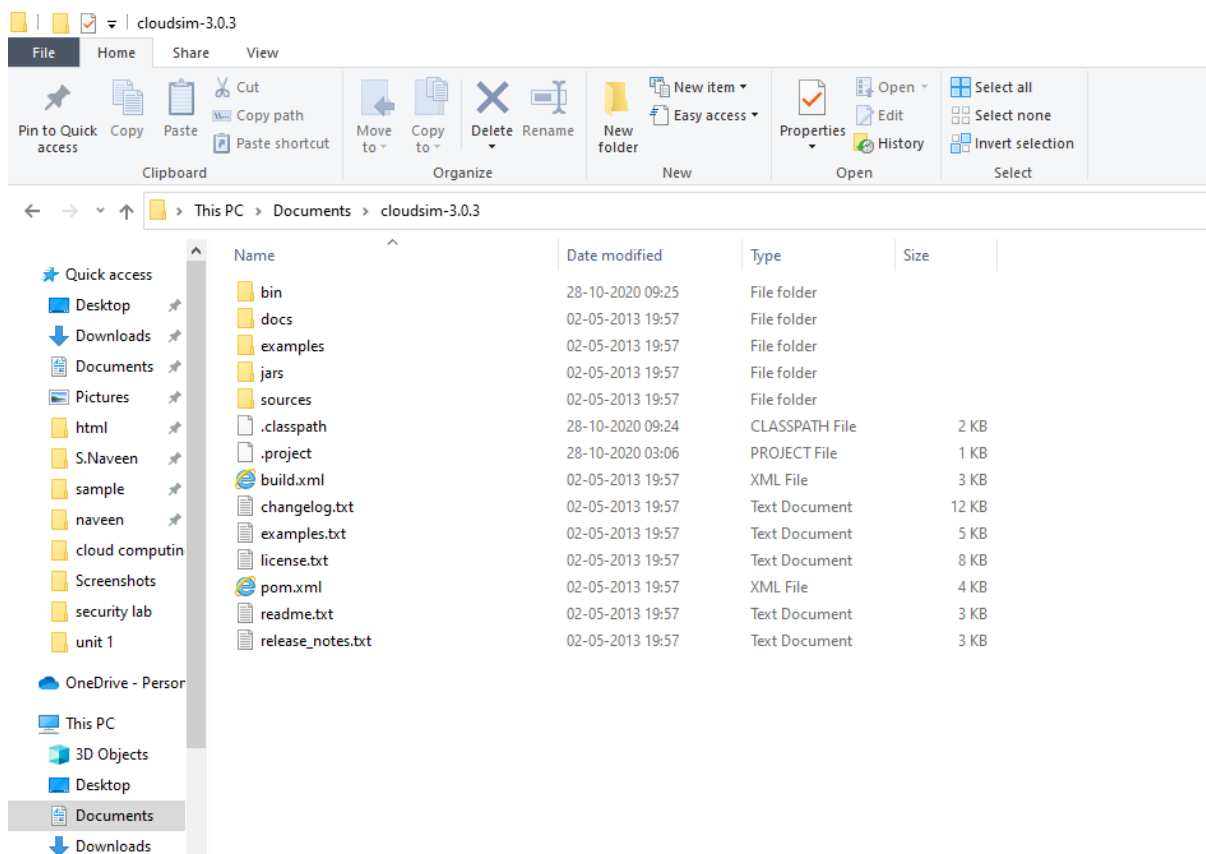
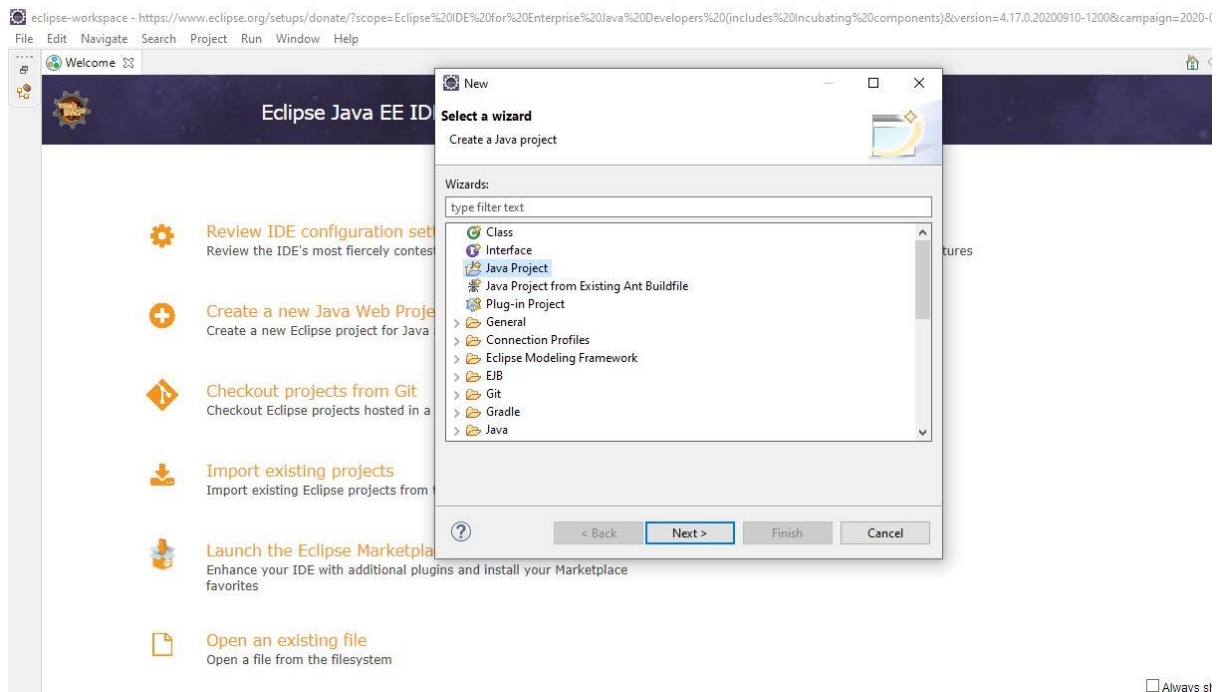


CLOUDSIM AND ECLIPSE INSTALLATION:



SAMPLE CLOUD SCENARIO:

```
eclipse-workspace - cloudsim/sample/examples/org/cloudbus/cloudsim/examples/CloudSimExample1.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help

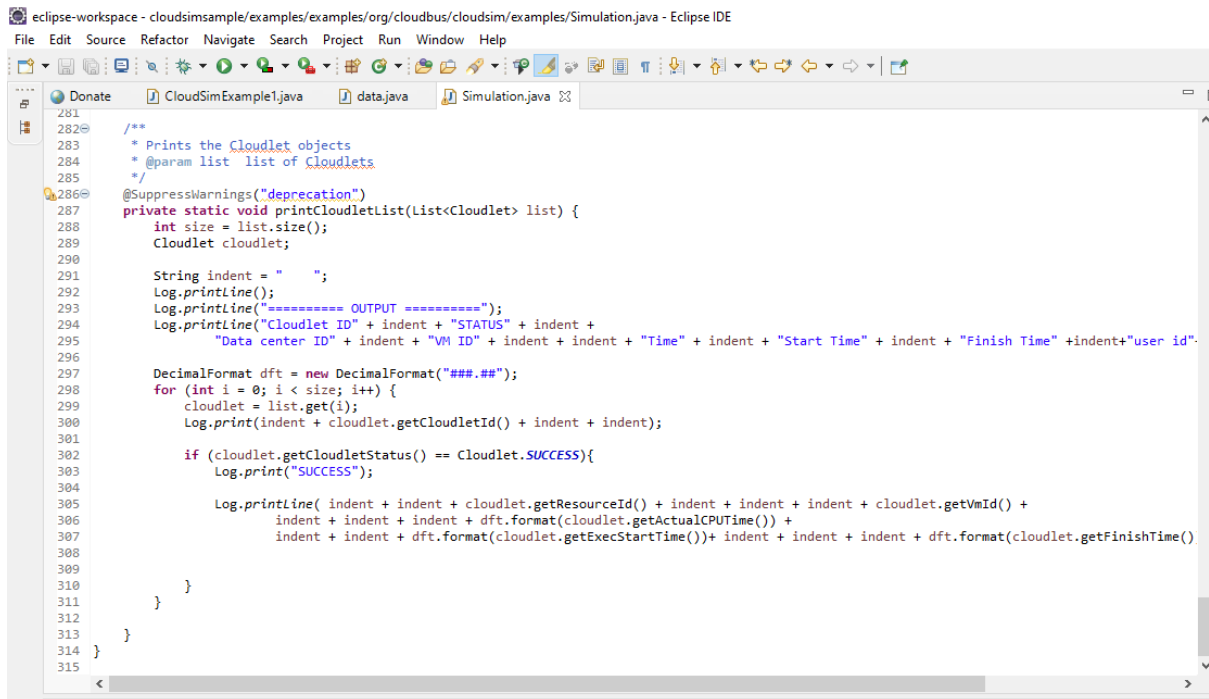
39 * cloudlet on it.
