interferes with droplet 1 at cycle 334 at (13, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 334 at (13, 9) interferes with droplet 3 at cycle 333 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 334 at (13, 9) interferes with droplet 3 at cycle 334 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 334 at (14, 8) interferes with droplet 1 at cycle 334 at (13, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 334 at (14, 8) interferes with droplet 1 at cycle 335 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 335 at (14, 9) interferes with droplet 3 at cycle 334 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  3: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 15ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 2ms  -----------------------------------------------  Number of cycles spent routing: 38 (0.38s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 200 at (4, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 200 at (4, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 331 at (12, 8) interferes with droplet 1 at cycle 332 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 332 at (11, 8) interferes with droplet 3 at cycle 331 at (12, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4) (2, 5) (2, 6) (2, 7) (2, 8) (2, 9) (2, 10) (2, 11) (2, 12) (2, 13) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  3: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 17ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 38 (0.38s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 331 at (12, 8) interferes with droplet 1 at cycle 332 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 332 at (11, 8) interferes with droplet 3 at cycle 331 at (12, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R7 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  3: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 30ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 36 (0.36s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 200 at (4, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 200 at (4, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 331 at (12, 8) interferes with droplet 1 at cycle 332 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 332 at (11, 8) interferes with droplet 3 at cycle 331 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 332 at (13, 8) interferes with droplet 1 at cycle 333 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 333 at (12, 8) interferes with droplet 3 at cycle 332 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 333 at (14, 8) interferes with droplet 1 at cycle 334 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 334 at (13, 8) interferes with droplet 3 at cycle 333 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R8 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4) (2, 5) (2, 6) (2, 7) (2, 8) (2, 9) (2, 10) (2, 11) (2, 12) (2, 13) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  3: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 26ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 36 (0.36s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 331 at (12, 8) interferes with droplet 1 at cycle 332 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 332 at (13, 8) interferes with droplet 1 at cycle 333 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 332 at (11, 8) interferes with droplet 3 at cycle 331 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 333 at (14, 8) interferes with droplet 1 at cycle 334 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 333 at (12, 8) interferes with droplet 3 at cycle 332 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 334 at (13, 8) interferes with droplet 3 at cycle 333 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R9 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R10 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  3: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 14ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 38 (0.38s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 200 at (4, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 200 at (4, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 331 at (12, 8) interferes with droplet 1 at cycle 332 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 332 at (11, 8) interferes with droplet 3 at cycle 331 at (12, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R11 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4) (2, 5) (2, 6) (2, 7) (2, 8) (2, 9) (2, 10) (2, 11) (2, 12) (2, 13) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  3: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 12ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 38 (0.38s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 331 at (12, 8) interferes with droplet 1 at cycle 332 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 332 at (11, 8) interferes with droplet 3 at cycle 331 at (12, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R12 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R13 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  3: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 13ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 38 (0.38s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 200 at (4, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 200 at (4, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 331 at (12, 8) interferes with droplet 1 at cycle 332 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 332 at (11, 8) interferes with droplet 3 at cycle 331 at (12, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R14 | \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 331 at (12, 8) interferes with droplet 1 at cycle 332 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 332 at (11, 8) interferes with droplet 3 at cycle 331 at (12, 8). Please make sure routing and compaction are performed properly.Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4) (2, 5) (2, 6) (2, 7) (2, 8) (2, 9) (2, 10) (2, 11) (2, 12) (2, 13) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  3: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 37ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 38 (0.38s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R15 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R16 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  3: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 15ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 38 (0.38s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 200 at (4, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 200 at (4, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 331 at (12, 8) interferes with droplet 1 at cycle 332 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 332 at (11, 8) interferes with droplet 3 at cycle 331 at (12, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R17 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (4, 7) (4, 8) (4, 9) (4, 10) (4, 11) (4, 12) (4, 13) (3, 13) (3, 14) (3, 15)  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  3: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 20ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 38 (0.38s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 200 at (4, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 200 at (4, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 201 at (4, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (4, 1) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (4, 1) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 201 at (4, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 202 at (4, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (4, 2) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (4, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (4, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (4, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (4, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (4, 3) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 203 at (4, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 204 at (4, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (4, 4) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (4, 4) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 204 at (4, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 205 at (4, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (4, 5) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (4, 5) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 205 at (4, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 206 at (4, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (4, 6) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (4, 6) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 206 at (4, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 207 at (4, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (4, 7) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (4, 7) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 207 at (4, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 208 at (4, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (4, 8) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (4, 8) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 208 at (4, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 209 at (4, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (4, 9) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (4, 9) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 209 at (4, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 210 at (4, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (4, 10) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (4, 10) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 210 at (4, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 211 at (4, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (4, 11) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (4, 11) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 211 at (4, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 212 at (4, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (4, 12) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (4, 12) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 212 at (4, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 213 at (4, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (4, 13) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (4, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (4, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 331 at (12, 8) interferes with droplet 1 at cycle 332 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 332 at (11, 8) interferes with droplet 3 at cycle 331 at (12, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R18 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |

Assays: Single\_Dilute, Scheduler: List scheduler, Placer: Grissom Path binder

|  |  |
| --- | --- |
| Router | Console Output |
| R0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  3: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (6, 4) (7, 4) (8, 4) (9, 4) (10, 4) (11, 4) (12, 4) (13, 4) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 25 (0.25s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 316 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 317, when moving from (11, 4)-->(12, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 at cycle 318 at (13, 4) interferes with droplet 3 at cycle 319 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (14, 3) interferes with droplet 1 at cycle 318 at (13, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (14, 3) interferes with droplet 1 at cycle 319 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (14, 4) interferes with droplet 3 at cycle 319 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (14, 4) interferes with droplet 3 at cycle 320 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (14, 4) interferes with droplet 1 at cycle 319 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (14, 4) interferes with droplet 1 at cycle 320 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 5) interferes with droplet 3 at cycle 320 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 5) interferes with droplet 3 at cycle 321 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 5) interferes with droplet 1 at cycle 320 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 5) interferes with droplet 1 at cycle 321 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (14, 6) interferes with droplet 3 at cycle 321 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (14, 6) interferes with droplet 3 at cycle 322 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (14, 6) interferes with droplet 1 at cycle 321 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (14, 6) interferes with droplet 1 at cycle 322 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (14, 7) interferes with droplet 3 at cycle 322 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (14, 7) interferes with droplet 3 at cycle 323 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (14, 7) interferes with droplet 1 at cycle 322 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (14, 7) interferes with droplet 1 at cycle 323 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (14, 8) interferes with droplet 3 at cycle 323 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (14, 8) interferes with droplet 3 at cycle 324 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 324 at (14, 8) interferes with droplet 1 at cycle 323 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information. |
| R1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (3, 3) (2, 3) (2, 4)  goal  Routing to TS 3:  3: (5, 2) (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (5, 4) (6, 4) (7, 4) (8, 4) (9, 4) (10, 4) (11, 4) (12, 4) (13, 4) (13, 5) (13, 6) (13, 7) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 951ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 23 (0.23s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 8) interferes with droplet 3 at cycle 321 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 7) interferes with droplet 1 at cycle 320 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4) |
| R3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (3, 3) (2, 3) (2, 4)  goal  Routing to TS 3:  3: (5, 2) (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (5, 4) (6, 4) (7, 4) (8, 4) (9, 4) (10, 4) (11, 4) (12, 4) (13, 4) (13, 5) (13, 6) (13, 7) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 983ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 23 (0.23s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 8) interferes with droplet 3 at cycle 321 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 7) interferes with droplet 1 at cycle 320 at (14, 8). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  3: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (10, 6) (10, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 11ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 29 (0.29s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  \*\*\*FAIL - Droplet 1 at cycle 320 at (10, 8) interferes with droplet 3 at cycle 321 at (10, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (11, 8) interferes with droplet 3 at cycle 321 at (10, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (10, 7) interferes with droplet 1 at cycle 320 at (10, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (10, 7) interferes with droplet 1 at cycle 321 at (11, 8). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  3: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (10, 6) (10, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 15ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 29 (0.29s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 320 at (10, 8) interferes with droplet 3 at cycle 321 at (10, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (11, 8) interferes with droplet 3 at cycle 321 at (10, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (10, 7) interferes with droplet 1 at cycle 320 at (10, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (10, 7) interferes with droplet 1 at cycle 321 at (11, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R7 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  3: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (12, 8) (13, 8) (14, 8)  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 15ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 23 (0.23s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (2, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (2, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 318 at (12, 8) interferes with droplet 3 at cycle 319 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (13, 8) interferes with droplet 3 at cycle 319 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (13, 8) interferes with droplet 3 at cycle 320 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (12, 7) interferes with droplet 1 at cycle 318 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (12, 7) interferes with droplet 1 at cycle 319 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 8) interferes with droplet 3 at cycle 321 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (12, 8) interferes with droplet 1 at cycle 319 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (13, 8) interferes with droplet 1 at cycle 320 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R8 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (4, 1) (4, 2) (3, 2) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  3: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (12, 8) (13, 8) (14, 8)  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 11ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 23 (0.23s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (2, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 318 at (12, 8) interferes with droplet 3 at cycle 319 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (13, 8) interferes with droplet 3 at cycle 319 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (13, 8) interferes with droplet 3 at cycle 320 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (12, 7) interferes with droplet 1 at cycle 318 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (12, 7) interferes with droplet 1 at cycle 319 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 8) interferes with droplet 3 at cycle 321 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (12, 8) interferes with droplet 1 at cycle 319 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (13, 8) interferes with droplet 1 at cycle 320 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R9 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R10 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  3: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (12, 8) (13, 8) (14, 8)  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 14ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 27 (0.27s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 322 at (12, 8) interferes with droplet 3 at cycle 323 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (13, 8) interferes with droplet 3 at cycle 323 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (13, 8) interferes with droplet 3 at cycle 324 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (12, 7) interferes with droplet 1 at cycle 322 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (12, 7) interferes with droplet 1 at cycle 323 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 324 at (14, 8) interferes with droplet 3 at cycle 325 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 324 at (12, 8) interferes with droplet 1 at cycle 323 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 325 at (13, 8) interferes with droplet 1 at cycle 324 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R11 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (4, 1) (4, 2) (3, 2) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  3: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (12, 8) (13, 8) (14, 8)  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 12ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 23 (0.23s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (2, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 318 at (12, 8) interferes with droplet 3 at cycle 319 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (12, 7) interferes with droplet 1 at cycle 318 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (12, 7) interferes with droplet 1 at cycle 319 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (13, 8) interferes with droplet 3 at cycle 319 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (13, 8) interferes with droplet 3 at cycle 320 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (12, 8) interferes with droplet 1 at cycle 319 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 8) interferes with droplet 3 at cycle 321 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (13, 8) interferes with droplet 1 at cycle 320 at (14, 8). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R12 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R13 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  3: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (10, 6) (10, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 12ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 29 (0.29s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  \*\*\*FAIL - Droplet 1 at cycle 320 at (10, 8) interferes with droplet 3 at cycle 321 at (10, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (10, 7) interferes with droplet 1 at cycle 320 at (10, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (10, 7) interferes with droplet 1 at cycle 321 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (11, 8) interferes with droplet 3 at cycle 321 at (10, 7). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R14 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  3: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (10, 6) (10, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 14ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 29 (0.29s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  \*\*\*FAIL - Droplet 1 at cycle 320 at (10, 8) interferes with droplet 3 at cycle 321 at (10, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (11, 8) interferes with droplet 3 at cycle 321 at (10, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (10, 7) interferes with droplet 1 at cycle 320 at (10, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (10, 7) interferes with droplet 1 at cycle 321 at (11, 8). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R15 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R16 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  3: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (12, 8) (13, 8) (14, 8)  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 15ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 27 (0.27s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 322 at (12, 8) interferes with droplet 3 at cycle 323 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (13, 8) interferes with droplet 3 at cycle 323 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (13, 8) interferes with droplet 3 at cycle 324 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (12, 7) interferes with droplet 1 at cycle 322 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (12, 7) interferes with droplet 1 at cycle 323 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 324 at (14, 8) interferes with droplet 3 at cycle 325 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 324 at (12, 8) interferes with droplet 1 at cycle 323 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 325 at (13, 8) interferes with droplet 1 at cycle 324 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R17 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  3: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (12, 8) (13, 8) (14, 8)  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 14ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 27 (0.27s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 322 at (12, 8) interferes with droplet 3 at cycle 323 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (12, 7) interferes with droplet 1 at cycle 322 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (12, 7) interferes with droplet 1 at cycle 323 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (13, 8) interferes with droplet 3 at cycle 323 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (13, 8) interferes with droplet 3 at cycle 324 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 324 at (12, 8) interferes with droplet 1 at cycle 323 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 324 at (14, 8) interferes with droplet 3 at cycle 325 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 325 at (13, 8) interferes with droplet 1 at cycle 324 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R18 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |

Assays: Two\_Dilutes, Scheduler: List scheduler, Placer: Kamer placer

|  |  |
| --- | --- |
| Router | Console Output |
| R0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  8 total nodes; 2 non-I/O nodes.  PS TIME: 6  --------------------TIMER----------------------  Elapsed time for "Scheduling Time" = 0ms  -----------------------------------------------  Analyzing schedule for errors...Done.  Random seed for KAMER placer: 1420707494  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  4: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  1:  Routing to TS 4:  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  1:  Routing to TS 5:  1: (3, 14) (3, 13) (3, 12) (3, 11) (3, 10) (3, 9) (3, 8) (4, 8) (5, 8) (6, 8) (7, 8) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  5: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 72 (0.72s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 5 has consecutive routing points with non-consecutive cycle numbers: 567 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 5 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 5 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 5 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 5 has consecutive routing points with non-consecutive cycle numbers: 1 to 568, when moving from (14, 11)-->(14, 10). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 5 at cycle 569 at (14, 9) interferes with droplet 1 at cycle 570 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 570 at (13, 8) interferes with droplet 5 at cycle 569 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 570 at (13, 8) interferes with droplet 5 at cycle 570 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 570 at (14, 8) interferes with droplet 1 at cycle 570 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 570 at (14, 8) interferes with droplet 1 at cycle 571 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 571 at (14, 8) interferes with droplet 5 at cycle 570 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information.  terminate called after throwing an instance of 'std::out\_of\_range'  what(): vector::\_M\_range\_check |
| R1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4) (2, 5) (2, 6) (2, 7) (2, 8) (2, 9) (2, 10) (2, 11) (2, 12) (2, 13) (2, 14) (2, 15) (3, 15)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (4, 7) (4, 8) (4, 9) (4, 10) (4, 11) (4, 12) (4, 13) (4, 13) (3, 13) (3, 14) (3, 15)  goal  Routing to TS 3:  4: (5, 15) (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  1: (3, 15)  goal  Routing to TS 4:  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  1: (3, 15)  goal  Routing to TS 5:  5: (5, 15) (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  1: (3, 15) (4, 15) (5, 15) (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (12, 14) (12, 13) (12, 12) (12, 11) (12, 10) (12, 9) (13, 9) (14, 9) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 4524ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 71 (0.71s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 214 at (2, 14) interferes with droplet 2 at cycle 215 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 215 at (3, 13) interferes with droplet 1 at cycle 214 at (2, 14). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 552 at (5, 15) interferes with droplet 1 at cycle 553 at (4, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 553 at (4, 15) interferes with droplet 5 at cycle 552 at (5, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 553 at (6, 15) interferes with droplet 1 at cycle 554 at (5, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 554 at (5, 15) interferes with droplet 5 at cycle 553 at (6, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 554 at (7, 15) interferes with droplet 1 at cycle 555 at (6, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 555 at (6, 15) interferes with droplet 5 at cycle 554 at (7, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 555 at (8, 15) interferes with droplet 1 at cycle 556 at (7, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 556 at (7, 15) interferes with droplet 5 at cycle 555 at (8, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 556 at (9, 15) interferes with droplet 1 at cycle 557 at (8, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 557 at (8, 15) interferes with droplet 5 at cycle 556 at (9, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 557 at (10, 15) interferes with droplet 1 at cycle 558 at (9, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 558 at (9, 15) interferes with droplet 5 at cycle 557 at (10, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 558 at (11, 15) interferes with droplet 1 at cycle 559 at (10, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 559 at (10, 15) interferes with droplet 5 at cycle 558 at (11, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 559 at (12, 15) interferes with droplet 1 at cycle 560 at (11, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 560 at (11, 15) interferes with droplet 5 at cycle 559 at (12, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 560 at (13, 15) interferes with droplet 1 at cycle 561 at (12, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 561 at (12, 15) interferes with droplet 5 at cycle 560 at (13, 15). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 567 at (14, 9) interferes with droplet 1 at cycle 568 at (13, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 568 at (13, 9) interferes with droplet 5 at cycle 567 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 568 at (13, 9) interferes with droplet 5 at cycle 568 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 568 at (14, 8) interferes with droplet 1 at cycle 568 at (13, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 568 at (14, 8) interferes with droplet 1 at cycle 569 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 569 at (14, 9) interferes with droplet 5 at cycle 568 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4) (2, 5) (2, 6) (2, 7) (2, 8) (2, 9) (2, 10) (2, 11) (2, 12) (2, 13) (2, 14) (2, 15) (3, 15)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (4, 7) (4, 8) (4, 9) (4, 10) (4, 11) (4, 12) (4, 13) (4, 13) (3, 13) (3, 14) (3, 15)  goal  Routing to TS 3:  4: (5, 15) (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  1: (3, 15)  goal  Routing to TS 4:  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  1: (3, 15) |
| R4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 15)  4: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  Routing to TS 4:  1: (3, 15)  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 5:  5: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 26ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 72 (0.72s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 200 at (4, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 200 at (4, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 565 at (12, 8) interferes with droplet 1 at cycle 566 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 566 at (11, 8) interferes with droplet 5 at cycle 565 at (12, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4) (2, 5) (2, 6) (2, 7) (2, 8) (2, 9) (2, 10) (2, 11) (2, 12) (2, 13) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 15)  4: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  Routing to TS 4:  1: (3, 15)  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 5:  5: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 26ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 72 (0.72s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 565 at (12, 8) interferes with droplet 1 at cycle 566 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 566 at (11, 8) interferes with droplet 5 at cycle 565 at (12, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R7 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  4: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15)  Routing to TS 4:  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  1: (3, 15)  Routing to TS 5:  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  5: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 22ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 70 (0.7s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 200 at (4, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 200 at (4, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 565 at (12, 8) interferes with droplet 1 at cycle 566 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 566 at (11, 8) interferes with droplet 5 at cycle 565 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 566 at (13, 8) interferes with droplet 1 at cycle 567 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 567 at (12, 8) interferes with droplet 5 at cycle 566 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 567 at (14, 8) interferes with droplet 1 at cycle 568 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 568 at (13, 8) interferes with droplet 5 at cycle 567 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R8 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4) (2, 5) (2, 6) (2, 7) (2, 8) (2, 9) (2, 10) (2, 11) (2, 12) (2, 13) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  4: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15)  Routing to TS 4:  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  1: (3, 15)  Routing to TS 5:  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  5: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 27ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 70 (0.7s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 565 at (12, 8) interferes with droplet 1 at cycle 566 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 566 at (13, 8) interferes with droplet 1 at cycle 567 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 566 at (11, 8) interferes with droplet 5 at cycle 565 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 567 at (14, 8) interferes with droplet 1 at cycle 568 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 567 at (12, 8) interferes with droplet 5 at cycle 566 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 568 at (13, 8) interferes with droplet 5 at cycle 567 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R9 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R10 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  4: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15)  Routing to TS 4:  1: (3, 15)  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 5:  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  5: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 29ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 70 (0.7s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 200 at (4, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 200 at (4, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 565 at (12, 8) interferes with droplet 1 at cycle 566 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 566 at (13, 8) interferes with droplet 1 at cycle 567 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 566 at (11, 8) interferes with droplet 5 at cycle 565 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 567 at (14, 8) interferes with droplet 1 at cycle 568 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 567 at (12, 8) interferes with droplet 5 at cycle 566 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 568 at (13, 8) interferes with droplet 5 at cycle 567 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R11 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4) (2, 5) (2, 6) (2, 7) (2, 8) (2, 9) (2, 10) (2, 11) (2, 12) (2, 13) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 15)  4: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  Routing to TS 4:  1: (3, 15)  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 5:  5: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 29ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 72 (0.72s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 565 at (12, 8) interferes with droplet 1 at cycle 566 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 566 at (11, 8) interferes with droplet 5 at cycle 565 at (12, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R12 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R13 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 15)  4: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  Routing to TS 4:  1: (3, 15)  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 5:  5: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 24ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 72 (0.72s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 200 at (4, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 200 at (4, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 565 at (12, 8) interferes with droplet 1 at cycle 566 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 566 at (11, 8) interferes with droplet 5 at cycle 565 at (12, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R14 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4) (2, 5) (2, 6) (2, 7) (2, 8) (2, 9) (2, 10) (2, 11) (2, 12) (2, 13) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 15)  4: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  Routing to TS 4:  1: (3, 15)  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 5:  5: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 29ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 72 (0.72s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (2, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (2, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (2, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (2, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (2, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (2, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (2, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (2, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (2, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (2, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (2, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (2, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (2, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (2, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (2, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (2, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (2, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (2, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (2, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (2, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 565 at (12, 8) interferes with droplet 1 at cycle 566 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 566 at (11, 8) interferes with droplet 5 at cycle 565 at (12, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R15 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R16 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 15)  4: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  Routing to TS 4:  1: (3, 15)  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 5:  5: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 30ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 72 (0.72s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 200 at (4, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 200 at (4, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (3, 3) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (3, 4) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (3, 5) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (3, 6) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (3, 7) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (3, 8) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (3, 9) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (3, 10) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (3, 11) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (3, 12) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 565 at (12, 8) interferes with droplet 1 at cycle 566 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 566 at (11, 8) interferes with droplet 5 at cycle 565 at (12, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R17 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (4, 7) (4, 8) (4, 9) (4, 10) (4, 11) (4, 12) (4, 13) (3, 13) (3, 14) (3, 15)  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 15)  4: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  Routing to TS 4:  1: (3, 15)  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 5:  5: (5, 15) (6, 15) (6, 14) (7, 14) (7, 13) (8, 13) (8, 12) (9, 12) (9, 11) (10, 11) (10, 10) (11, 10) (11, 9) (12, 9) (12, 8) (13, 8) (14, 8)  1: (3, 15) (3, 14) (3, 13) (4, 13) (4, 12) (5, 12) (5, 11) (6, 11) (6, 10) (7, 10) (7, 9) (8, 9) (8, 8) (9, 8) (10, 8) (11, 8) (11, 7) (12, 7) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 30ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 72 (0.72s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 2 at cycle 200 at (4, 0) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 200 at (4, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (3, 0) interferes with droplet 2 at cycle 201 at (4, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (4, 1) interferes with droplet 1 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (4, 1) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 201 at (4, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (3, 1) interferes with droplet 2 at cycle 202 at (4, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (4, 2) interferes with droplet 1 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (4, 2) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 202 at (4, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (3, 2) interferes with droplet 2 at cycle 203 at (4, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (4, 3) interferes with droplet 1 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (4, 3) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 203 at (4, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 204 at (3, 3) interferes with droplet 2 at cycle 204 at (4, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (4, 4) interferes with droplet 1 at cycle 204 at (3, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (4, 4) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 204 at (4, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 205 at (3, 4) interferes with droplet 2 at cycle 205 at (4, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (4, 5) interferes with droplet 1 at cycle 205 at (3, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 205 at (4, 5) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 205 at (4, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 206 at (3, 5) interferes with droplet 2 at cycle 206 at (4, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (4, 6) interferes with droplet 1 at cycle 206 at (3, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 206 at (4, 6) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 206 at (4, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 207 at (3, 6) interferes with droplet 2 at cycle 207 at (4, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (4, 7) interferes with droplet 1 at cycle 207 at (3, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 207 at (4, 7) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 207 at (4, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 208 at (3, 7) interferes with droplet 2 at cycle 208 at (4, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (4, 8) interferes with droplet 1 at cycle 208 at (3, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 208 at (4, 8) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 208 at (4, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 209 at (3, 8) interferes with droplet 2 at cycle 209 at (4, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (4, 9) interferes with droplet 1 at cycle 209 at (3, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 209 at (4, 9) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 209 at (4, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 210 at (3, 9) interferes with droplet 2 at cycle 210 at (4, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (4, 10) interferes with droplet 1 at cycle 210 at (3, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 210 at (4, 10) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 210 at (4, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 211 at (3, 10) interferes with droplet 2 at cycle 211 at (4, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (4, 11) interferes with droplet 1 at cycle 211 at (3, 10). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 211 at (4, 11) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 211 at (4, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 212 at (3, 11) interferes with droplet 2 at cycle 212 at (4, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (4, 12) interferes with droplet 1 at cycle 212 at (3, 11). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 212 at (4, 12) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 212 at (4, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 213 at (4, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 213 at (3, 12) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (4, 13) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 213 at (4, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 213 at (4, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 214 at (3, 13) interferes with droplet 2 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 213 at (3, 12). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 214 at (3, 13) interferes with droplet 1 at cycle 214 at (3, 13). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 565 at (12, 8) interferes with droplet 1 at cycle 566 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 566 at (11, 8) interferes with droplet 5 at cycle 565 at (12, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R18 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |

Assays: Two\_Dilutes, Scheduler: List scheduler, Placer: Grissom Path binder

|  |  |
| --- | --- |
| Router | Console Output |
| R0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  4: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (4, 4) (3, 4) (2, 4)  Routing to TS 4:  3: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1:  Routing to TS 5:  5: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (6, 4) (7, 4) (8, 4) (9, 4) (10, 4) (11, 4) (12, 4) (13, 4) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 47 (0.47s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 538 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 539, when moving from (11, 4)-->(12, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 at cycle 540 at (13, 4) interferes with droplet 5 at cycle 541 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 541 at (14, 3) interferes with droplet 1 at cycle 540 at (13, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 541 at (14, 3) interferes with droplet 1 at cycle 541 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 541 at (14, 4) interferes with droplet 5 at cycle 541 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 541 at (14, 4) interferes with droplet 5 at cycle 542 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 542 at (14, 4) interferes with droplet 1 at cycle 541 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 542 at (14, 4) interferes with droplet 1 at cycle 542 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 542 at (14, 5) interferes with droplet 5 at cycle 542 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 542 at (14, 5) interferes with droplet 5 at cycle 543 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 543 at (14, 5) interferes with droplet 1 at cycle 542 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 543 at (14, 5) interferes with droplet 1 at cycle 543 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 543 at (14, 6) interferes with droplet 5 at cycle 543 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 543 at (14, 6) interferes with droplet 5 at cycle 544 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (14, 6) interferes with droplet 1 at cycle 543 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (14, 6) interferes with droplet 1 at cycle 544 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 544 at (14, 7) interferes with droplet 5 at cycle 544 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 544 at (14, 7) interferes with droplet 5 at cycle 545 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 545 at (14, 7) interferes with droplet 1 at cycle 544 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 545 at (14, 7) interferes with droplet 1 at cycle 545 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 545 at (14, 8) interferes with droplet 5 at cycle 545 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 545 at (14, 8) interferes with droplet 5 at cycle 546 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 546 at (14, 8) interferes with droplet 1 at cycle 545 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information.  terminate called after throwing an instance of 'std::out\_of\_range'  what(): vector::\_M\_range\_check |
| R1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (3, 3) (2, 3) (2, 4)  goal  Routing to TS 3:  4: (5, 2) (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (5, 4) (4, 4) (3, 4) (2, 4)  goal  Routing to TS 4:  3: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 4)  goal  Routing to TS 5:  5: (5, 2) (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (5, 4) (6, 4) (7, 4) (8, 4) (9, 4) (10, 4) (11, 4) (12, 4) (13, 4) (13, 5) (13, 6) (13, 7) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1007ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 46 (0.46s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 543 at (14, 8) interferes with droplet 5 at cycle 544 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (14, 7) interferes with droplet 1 at cycle 543 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  goal  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (3, 3) (2, 3) (2, 4) |
| R4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  1: (5, 4) (4, 4) (3, 4) (2, 4)  4: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (13, 7) (13, 8) (14, 8)  Routing to TS 4:  1: (2, 4)  3: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 5:  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  5: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (10, 6) (10, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 29ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 52 (0.52s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  \*\*\*FAIL - Droplet 1 at cycle 543 at (10, 8) interferes with droplet 5 at cycle 544 at (10, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 544 at (11, 8) interferes with droplet 5 at cycle 544 at (10, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (10, 7) interferes with droplet 1 at cycle 543 at (10, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (10, 7) interferes with droplet 1 at cycle 544 at (11, 8). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  1: (5, 4) (4, 4) (3, 4) (2, 4)  4: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (13, 7) (13, 8) (14, 8)  Routing to TS 4:  1: (2, 4)  3: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 5:  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  5: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (10, 6) (10, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 29ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 52 (0.52s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  \*\*\*FAIL - Droplet 1 at cycle 543 at (10, 8) interferes with droplet 5 at cycle 544 at (10, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 544 at (11, 8) interferes with droplet 5 at cycle 544 at (10, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (10, 7) interferes with droplet 1 at cycle 543 at (10, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (10, 7) interferes with droplet 1 at cycle 544 at (11, 8). Please make sure routing and compaction are performed properly.-------------------------  Exiting MF Simulator |
| R6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R7 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  4: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (13, 7) (13, 8) (14, 8)  1: (5, 4) (4, 4) (3, 4) (2, 4)  Routing to TS 4:  3: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 4)  Routing to TS 5:  5: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (12, 8) (13, 8) (14, 8)  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 30ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 46 (0.46s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 200 at (2, 0) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 200 at (2, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 201 at (3, 0) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 201 at (3, 0). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 201 at (2, 1) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 201 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 202 at (3, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 202 at (3, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (2, 1). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (2, 1) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (2, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 541 at (12, 8) interferes with droplet 5 at cycle 542 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 542 at (12, 7) interferes with droplet 1 at cycle 541 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 542 at (12, 7) interferes with droplet 1 at cycle 542 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 542 at (13, 8) interferes with droplet 5 at cycle 542 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 542 at (13, 8) interferes with droplet 5 at cycle 543 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 543 at (12, 8) interferes with droplet 1 at cycle 542 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 543 at (14, 8) interferes with droplet 5 at cycle 544 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (13, 8) interferes with droplet 1 at cycle 543 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R8 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (4, 1) (4, 2) (3, 2) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  4: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (13, 7) (13, 8) (14, 8)  1: (5, 4) (4, 4) (3, 4) (2, 4)  Routing to TS 4:  3: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 4)  Routing to TS 5:  5: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (12, 8) (13, 8) (14, 8)  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 26ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 46 (0.46s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (2, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 541 at (12, 8) interferes with droplet 5 at cycle 542 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 542 at (12, 7) interferes with droplet 1 at cycle 541 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 542 at (12, 7) interferes with droplet 1 at cycle 542 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 542 at (13, 8) interferes with droplet 5 at cycle 542 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 542 at (13, 8) interferes with droplet 5 at cycle 543 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 543 at (12, 8) interferes with droplet 1 at cycle 542 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 543 at (14, 8) interferes with droplet 5 at cycle 544 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (13, 8) interferes with droplet 1 at cycle 543 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R9 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R10 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  4: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (13, 7) (13, 8) (14, 8)  1: (5, 4) (4, 4) (3, 4) (2, 4)  Routing to TS 4:  1: (2, 4)  3: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 5:  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  5: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (10, 6) (10, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 29ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 52 (0.52s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 543 at (10, 8) interferes with droplet 5 at cycle 544 at (10, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (10, 7) interferes with droplet 1 at cycle 543 at (10, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (10, 7) interferes with droplet 1 at cycle 544 at (11, 8). Please make sure routing and compaction are performed properly.  Done.  \*\*\*FAIL - Droplet 1 at cycle 544 at (11, 8) interferes with droplet 5 at cycle 544 at (10, 7). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R11 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (4, 1) (4, 2) (3, 2) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  1: (5, 4) (4, 4) (3, 4) (2, 4)  4: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (13, 7) (13, 8) (14, 8)  Routing to TS 4:  1: (2, 4)  3: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 5:  5: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (12, 8) (13, 8) (14, 8)  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 22ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 46 (0.46s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 202 at (2, 2) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 203 at (3, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 203 at (2, 3) interferes with droplet 2 at cycle 204 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 202 at (2, 2). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 203 at (3, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 2 at cycle 204 at (2, 2) interferes with droplet 1 at cycle 203 at (2, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 541 at (12, 8) interferes with droplet 5 at cycle 542 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 542 at (12, 7) interferes with droplet 1 at cycle 541 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 542 at (12, 7) interferes with droplet 1 at cycle 542 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 542 at (13, 8) interferes with droplet 5 at cycle 542 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 542 at (13, 8) interferes with droplet 5 at cycle 543 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 543 at (12, 8) interferes with droplet 1 at cycle 542 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 543 at (14, 8) interferes with droplet 5 at cycle 544 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (13, 8) interferes with droplet 1 at cycle 543 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R12 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R13 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  1: (5, 4) (4, 4) (3, 4) (2, 4)  4: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (13, 7) (13, 8) (14, 8)  Routing to TS 4:  1: (2, 4)  3: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 5:  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  5: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (10, 6) (10, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 26ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 52 (0.52s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 543 at (10, 8) interferes with droplet 5 at cycle 544 at (10, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (10, 7) interferes with droplet 1 at cycle 543 at (10, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (10, 7) interferes with droplet 1 at cycle 544 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 544 at (11, 8) interferes with droplet 5 at cycle 544 at (10, 7). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R14 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  1: (5, 4) (4, 4) (3, 4) (2, 4)  4: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (13, 7) (13, 8) (14, 8)  Routing to TS 4:  1: (2, 4)  3: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 5:  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  5: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (10, 6) (10, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 46ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 52 (0.52s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  \*\*\*FAIL - Droplet 1 at cycle 543 at (10, 8) interferes with droplet 5 at cycle 544 at (10, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (10, 7) interferes with droplet 1 at cycle 543 at (10, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (10, 7) interferes with droplet 1 at cycle 544 at (11, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 544 at (11, 8) interferes with droplet 5 at cycle 544 at (10, 7). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R15 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |
| R16 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  1: (5, 4) (4, 4) (3, 4) (2, 4)  4: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (13, 7) (13, 8) (14, 8)  Routing to TS 4:  1: (2, 4)  3: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 5:  5: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (12, 8) (13, 8) (14, 8)  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 43ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 50 (0.5s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 545 at (12, 8) interferes with droplet 5 at cycle 546 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 546 at (12, 7) interferes with droplet 1 at cycle 545 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 546 at (12, 7) interferes with droplet 1 at cycle 546 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 546 at (13, 8) interferes with droplet 5 at cycle 546 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 546 at (13, 8) interferes with droplet 5 at cycle 547 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 547 at (12, 8) interferes with droplet 1 at cycle 546 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 547 at (14, 8) interferes with droplet 5 at cycle 548 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 548 at (13, 8) interferes with droplet 1 at cycle 547 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R17 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  2: (4, 0) (4, 1) (4, 2) (4, 3) (4, 4) (4, 5) (4, 6) (3, 6) (2, 6) (2, 5) (2, 4)  Routing to TS 3:  1: (5, 4) (4, 4) (3, 4) (2, 4)  4: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (13, 7) (13, 8) (14, 8)  Routing to TS 4:  1: (2, 4)  3: (4, 0) (3, 0) (3, 1) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 5:  5: (5, 2) (6, 2) (7, 2) (8, 2) (8, 3) (9, 3) (9, 4) (10, 4) (10, 5) (11, 5) (11, 6) (12, 6) (12, 7) (12, 8) (13, 8) (14, 8)  1: (5, 4) (6, 4) (6, 5) (7, 5) (7, 6) (8, 6) (8, 7) (9, 7) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 36ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 50 (0.5s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 at cycle 545 at (12, 8) interferes with droplet 5 at cycle 546 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 546 at (12, 7) interferes with droplet 1 at cycle 545 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 546 at (12, 7) interferes with droplet 1 at cycle 546 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 546 at (13, 8) interferes with droplet 5 at cycle 546 at (12, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 546 at (13, 8) interferes with droplet 5 at cycle 547 at (12, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 547 at (12, 8) interferes with droplet 1 at cycle 546 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 547 at (14, 8) interferes with droplet 5 at cycle 548 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 548 at (13, 8) interferes with droplet 1 at cycle 547 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| R18 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1: |

