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ROLL NO: 19BCE120
SUBJECT: CLOUD COMPUTING
PRACTICAL: 8

Aim: Use WorkflowSim to test Scheduling and Fault Tolerance algorithms.

1.Scheduling algorithms:

1) Data Aware Scheduling:

```
Initialising...
Starting CloudSim version 3.0
Datacenter_0 is starting...
Starting WorkflowSim 1.1.0
planner_0 is starting...
planner_0_Merger_ is starting...
planner_0_Merger__Engine_0 is starting...
planner_0_Merger__Engine_0_Scheduler_0 is starting...
Entities started.
0.0: planner_0_Merger__Engine_0_Scheduler_0: Cloud Resource List received with 1 resource(s)
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #0 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #1 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #2 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #3 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #4 in Datacenter_0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #0 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #1 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #2 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #3 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #4 has been created in Datacenter #2, Host #0
75.62773110242748: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #0
75.62773110242748: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #1
75.62773110242748: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #2
75.62773110242748: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #3
75.62773110242748: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #4
planner_0_Merger__Engine_0_Scheduler_0 is shutting down...
Simulation: No more future events
CloudInformationService: Notify all CloudSim entities for shutting down.
Datacenter_0 is shutting down...

planner_0_Merger__Engine_0_Scheduler_0 is shutting down...
Simulation completed.
Simulation completed.

========== OUTPUT ==========
```

Job ID	Task ID	STATUS	Data center ID	VM ID	Time	Start Time	Finish Time	Depth
25		Stage-in SUCCESS	2	0	0.12	0.1	0.22	0
0	1,	SUCCESS	2	0	14.08	0.22	14.3	1
4	5,	SUCCESS	2	4	14.17	0.22	14.39	1
1	2,	SUCCESS	2	1	16.26	0.22	16.47	1
3	4,	SUCCESS	2	3	16.62	0.22	16.84	1
2	3,	SUCCESS	2	2	20.73	0.22	20.94	1
12	13,	SUCCESS	2	4	10.93	16.47	27.4	2
6	7,	SUCCESS	2	0	11.14	16.47	27.62	2
5	6,	SUCCESS	2	1	12.45	16.47	28.93	2
7	8,	SUCCESS	2	3	13.3	16.84	30.14	2
11	12,	SUCCESS	2	2	16.33	20.94	37.27	2
13	14,	SUCCESS	2	4	10.67	27.4	38.07	2
8	9,	SUCCESS	2	0	11.38	27.62	39	2
9	10,	SUCCESS	2	1	12.34	28.93	41.27	2
10	11,	SUCCESS	2	3	12.85	30.14	42.99	2
14	15,	SUCCESS	2	0	0.76	42.99	43.74	3
15	16,	SUCCESS	2	0	1.49	43.74	45.24	4
16	17,	SUCCESS	2	0	10.92	45.24	56.16	5
20	21,	SUCCESS	2	4	11.06	45.24	56.3	5
17	18,	SUCCESS	2	1	12.5	45.24	57.74	5
19	20,	SUCCESS	2	3	13.35	45.24	58.59	5
18	19,	SUCCESS	2	2	16.8	45.24	62.04	5
21	22,	SUCCESS	2	2	2.21	62.04	64.24	6
22	23,	SUCCESS	2	2	4.7	64.24	68.94	7
23	24,	SUCCESS	2	2	5.99	68.94	74.93	8
24	25,	SUCCESS	2	2	0.7	74.93	75.63	9

2. first come first serve(fCFS):

```
Initialising...
Starting CloudSim version 3.0
Datacenter_0 is starting...
Starting WorkflowSim 1.1.0
planner_0 is starting...
planner_0_Merger_ is starting...
planner_0_Merger__Engine_0 is starting...
planner_0_Merger__Engine_0_Scheduler_0 is starting...
Entities started.
0.0: planner_0_Merger__Engine_0_Scheduler_0: Cloud Resource List received with 1 resource(s)
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #0 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #1 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #2 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #3 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #4 in Datacenter_0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #0 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #1 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #2 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #3 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #4 has been created in Datacenter #2, Host #0
173.94909899028895: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #0
173.94909899028895: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #1
173.94909899028895: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #2
173.94909899028895: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #3
173.94909899028895: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #4
planner_0_Merger__Engine_0_Scheduler_0 is shutting down...
Simulation: No more future events
CloudInformationService: Notify all CloudSim entities for shutting down.
Datacenter_0 is shutting down...
planner_0 is shutting down...
planner_0_Merger_ is shutting down...
planner_0_Merger__Engine_0 is shutting down...
planner_0_Merger__Engine_0_Scheduler_0 is shutting down...

planner_0_Merger__Engine_0_Scheduler_0 is shutting down...
Simulation completed.
Simulation completed.
```