40 */
41 public class CloudSimExample1 {
42
43     /** The cloudlet list. */
44     private static List<Cloudlet> cloudletList;
45
46     /** The vmList. */
47     private static List<Vm> vmList;
48
49     /**
50      * Creates main() to run this example.
51      *
52      * @param args the args
53      */
54     @SuppressWarnings("unused")
55     public static void main(String[] args) {
56
57         Log.println("Starting CloudSimExample1...");
58
59         try {
60             // First step: Initialize the CloudSim package. It should be called
61             // before creating any entities.
62             int num_user = 1; // number of cloud users
63             Calendar calendar = Calendar.getInstance();
64             boolean trace_flag = false; // mean trace events
65
66             // Initialize the CloudSim library
67             CloudSim.init(num_user, calendar, trace_flag);
68
69             // Second step: Create Datacenters
70             // Datacenters are the resource providers in CloudSim. We need at
71             // list one of them to run a CloudSim simulation
72             Datacenter datacenter0 = createDatacenter("Datacenter_0");
73
```

OUTPUT:

```
Problems Javadoc Declaration Console
<terminated> CloudSimExample1 [Java Application] C:\Users\S.Naveen\AppData\Local\Temp\eo12415.tmp\plugins\org.eclipse.justj.openjdk.hotspot.jre.minimal.stripped.win32.x86_64_14.0.2.v202006
Initialising...
Starting CloudSim version 3.0
Datacenter_0 is starting...
Broker is starting...
Entities started.
0.0: Broker: Cloud Resource List received with 1 resource(s)
0.0: Broker: Trying to Create VM #0 in Datacenter_0
0.1: Broker: VM #0 has been created in Datacenter #2, Host #0
0.1: Broker: Sending cloudlet 0 to VM #0
400.1: Broker: Cloudlet 0 received
400.1: Broker: All Cloudlets executed. Finishing...
400.1: Broker: Destroying VM #0
Broker is shutting down...
Simulation: No more future events
CloudInformationService: Notify all CloudSim entities for shutting down.
Datacenter_0 is shutting down...
Broker is shutting down...
Simulation completed.
Simulation completed.

===== OUTPUT =====
Cloudlet ID   STATUS   Data center ID   VM ID   Time   Start Time   Finish Time
0            SUCCESS   2               0       400    0.1          400.1
CloudSimExample1 finished!