**Compactor Tests: Console Output**

Assay: Single\_2\_Input\_Mix, Scheduler: List scheduler, Placer: Kamer placer

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| Compactor | Console Output |
| C0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  4 total nodes; 1 non-I/O nodes.  LS Time: 6  --------------------TIMER----------------------  Elapsed time for "Scheduling Time" = 0ms  -----------------------------------------------  Analyzing schedule for errors...Done.  Random seed for KAMER placer: 1420711850  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 12 (0.12s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 12 (0.12s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 12 (0.12s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 12 (0.12s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 12 (0.12s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 12 (0.12s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |

Assay: Single\_2\_Input\_Mix, Scheduler: List scheduler, Placer: Grissom Path binder

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| Compactor | Console Output |
| C0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |

Assay: Single\_2\_Output\_Split, Scheduler: List scheduler, Placer: Kamer placer

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| Compactor | Console Output |
| C0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  4 total nodes; 1 non-I/O nodes.  LS Time: 4  --------------------TIMER----------------------  Elapsed time for "Scheduling Time" = 0ms  -----------------------------------------------  Analyzing schedule for errors...Done.  Random seed for KAMER placer: 1420715990  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  1: (2, 5) (2, 6) (3, 6) (4, 6) (5, 6) (6, 6) (7, 6) (7, 5) (7, 4) (7, 3)  2: (5, 4) (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  1: (2, 5) (2, 6) (3, 6) (4, 6) (5, 6) (6, 6) (7, 6) (7, 5) (7, 4) (7, 3)  2: (5, 4) (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 19 (0.19s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  1: (2, 5) (2, 6) (3, 6) (4, 6) (5, 6) (6, 6) (7, 6) (7, 5) (7, 4) (7, 3)  2: (5, 4) (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  1: (2, 5) (2, 6) (3, 6) (4, 6) (5, 6) (6, 6) (7, 6) (7, 5) (7, 4) (7, 3)  2: (5, 4) (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  1: (2, 5) (2, 6) (3, 6) (4, 6) (5, 6) (6, 6) (7, 6) (7, 5) (7, 4) (7, 3)  2: (5, 4) (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  1: (2, 5) (2, 6) (3, 6) (4, 6) (5, 6) (6, 6) (7, 6) (7, 5) (7, 4) (7, 3)  2: (5, 4) (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  1: (2, 5) (2, 6) (3, 6) (4, 6) (5, 6) (6, 6) (7, 6) (7, 5) (7, 4) (7, 3)  2: (5, 4) (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |

Assay: Single\_2\_Output\_Split, Scheduler: List scheduler, Placer: Grissom Path binder