Job ID	Task ID	STATUS	Data center ID	VM ID	Time	Start Time	Finish Time	Depth
25		Stage-in SUCCESS	2	0	0.41	0.1	0.51	0
3	4,	SUCCESS	2	3	14.14	0.51	14.66	1
1	2,	SUCCESS	2	1	19.18	0.51	19.7	1
4	5,	SUCCESS	2	4	19.94	0.51	20.45	1
11	12,	SUCCESS	2	3	10.94	19.7	30.64	2
7	8,	SUCCESS	2	1	15.1	19.7	34.8	2
12	13,	SUCCESS	2	4	15.37	20.45	35.82	2
13	14,	SUCCESS	2	3	10.79	30.64	41.43	2
0	1,	SUCCESS	2	0	50.43	0.51	50.94	1
2	3,	SUCCESS	2	2	50.53	0.51	51.05	1
9	10,	SUCCESS	2	3	10.94	51.05	61.98	2
6	7,	SUCCESS	2	1	14.71	50.94	65.66	2
10	11,	SUCCESS	2	4	15.21	51.05	66.26	2
5	6,	SUCCESS	2	0	39.9	50.94	90.85	2
8	9,	SUCCESS	2	2	40.9	51.05	91.95	2
14	15,	SUCCESS	2	0	2.71	91.95	94.66	3
15	16,	SUCCESS	2	0	5.35	94.66	100.01	4
19	20,	SUCCESS	2	3	11.36	100.01	111.37	5
17	18,	SUCCESS	2	1	14.75	100.01	114.76	5
20	21,	SUCCESS	2	4	15.56	100.01	115.57	5
16	17,	SUCCESS	2	0	39.12	100.01	139.13	5
18	19,	SUCCESS	2	2	40.95	100.01	140.96	5
21	22,	SUCCESS	2	0	5.36	140.96	146.31	6
22	23,	SUCCESS	2	0	11.41	146.31	157.72	7
23	24,	SUCCESS	2	0	14.53	157.72	172.25	8
24	25,	SUCCESS	2	0	1.69	172.25	173.95	9

3. Round Robin:

```
Initialising...
Starting CloudSim version 3.0
Datacenter_0 is starting...
Starting WorkflowSim 1.1.0
planner_0 is starting...
planner_0_Merger_ is starting...
planner_0_Merger__Engine_0 is starting...
planner_0_Merger__Engine_0_Scheduler_0 is starting...
Entities started.
0.0: planner_0_Merger__Engine_0_Scheduler_0: Cloud Resource List received with 1 resource(s)
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #0 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #1 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #2 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #3 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #4 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #5 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #6 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #7 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #8 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #9 in Datacenter_0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #0 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #1 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #2 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #3 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #4 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #5 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #6 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #7 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #8 has been created in Datacenter #2, Host #0

1220.2943775492286: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #0
1220.2943775492286: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #1
1220.2943775492286: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #2
1220.2943775492286: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #3
1220.2943775492286: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #4
1220.2943775492286: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #5
1220.2943775492286: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #6
1220.2943775492286: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #7
1220.2943775492286: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #8
1220.2943775492286: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #9
planner_0_Merger__Engine_0_Scheduler_0 is shutting down...
Simulation: No more future events
CloudInformationService: Notify all CloudSim entities for shutting down.
Datacenter_0 is shutting down...
planner_0 is shutting down...
planner_0_Merger_ is shutting down...
planner_0_Merger__Engine_0 is shutting down...
planner_0_Merger__Engine_0_Scheduler_0 is shutting down...
Simulation completed.
Simulation completed.
```

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========== OUTPUT ==========
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Job ID	Task ID	STATUS	Data center ID	VM ID	Time	Start Time	Finish Time	Depth
25	Stage-in	SUCCESS	2	0	0.58	0.1	0.68	0
2	3,	SUCCESS	2	2	14.01	0.68	14.68	1
4	5,	SUCCESS	2	4	16.64	0.68	17.32	1
10	11,	SUCCESS	2	2	11.01	14.68	25.7	2
0	1,	SUCCESS	2	0	70.47	0.68	71.15	1
8	9,	SUCCESS	2	0	56.92	71.15	128.07	2
3	4,	SUCCESS	2	3	142.81	0.68	143.49	1
13	14,	SUCCESS	2	0	54.7	143.49	198.18	2
1	2,	SUCCESS	2	1	458.33	0.68	459.01	1
7	8,	SUCCESS	2	2	11.49	459.01	470.5	2
11	12,	SUCCESS	2	4	12.71	459.01	471.72	2
12	13,	SUCCESS	2	5	15.04	459.01	474.05	2
5	6,	SUCCESS	2	0	55.99	459.01	515.01	2
9	10,	SUCCESS	2	3	110.29	459.01	569.3	2
6	7,	SUCCESS	2	1	351.14	459.01	810.15	2
14	15,	SUCCESS	2	0	3.78	810.15	813.93	3
15	16,	SUCCESS	2	0	7.47	813.93	821.4	4
18	19,	SUCCESS	2	2	11.35	821.4	832.75	5
20	21,	SUCCESS	2	4	12.99	821.4	834.4	5
16	17,	SUCCESS	2	0	54.67	821.4	876.08	5
19	20,	SUCCESS	2	3	114.74	821.4	936.15	5
17	18,	SUCCESS	2	1	352.5	821.4	1173.91	5
21	22,	SUCCESS	2	0	7.76	1173.91	1181.67	6
22	23,	SUCCESS	2	0	15.94	1181.67	1197.62	7
23	24,	SUCCESS	2	0	20.31	1197.62	1217.93	8
24	25,	SUCCESS	2	0	2.37	1217.93	1220.29	9