```

SCHEDULING ALGORITHM:(SJF)



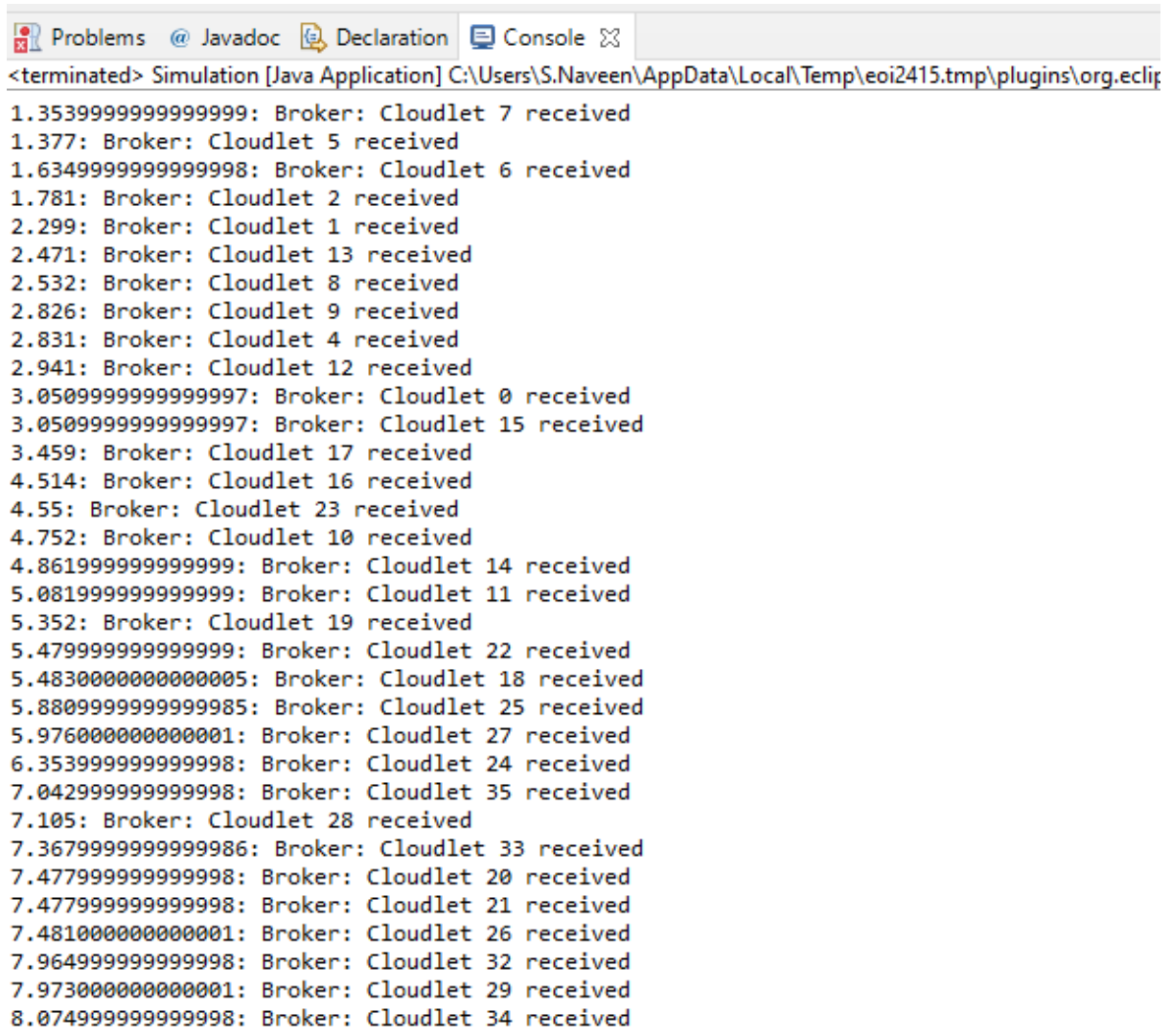
```
281
282  /**
283   * Prints the Cloudlet objects
284   * @param list list of Cloudlets
285   */
286  @SuppressWarnings("deprecation")
287  private static void printCloudletList(List<Cloudlet> list) {
288      int size = list.size();
289      Cloudlet cloudlet;
290
291      String indent = "    ";
292      Log.println();
293      Log.println("===== OUTPUT =====");
294      Log.println("Cloudlet ID" + indent + "STATUS" + indent +
295      "Data center ID" + indent + "VM ID" + indent + indent + "Time" + indent + "Start Time" + indent + "Finish Time" +indent+"user id".