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| Compactor | Console Output |
| C0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (6, 2) (7, 2) (7, 3)  1: (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (6, 2) (7, 2) (7, 3)  1: (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 11 (0.11s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  \*\*\*FAIL - Droplet 2 at cycle 307 at (7, 3) interferes with droplet 1 at cycle 308 at (6, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 308 at (6, 4) interferes with droplet 2 at cycle 307 at (7, 3). Please make sure routing and compaction are performed properly.-------------------------  Exiting MF Simulator |
| C2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (6, 2) (7, 2) (7, 3)  1: (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (6, 2) (7, 2) (7, 3)  1: (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (6, 2) (7, 2) (7, 3)  1: (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (6, 2) (7, 2) (7, 3)  1: (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 3ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  2: (6, 2) (7, 2) (7, 3)  1: (6, 4) (7, 4) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 13 (0.13s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |

Assay: Single\_3\_Input\_Mix, Scheduler: List scheduler, Placer: Kamer placer

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| Compactor | Console Output |
| C0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  5 total nodes; 1 non-I/O nodes.  LS Time: 6  --------------------TIMER----------------------  Elapsed time for "Scheduling Time" = 0ms  -----------------------------------------------  Analyzing schedule for errors...Done.  Random seed for KAMER placer: 1420717708  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 17 (0.17s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 3) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 14 (0.14s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |

Assay: Single\_3\_Input\_Mix, Scheduler: List scheduler, Placer: Grissom Path binder

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| Compactor | Console Output |
| C0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 1ms  -----------------------------------------------  Number of cycles spent routing: 18 (0.18s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  3: (0, 4) (1, 4) (2, 4)  Routing to TS 3:  Routing to TS 4:  Routing to TS 5:  1: (6, 2) (7, 2) (7, 3)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 15 (0.15s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |

Assay: Single\_Dilute, Scheduler: List scheduler, Placer: Kamer placer

|  |  |
| --- | --- |
| Compactor | Console Output |
| C0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  5 total nodes; 1 non-I/O nodes.  PS TIME: 4  --------------------TIMER----------------------  Elapsed time for "Scheduling Time" = 1ms  -----------------------------------------------  Analyzing schedule for errors...Done.  Random seed for KAMER placer: 1420719312  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 1ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 14) (3, 13) (3, 12) (3, 11) (3, 10) (3, 9) (3, 8) (4, 8) (5, 8) (6, 8) (7, 8) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  3: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 39 (0.39s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 334 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 335, when moving from (14, 11)-->(14, 10). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 at cycle 336 at (14, 9) interferes with droplet 1 at cycle 337 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 337 at (13, 8) interferes with droplet 3 at cycle 336 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 337 at (13, 8) interferes with droplet 3 at cycle 337 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 337 at (14, 8) interferes with droplet 1 at cycle 337 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 337 at (14, 8) interferes with droplet 1 at cycle 338 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 338 at (14, 8) interferes with droplet 3 at cycle 337 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information.  terminate called after throwing an instance of 'std::out\_of\_range'  what(): vector::\_M\_range\_check |
| C1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 14) (3, 13) (3, 12) (3, 11) (3, 10) (3, 9) (3, 8) (4, 8) (5, 8) (6, 8) (7, 8) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  3: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 68 (0.68s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 14) (3, 13) (3, 12) (3, 11) (3, 10) (3, 9) (3, 8) (4, 8) (5, 8) (6, 8) (7, 8) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  3: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 39 (0.39s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 334 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 335, when moving from (14, 11)-->(14, 10). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 at cycle 336 at (14, 9) interferes with droplet 1 at cycle 337 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 337 at (14, 8) interferes with droplet 1 at cycle 337 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 337 at (14, 8) interferes with droplet 1 at cycle 338 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 337 at (13, 8) interferes with droplet 3 at cycle 336 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 337 at (13, 8) interferes with droplet 3 at cycle 337 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 338 at (14, 8) interferes with droplet 3 at cycle 337 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information. |
| C3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 14) (3, 13) (3, 12) (3, 11) (3, 10) (3, 9) (3, 8) (4, 8) (5, 8) (6, 8) (7, 8) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  3: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 39 (0.39s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 334 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 335, when moving from (14, 11)-->(14, 10). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 at cycle 336 at (14, 9) interferes with droplet 1 at cycle 337 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 337 at (13, 8) interferes with droplet 3 at cycle 336 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 337 at (13, 8) interferes with droplet 3 at cycle 337 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 337 at (14, 8) interferes with droplet 1 at cycle 337 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 337 at (14, 8) interferes with droplet 1 at cycle 338 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 338 at (14, 8) interferes with droplet 3 at cycle 337 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information. |
| C4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 14) (3, 13) (3, 12) (3, 11) (3, 10) (3, 9) (3, 8) (4, 8) (5, 8) (6, 8) (7, 8) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  3: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 39 (0.39s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 334 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 335, when moving from (14, 11)-->(14, 10). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 at cycle 336 at (14, 9) interferes with droplet 1 at cycle 337 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 337 at (13, 8) interferes with droplet 3 at cycle 336 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 337 at (13, 8) interferes with droplet 3 at cycle 337 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 337 at (14, 8) interferes with droplet 1 at cycle 337 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 337 at (14, 8) interferes with droplet 1 at cycle 338 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 338 at (14, 8) interferes with droplet 3 at cycle 337 at (14, 8). Please make sure routing and compaction are performed properly.  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information. |
| C5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 14) (3, 13) (3, 12) (3, 11) (3, 10) (3, 9) (3, 8) (4, 8) (5, 8) (6, 8) (7, 8) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  3: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 4ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 39 (0.39s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 334 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 335, when moving from (14, 11)-->(14, 10). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 at cycle 336 at (14, 9) interferes with droplet 1 at cycle 337 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 337 at (14, 8) interferes with droplet 1 at cycle 337 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 337 at (14, 8) interferes with droplet 1 at cycle 338 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 337 at (13, 8) interferes with droplet 3 at cycle 336 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 337 at (13, 8) interferes with droplet 3 at cycle 337 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 338 at (14, 8) interferes with droplet 3 at cycle 337 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information. |
| C6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  1: (3, 14) (3, 13) (3, 12) (3, 11) (3, 10) (3, 9) (3, 8) (4, 8) (5, 8) (6, 8) (7, 8) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  3: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 39 (0.39s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 334 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 has consecutive routing points with non-consecutive cycle numbers: 1 to 335, when moving from (14, 11)-->(14, 10). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 3 at cycle 336 at (14, 9) interferes with droplet 1 at cycle 337 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 337 at (14, 8) interferes with droplet 1 at cycle 337 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 337 at (14, 8) interferes with droplet 1 at cycle 338 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 337 at (13, 8) interferes with droplet 3 at cycle 336 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 337 at (13, 8) interferes with droplet 3 at cycle 337 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 338 at (14, 8) interferes with droplet 3 at cycle 337 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information.  terminate called after throwing an instance of 'std::out\_of\_range'  what(): vector::\_M\_range\_check |