2.Fault Tolerant Clustering

1) Dynamic Clustering:

```
1) Dynamic Clustering
Initialising...
Starting CloudSim version 3.0
Datacenter_0 is starting...
Starting WorkflowSim 1.1.0
planner_0 is starting...
planner_0_Merger_ is starting...
planner_0_Merger__Engine_0 is starting...
planner_0_Merger__Engine_0_Scheduler_0 is starting...
Entities started.
0.0: planner_0_Merger__Engine_0_Scheduler_0: Cloud Resource List received with 1 resource(s)
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #0 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #1 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #2 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #3 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #4 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #5 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #6 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #7 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #8 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #9 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #10 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #11 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #12 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #13 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #14 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #15 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #16 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #17 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #18 in Datacenter_0
0.0: planner_0_Merger__Engine_0_Scheduler_0: Trying to Create VM #19 in Datacenter_0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #0 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #1 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #2 has been created in Datacenter #2, Host #0

57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #0
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #1
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #2
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #3
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #4
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #5
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #6
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #7
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #8
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #9
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #10
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #11
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #12
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #13
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #14
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #15
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #16
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #17
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #18
57.79899999999999: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #19
planner_0_Merger__Engine_0_Scheduler_0 is shutting down...
Simulation: No more future events
CloudInformationService: Notify all CloudSim entities for shutting down.
Datacenter_0 is shutting down...
planner_0 is shutting down...
planner_0_Merger_ is shutting down...
planner_0_Merger__Engine_0 is shutting down...
planner_0_Merger__Engine_0_Scheduler_0 is shutting down...
Simulation completed.
Simulation completed.
```

```
========== OUTPUT ==========
Job ID    Task ID    STATUS    Data center ID    VM ID    Time    Start Time    Finish Time    Depth
   25        Stage-in   SUCCESS        2             0            0.11       0.1            0.21            0
    2         3,      SUCCESS        2             0       13.64      0.21           13.85           1
    0         1,      SUCCESS        2             1       13.67      0.21           13.88           1
    3         4,      SUCCESS        2             2       13.88      0.21           14.09           1
    4         5,      SUCCESS        2             3       14.06      0.21           14.27           1
    1         2,      SUCCESS        2             4       14.11      0.21           14.32           1
   10        11,      SUCCESS        2             0       11.06      13.85          24.91           2
   13        14,      SUCCESS        2             2       11.48      14.27          25.75           2
    8         9,      SUCCESS        2             1       11.92      13.88          25.8            2
    9        10,      SUCCESS        2             3       11.6       14.32          25.92           2
   11        12,      SUCCESS        2             4       11.62      14.32          25.94           2
    5         6,      SUCCESS        2             5       11.7       14.32          26.02           2
    6         7,      SUCCESS        2             6       11.7       14.32          26.02           2
   12        13,      SUCCESS        2             7       11.73      14.32          26.05           2
    7         8,      SUCCESS        2             8       11.99      14.32          26.31           2
   14        15,      SUCCESS        2             0        0.75      26.31          27.06           3
   15        16,      SUCCESS        2             0        1.42      27.06          28.48           4
   16        17,      SUCCESS        2             0       10.95      28.48          39.42           5
   17        18,      SUCCESS        2             1       11.2       28.48          39.68           5
   20        21,      SUCCESS        2             2       11.31      28.48          39.79           5
   18        19,      SUCCESS        2             3       11.38      28.48          39.86           5
   19        20,      SUCCESS        2             4       11.49      28.48          39.97           5
   21        22,      SUCCESS        2             0        4.17      39.97          44.13           6
   22        23,      SUCCESS        2             0        3.03      44.13          47.16           7
   23        24,      SUCCESS        2             0       10.06      47.16          57.22           8
   24        25,      SUCCESS        2             0        0.57      57.22          57.8            9
```