296
297      DecimalFormat dft = new DecimalFormat("###.##");
298      for (int i = 0; i < size; i++) {
299          cloudlet = list.get(i);
300          Log.print(indent + cloudlet.getCloudletId() + indent + indent);
301
302          if (cloudlet.getCloudletStatus() == Cloudlet.SUCCESS){
303              Log.print("SUCCESS");
304
305              Log.println( indent + indent + cloudlet.getResourceId() + indent + indent + indent + cloudlet.getVmId() +
306              indent + indent + indent + dft.format(cloudlet.getActualCPUTime()) +
307              indent + indent + dft.format(cloudlet.getExecStartTime())+ indent + indent + indent + dft.format(cloudlet.getFinishTime())
308
309          }
310      }
311  }
312
313  }
314 }
315 }
```

Problems @ Javadoc Declaration Console

<terminated> Simulation [Java Application] C:\Users\S.Naveen\AppData\Local\Temp\ei2415.tmp\plugins\org.eclipse.justj.openjdk.hc

Starting CloudSimExample6...
Initialising...
Starting CloudSim version 3.0
Datacenter_0 is starting...
Datacenter_1 is starting...
Broker is starting...
Entities started.
0.0: Broker: Cloud Resource List received with 2 resource(s)
0.0: Broker: Trying to Create VM #0 in Datacenter_0
0.0: Broker: Trying to Create VM #1 in Datacenter_0
0.0: Broker: Trying to Create VM #2 in Datacenter_0
0.0: Broker: Trying to Create VM #3 in Datacenter_0
0.0: Broker: Trying to Create VM #4 in Datacenter_0
0.0: Broker: Trying to Create VM #5 in Datacenter_0
0.0: Broker: Trying to Create VM #6 in Datacenter_0
0.0: Broker: Trying to Create VM #7 in Datacenter_0
0.0: Broker: Trying to Create VM #8 in Datacenter_0
0.0: Broker: Trying to Create VM #9 in Datacenter_0
[VmScheduler.vmCreate] Allocation of VM #6 to Host #0 failed by RAM
[VmScheduler.vmCreate] Allocation of VM #6 to Host #1 failed by MIPS
[VmScheduler.vmCreate] Allocation of VM #7 to Host #0 failed by RAM
[VmScheduler.vmCreate] Allocation of VM #7 to Host #1 failed by MIPS
[VmScheduler.vmCreate] Allocation of VM #8 to Host #0 failed by RAM
[VmScheduler.vmCreate] Allocation of VM #8 to Host #1 failed by MIPS
[VmScheduler.vmCreate] Allocation of VM #9 to Host #0 failed by RAM
[VmScheduler.vmCreate] Allocation of VM #9 to Host #1 failed by MIPS
0.1: Broker: VM #0 has been created in Datacenter #2, Host #0
0.1: Broker: VM #1 has been created in Datacenter #2, Host #0
0.1: Broker: VM #2 has been created in Datacenter #2, Host #0
0.1: Broker: VM #3 has been created in Datacenter #2, Host #1
0.1: Broker: VM #4 has been created in Datacenter #2, Host #0
0.1: Broker: VM #5 has been created in Datacenter #2, Host #1
0.1: Broker: Creation of VM #6 failed in Datacenter #2

```
Problems @ Javadoc Declaration Console 
<terminated> Simulation [Java Application] C:\Users\S.Naveen\AppData\Local\Temp\eo12415.tmp\plugins\org.e
0.2: Broker: Sending cloudlet 2 to VM #2
0.2: Broker: Sending cloudlet 3 to VM #3
0.2: Broker: Sending cloudlet 4 to VM #4
0.2: Broker: Sending cloudlet 5 to VM #5
0.2: Broker: Sending cloudlet 6 to VM #6
0.2: Broker: Sending cloudlet 7 to VM #7
0.2: Broker: Sending cloudlet 8 to VM #8
0.2: Broker: Sending cloudlet 9 to VM #9
0.2: Broker: Sending cloudlet 10 to VM #0
0.2: Broker: Sending cloudlet 11 to VM #1
0.2: Broker: Sending cloudlet 12 to VM #2
0.2: Broker: Sending cloudlet 13 to VM #3
0.2: Broker: Sending cloudlet 14 to VM #4