Assay: Single\_Dilute, Scheduler: List scheduler, Placer: Grissom Path binder

|  |  |
| --- | --- |
| Compactor | Console Output |
| C0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  3: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (6, 4) (7, 4) (8, 4) (9, 4) (10, 4) (11, 4) (12, 4) (13, 4) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 25 (0.25s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 316 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 317, when moving from (11, 4)-->(12, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 at cycle 318 at (13, 4) interferes with droplet 3 at cycle 319 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (14, 3) interferes with droplet 1 at cycle 318 at (13, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (14, 3) interferes with droplet 1 at cycle 319 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (14, 4) interferes with droplet 3 at cycle 319 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (14, 4) interferes with droplet 3 at cycle 320 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (14, 4) interferes with droplet 1 at cycle 319 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (14, 4) interferes with droplet 1 at cycle 320 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 5) interferes with droplet 3 at cycle 320 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 5) interferes with droplet 3 at cycle 321 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 5) interferes with droplet 1 at cycle 320 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 5) interferes with droplet 1 at cycle 321 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (14, 6) interferes with droplet 3 at cycle 321 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (14, 6) interferes with droplet 3 at cycle 322 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (14, 6) interferes with droplet 1 at cycle 321 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (14, 6) interferes with droplet 1 at cycle 322 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (14, 7) interferes with droplet 3 at cycle 322 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (14, 7) interferes with droplet 3 at cycle 323 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (14, 7) interferes with droplet 1 at cycle 322 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (14, 7) interferes with droplet 1 at cycle 323 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (14, 8) interferes with droplet 3 at cycle 323 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (14, 8) interferes with droplet 3 at cycle 324 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 324 at (14, 8) interferes with droplet 1 at cycle 323 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information. |
| C1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  3: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (6, 4) (7, 4) (8, 4) (9, 4) (10, 4) (11, 4) (12, 4) (13, 4) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 40 (0.4s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  3: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (6, 4) (7, 4) (8, 4) (9, 4) (10, 4) (11, 4) (12, 4) (13, 4) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 25 (0.25s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 316 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 317, when moving from (11, 4)-->(12, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 at cycle 318 at (13, 4) interferes with droplet 3 at cycle 319 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (14, 3) interferes with droplet 1 at cycle 318 at (13, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (14, 3) interferes with droplet 1 at cycle 319 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (14, 4) interferes with droplet 3 at cycle 319 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (14, 4) interferes with droplet 3 at cycle 320 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (14, 4) interferes with droplet 1 at cycle 319 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (14, 4) interferes with droplet 1 at cycle 320 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 5) interferes with droplet 3 at cycle 320 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 5) interferes with droplet 3 at cycle 321 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 5) interferes with droplet 1 at cycle 320 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 5) interferes with droplet 1 at cycle 321 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (14, 6) interferes with droplet 3 at cycle 321 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (14, 6) interferes with droplet 3 at cycle 322 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (14, 6) interferes with droplet 1 at cycle 321 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (14, 6) interferes with droplet 1 at cycle 322 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (14, 7) interferes with droplet 3 at cycle 322 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (14, 7) interferes with droplet 3 at cycle 323 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (14, 7) interferes with droplet 1 at cycle 322 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (14, 7) interferes with droplet 1 at cycle 323 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (14, 8) interferes with droplet 3 at cycle 323 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (14, 8) interferes with droplet 3 at cycle 324 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 324 at (14, 8) interferes with droplet 1 at cycle 323 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information. |
| C3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  3: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (6, 4) (7, 4) (8, 4) (9, 4) (10, 4) (11, 4) (12, 4) (13, 4) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 25 (0.25s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 316 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 317, when moving from (11, 4)-->(12, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 at cycle 318 at (13, 4) interferes with droplet 3 at cycle 319 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (14, 3) interferes with droplet 1 at cycle 318 at (13, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (14, 3) interferes with droplet 1 at cycle 319 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (14, 4) interferes with droplet 3 at cycle 319 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (14, 4) interferes with droplet 3 at cycle 320 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (14, 4) interferes with droplet 1 at cycle 319 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (14, 4) interferes with droplet 1 at cycle 320 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 5) interferes with droplet 3 at cycle 320 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 5) interferes with droplet 3 at cycle 321 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 5) interferes with droplet 1 at cycle 320 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 5) interferes with droplet 1 at cycle 321 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (14, 6) interferes with droplet 3 at cycle 321 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (14, 6) interferes with droplet 3 at cycle 322 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (14, 6) interferes with droplet 1 at cycle 321 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (14, 6) interferes with droplet 1 at cycle 322 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (14, 7) interferes with droplet 3 at cycle 322 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (14, 7) interferes with droplet 3 at cycle 323 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (14, 7) interferes with droplet 1 at cycle 322 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (14, 7) interferes with droplet 1 at cycle 323 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (14, 8) interferes with droplet 3 at cycle 323 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (14, 8) interferes with droplet 3 at cycle 324 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 324 at (14, 8) interferes with droplet 1 at cycle 323 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information.  terminate called after throwing an instance of 'std::out\_of\_range'  what(): vector::\_M\_range\_check |
| C4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  3: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (6, 4) (7, 4) (8, 4) (9, 4) (10, 4) (11, 4) (12, 4) (13, 4) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 0ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 25 (0.25s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 316 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 317, when moving from (11, 4)-->(12, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 at cycle 318 at (13, 4) interferes with droplet 3 at cycle 319 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (14, 3) interferes with droplet 1 at cycle 318 at (13, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (14, 3) interferes with droplet 1 at cycle 319 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (14, 4) interferes with droplet 3 at cycle 319 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (14, 4) interferes with droplet 3 at cycle 320 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (14, 4) interferes with droplet 1 at cycle 319 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (14, 4) interferes with droplet 1 at cycle 320 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 5) interferes with droplet 3 at cycle 320 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 5) interferes with droplet 3 at cycle 321 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 5) interferes with droplet 1 at cycle 320 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 5) interferes with droplet 1 at cycle 321 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (14, 6) interferes with droplet 3 at cycle 321 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (14, 6) interferes with droplet 3 at cycle 322 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (14, 6) interferes with droplet 1 at cycle 321 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (14, 6) interferes with droplet 1 at cycle 322 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (14, 7) interferes with droplet 3 at cycle 322 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (14, 7) interferes with droplet 3 at cycle 323 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (14, 7) interferes with droplet 1 at cycle 322 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (14, 7) interferes with droplet 1 at cycle 323 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (14, 8) interferes with droplet 3 at cycle 323 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (14, 8) interferes with droplet 3 at cycle 324 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 324 at (14, 8) interferes with droplet 1 at cycle 323 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information. |
| C5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  3: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (6, 4) (7, 4) (8, 4) (9, 4) (10, 4) (11, 4) (12, 4) (13, 4) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 25 (0.25s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  Done.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 316 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 317, when moving from (11, 4)-->(12, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 at cycle 318 at (13, 4) interferes with droplet 3 at cycle 319 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (14, 3) interferes with droplet 1 at cycle 318 at (13, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (14, 3) interferes with droplet 1 at cycle 319 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (14, 4) interferes with droplet 3 at cycle 319 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (14, 4) interferes with droplet 3 at cycle 320 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (14, 4) interferes with droplet 1 at cycle 319 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (14, 4) interferes with droplet 1 at cycle 320 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 5) interferes with droplet 3 at cycle 320 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 5) interferes with droplet 3 at cycle 321 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 5) interferes with droplet 1 at cycle 320 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 5) interferes with droplet 1 at cycle 321 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (14, 6) interferes with droplet 3 at cycle 321 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (14, 6) interferes with droplet 3 at cycle 322 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (14, 6) interferes with droplet 1 at cycle 321 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (14, 6) interferes with droplet 1 at cycle 322 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (14, 7) interferes with droplet 3 at cycle 322 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (14, 7) interferes with droplet 3 at cycle 323 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (14, 7) interferes with droplet 1 at cycle 322 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (14, 7) interferes with droplet 1 at cycle 323 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (14, 8) interferes with droplet 3 at cycle 323 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (14, 8) interferes with droplet 3 at cycle 324 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 324 at (14, 8) interferes with droplet 1 at cycle 323 at (14, 8). Please make sure routing and compaction are performed properly.--------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information.  terminate called after throwing an instance of 'std::out\_of\_range'  what(): vector::\_M\_range\_check |
| C6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  3: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (6, 4) (7, 4) (8, 4) (9, 4) (10, 4) (11, 4) (12, 4) (13, 4) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 25 (0.25s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 316 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 317, when moving from (11, 4)-->(12, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 at cycle 318 at (13, 4) interferes with droplet 3 at cycle 319 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (14, 3) interferes with droplet 1 at cycle 318 at (13, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 319 at (14, 3) interferes with droplet 1 at cycle 319 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (14, 4) interferes with droplet 3 at cycle 319 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 319 at (14, 4) interferes with droplet 3 at cycle 320 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (14, 4) interferes with droplet 1 at cycle 319 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 320 at (14, 4) interferes with droplet 1 at cycle 320 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 5) interferes with droplet 3 at cycle 320 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 320 at (14, 5) interferes with droplet 3 at cycle 321 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 5) interferes with droplet 1 at cycle 320 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 321 at (14, 5) interferes with droplet 1 at cycle 321 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (14, 6) interferes with droplet 3 at cycle 321 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 321 at (14, 6) interferes with droplet 3 at cycle 322 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (14, 6) interferes with droplet 1 at cycle 321 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 322 at (14, 6) interferes with droplet 1 at cycle 322 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (14, 7) interferes with droplet 3 at cycle 322 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 322 at (14, 7) interferes with droplet 3 at cycle 323 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (14, 7) interferes with droplet 1 at cycle 322 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 323 at (14, 7) interferes with droplet 1 at cycle 323 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (14, 8) interferes with droplet 3 at cycle 323 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 323 at (14, 8) interferes with droplet 3 at cycle 324 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 3 at cycle 324 at (14, 8) interferes with droplet 1 at cycle 323 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information. |