2. Selective Reclustering:

```
Initialising...
Starting CloudSim version 3.0
Datacenter_0 is starting...
Starting WorkflowSim 1.1.0
planner_0 is starting...
planner_0_Merger_ is starting...
planner_0_Merger_Engine_0 is starting...
planner_0_Merger_Engine_0_Scheduler_0 is starting...
Entities started.
0.0: planner_0_Merger_Engine_0_Scheduler_0: Cloud Resource List received with 1 resource(s)
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #0 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #1 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #2 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #3 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #4 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #5 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #6 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #7 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #8 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #9 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #10 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #11 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #12 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #13 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #14 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #15 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #16 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #17 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #18 in Datacenter_0
0.0: planner_0_Merger_Engine_0_Scheduler_0: Trying to Create VM #19 in Datacenter_0
0.1: planner_0_Merger_Engine_0_Scheduler_0: VM #0 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger_Engine_0_Scheduler_0: VM #1 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger_Engine_0_Scheduler_0: VM #2 has been created in Datacenter #2, Host #0
```

```
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #2 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #3 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #4 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #5 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #6 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #7 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #8 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #9 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #10 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #11 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #12 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #13 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #14 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #15 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #16 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #17 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #18 has been created in Datacenter #2, Host #0
0.1: planner_0_Merger__Engine_0_Scheduler_0: VM #19 has been created in Datacenter #2, Host #0


71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #0
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #1
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #2
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #3
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #4
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #5
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #6
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #7
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #8
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #9
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #10
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #11
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #12
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #13
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #14
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #15
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #16
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #17
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #18
71.629: planner_0_Merger__Engine_0_Scheduler_0: Destroying VM #19
planner_0_Merger__Engine_0_Scheduler_0 is shutting down...
Simulation: No more future events
CloudInformationService: Notify all CloudSim entities for shutting down.
Datacenter_0 is shutting down...
planner_0 is shutting down...
planner_0_Merger_ is shutting down...
planner_0_Merger__Engine_0 is shutting down...
planner_0_Merger__Engine_0_Scheduler_0 is shutting down...
Simulation completed.
Simulation completed.
========== OUTPUT ==========
```

Job ID	Task ID	STATUS	Data center ID	VM ID	Time	Start Time	Finish Time	Depth
25		Stage-in SUCCESS	2	0	0.11	0.1	0.21	0
2	3,	FAILED	2	0	13.64	0.21	13.85	1
0	1,	FAILED	2	1	13.67	0.21	13.88	1
3	4,	FAILED	2	2	13.88	0.21	14.09	1
4	5,	FAILED	2	3	14.06	0.21	14.27	1
1	2,	FAILED	2	4	14.11	0.21	14.32	1
26	3,	SUCCESS	2	0	13.36	13.85	27.21	1
27	1,	SUCCESS	2	1	13.39	13.88	27.27	1
28	4,	SUCCESS	2	2	13.6	14.09	27.69	1
29	5,	SUCCESS	2	3	13.78	14.27	28.05	1
30	2,	SUCCESS	2	4	13.83	14.32	28.15	1
10	11,	SUCCESS	2	0	11.06	27.21	38.27	2
8	9,	SUCCESS	2	1	11.92	27.27	39.19	2
13	14,	SUCCESS	2	2	11.48	28.05	39.53	2
9	10,	SUCCESS	2	3	11.6	28.15	39.75	2
11	12,	SUCCESS	2	4	11.62	28.15	39.77	2
5	6,	SUCCESS	2	5	11.7	28.15	39.85	2
6	7,	SUCCESS	2	6	11.7	28.15	39.85	2
12	13,	SUCCESS	2	7	11.73	28.15	39.88	2
7	8,	SUCCESS	2	8	11.99	28.15	40.14	2
14	15,	SUCCESS	2	0	0.75	40.14	40.89	3
15	16,	SUCCESS	2	0	1.42	40.89	42.31	4
16	17,	SUCCESS	2	0	10.95	42.31	53.26	5
17	18,	SUCCESS	2	1	11.2	42.31	53.51	5
20	21,	SUCCESS	2	2	11.31	42.31	53.62	5
18	19,	SUCCESS	2	3	11.38	42.31	53.69	5
19	20,	SUCCESS	2	4	11.49	42.31	53.8	5
21	22,	SUCCESS	2	0	4.17	53.8	57.96	6
22	23,	SUCCESS	2	0	3.03	57.96	60.99	7
23	24,	SUCCESS	2	0	10.06	60.99	71.06	8
24	25,	SUCCESS	2	0	0.57	71.06	71.63	9