Assay: Two\_Dilutes, Scheduler: List scheduler, Placer: Kamer placer

|  |  |
| --- | --- |
| Compactor | Console Output |
| C0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  8 total nodes; 2 non-I/O nodes.  PS TIME: 6  --------------------TIMER----------------------  Elapsed time for "Scheduling Time" = 0ms  -----------------------------------------------  Analyzing schedule for errors...Done.  Random seed for KAMER placer: 1420721357  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  4: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  1:  Routing to TS 4:  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  1:  Routing to TS 5:  1: (3, 14) (3, 13) (3, 12) (3, 11) (3, 10) (3, 9) (3, 8) (4, 8) (5, 8) (6, 8) (7, 8) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  5: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 72 (0.72s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 5 has consecutive routing points with non-consecutive cycle numbers: 567 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 5 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 5 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 5 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (14, 11)-->(14, 11). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 5 has consecutive routing points with non-consecutive cycle numbers: 1 to 568, when moving from (14, 11)-->(14, 10). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 5 at cycle 569 at (14, 9) interferes with droplet 1 at cycle 570 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 570 at (13, 8) interferes with droplet 5 at cycle 569 at (14, 9). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 570 at (13, 8) interferes with droplet 5 at cycle 570 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 570 at (14, 8) interferes with droplet 1 at cycle 570 at (13, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 570 at (14, 8) interferes with droplet 1 at cycle 571 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 571 at (14, 8) interferes with droplet 5 at cycle 570 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information. |
| C1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  4: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  1:  Routing to TS 4:  3: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  1:  Routing to TS 5:  1: (3, 14) (3, 13) (3, 12) (3, 11) (3, 10) (3, 9) (3, 8) (4, 8) (5, 8) (6, 8) (7, 8) (8, 8) (9, 8) (10, 8) (11, 8) (12, 8) (13, 8) (14, 8)  5: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 101 (1.01s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  4: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  1: |
| C3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  4: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  1: |
| C4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  4: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  1: |
| C5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  4: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  1: |
| C6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  1: (2, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  2: (4, 0) (3, 0) (3, 1) (3, 2) (3, 3) (3, 4) (3, 5) (3, 6) (3, 7) (3, 8) (3, 9) (3, 10) (3, 11) (3, 12) (3, 13) (3, 14) (3, 15)  Routing to TS 3:  4: (6, 15) (7, 15) (8, 15) (9, 15) (10, 15) (11, 15) (12, 15) (13, 15) (14, 15) (14, 14) (14, 13) (14, 12) (14, 11) (14, 10) (14, 9) (14, 8)  1: |

Assay: Two\_Dilutes, Scheduler: List scheduler, Placer: Grissom Path binder

|  |  |
| --- | --- |
| Compactor | Console Output |
| C0 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Placement Time" = 0ms  -----------------------------------------------  Analyzing placement for errors...Done.  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  4: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (4, 4) (3, 4) (2, 4)  Routing to TS 4:  3: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1:  Routing to TS 5:  5: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (6, 4) (7, 4) (8, 4) (9, 4) (10, 4) (11, 4) (12, 4) (13, 4) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 1ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 47 (0.47s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 538 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 1, when moving from (11, 4)-->(11, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 has consecutive routing points with non-consecutive cycle numbers: 1 to 539, when moving from (11, 4)-->(12, 4). Please ensure that consecutive routing points increment by one cycle.  \*\*\*FAIL - Droplet 1 at cycle 540 at (13, 4) interferes with droplet 5 at cycle 541 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 541 at (14, 4) interferes with droplet 5 at cycle 541 at (14, 3). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 541 at (14, 4) interferes with droplet 5 at cycle 542 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 541 at (14, 3) interferes with droplet 1 at cycle 540 at (13, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 541 at (14, 3) interferes with droplet 1 at cycle 541 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 542 at (14, 5) interferes with droplet 5 at cycle 542 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 542 at (14, 5) interferes with droplet 5 at cycle 543 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 542 at (14, 4) interferes with droplet 1 at cycle 541 at (14, 4). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 542 at (14, 4) interferes with droplet 1 at cycle 542 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 543 at (14, 6) interferes with droplet 5 at cycle 543 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 543 at (14, 6) interferes with droplet 5 at cycle 544 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 543 at (14, 5) interferes with droplet 1 at cycle 542 at (14, 5). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 543 at (14, 5) interferes with droplet 1 at cycle 543 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 544 at (14, 7) interferes with droplet 5 at cycle 544 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 544 at (14, 7) interferes with droplet 5 at cycle 545 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (14, 6) interferes with droplet 1 at cycle 543 at (14, 6). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 544 at (14, 6) interferes with droplet 1 at cycle 544 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 545 at (14, 8) interferes with droplet 5 at cycle 545 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 1 at cycle 545 at (14, 8) interferes with droplet 5 at cycle 546 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 545 at (14, 7) interferes with droplet 1 at cycle 544 at (14, 7). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 545 at (14, 7) interferes with droplet 1 at cycle 545 at (14, 8). Please make sure routing and compaction are performed properly.  \*\*\*FAIL - Droplet 5 at cycle 546 at (14, 8) interferes with droplet 1 at cycle 545 at (14, 8). Please make sure routing and compaction are performed properly.  Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  This application has requested the Runtime to terminate it in an unusual way.  Please contact the application's support team for more information. |
| C1 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  4: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (4, 4) (3, 4) (2, 4)  Routing to TS 4:  3: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1:  Routing to TS 5:  5: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (6, 4) (7, 4) (8, 4) (9, 4) (10, 4) (11, 4) (12, 4) (13, 4) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  --------------------TIMER----------------------  Elapsed time for "Routing Time" = 2ms  -----------------------------------------------  --------------------TIMER----------------------  Elapsed time for "Pin-Compute From Droplet-Motion Time" = 0ms  -----------------------------------------------  Number of cycles spent routing: 65 (0.65s @100Hz)  Analyzing droplet I/O and concentrations for errors...Done.  Analyzing routes for errors...Done.  --------------------TIMER----------------------  Elapsed time for "Pin-Mapping (Post Route) Time" = 0ms  -----------------------------------------------  -------------------------  Exiting MF Simulator |
| C2 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  4: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (4, 4) (3, 4) (2, 4)  Routing to TS 4:  3: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: |
| C3 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  4: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (4, 4) (3, 4) (2, 4)  Routing to TS 4:  3: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: |
| C4 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  4: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (4, 4) (3, 4) (2, 4)  Routing to TS 4:  3: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: |
| C5 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  4: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (4, 4) (3, 4) (2, 4)  Routing to TS 4:  3: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: |
| C6 | Executing Hard-coded Sandbox MF Simulation  -----------------------------------------------  Routing to TS 0:  Routing to TS 1:  Routing to TS 2:  2: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  Routing to TS 3:  4: (6, 2) (7, 2) (8, 2) (9, 2) (10, 2) (11, 2) (12, 2) (13, 2) (14, 2) (14, 3) (14, 4) (14, 5) (14, 6) (14, 7) (14, 8)  1: (4, 4) (3, 4) (2, 4)  Routing to TS 4:  3: (4, 0) (3, 0) (2, 0) (2, 1) (2, 2) (2, 3) (2, 4)  1: |