0.2: Broker: Sending cloudlet 15 to VM #5
0.2: Broker: Sending cloudlet 16 to VM #6
0.2: Broker: Sending cloudlet 17 to VM #7
0.2: Broker: Sending cloudlet 18 to VM #8
0.2: Broker: Sending cloudlet 19 to VM #9
0.2: Broker: Sending cloudlet 20 to VM #0
0.2: Broker: Sending cloudlet 21 to VM #1
0.2: Broker: Sending cloudlet 22 to VM #2
0.2: Broker: Sending cloudlet 23 to VM #3
0.2: Broker: Sending cloudlet 24 to VM #4
0.2: Broker: Sending cloudlet 25 to VM #5
0.2: Broker: Sending cloudlet 26 to VM #6
0.2: Broker: Sending cloudlet 27 to VM #7
0.2: Broker: Sending cloudlet 28 to VM #8
0.2: Broker: Sending cloudlet 29 to VM #9
0.2: Broker: Sending cloudlet 30 to VM #0
0.2: Broker: Sending cloudlet 31 to VM #1
0.2: Broker: Sending cloudlet 32 to VM #2
0.2: Broker: Sending cloudlet 33 to VM #3
0.2: Broker: Sending cloudlet 34 to VM #4
```



The screenshot shows the Eclipse IDE's console window. The title bar includes tabs for 'Problems', 'Javadoc', 'Declaration', and 'Console'. The console output displays a series of messages from a 'Broker' to different 'Cloudlet' instances, each preceded by a timestamp. The messages indicate that various cloudlets have received data or instructions from the broker. The list of cloudlets includes 7, 5, 6, 2, 1, 13, 8, 9, 4, 12, 0, 15, 17, 16, 23, 10, 14, 11, 19, 22, 18, 25, 27, 24, 35, 28, 33, 20, 21, 26, 32, 29, and 34.

```
<terminated> Simulation [Java Application] C:\Users\S.Naveen\AppData\Local\Temp\eo12415.tmp\plugins\org.eclips
1.3539999999999999: Broker: Cloudlet 7 received
1.377: Broker: Cloudlet 5 received
1.6349999999999998: Broker: Cloudlet 6 received
1.781: Broker: Cloudlet 2 received
2.299: Broker: Cloudlet 1 received
2.471: Broker: Cloudlet 13 received
2.532: Broker: Cloudlet 8 received
2.826: Broker: Cloudlet 9 received
2.831: Broker: Cloudlet 4 received
2.941: Broker: Cloudlet 12 received
3.0509999999999997: Broker: Cloudlet 0 received
3.0509999999999997: Broker: Cloudlet 15 received
3.459: Broker: Cloudlet 17 received
4.514: Broker: Cloudlet 16 received
4.55: Broker: Cloudlet 23 received
4.752: Broker: Cloudlet 10 received
4.8619999999999999: Broker: Cloudlet 14 received
5.0819999999999999: Broker: Cloudlet 11 received
5.352: Broker: Cloudlet 19 received
5.4799999999999999: Broker: Cloudlet 22 received
5.4830000000000005: Broker: Cloudlet 18 received
5.88099999999999985: Broker: Cloudlet 25 received
5.9760000000000001: Broker: Cloudlet 27 received
6.3539999999999998: Broker: Cloudlet 24 received
7.0429999999999998: Broker: Cloudlet 35 received
7.105: Broker: Cloudlet 28 received
7.36799999999999986: Broker: Cloudlet 33 received
7.4779999999999998: Broker: Cloudlet 20 received
7.4779999999999998: Broker: Cloudlet 21 received
7.4810000000000001: Broker: Cloudlet 26 received
7.9649999999999998: Broker: Cloudlet 32 received
7.9730000000000001: Broker: Cloudlet 29 received
8.0749999999999998: Broker: Cloudlet 34 received
```

<terminated> Simulation [Java Application] C:\Users\S.Naveen\AppData\Local\Temp\eoiz415.tmp\plugins\org.eclipse.justj.openjdk.hotspot.jre.minimal.stripped.win32.x86_64_14.0.2.v202								
===== OUTPUT =====								
Cloudlet ID	STATUS	Data center ID	VM ID	Time	Start Time	Finish Time	user id	
3	SUCCESS	2	3	1.07	0.2	1.27	4	
7	SUCCESS	3	7	1.15	0.2	1.35	4	
5	SUCCESS	2	5	1.18	0.2	1.38	4	
6	SUCCESS	3	6	1.43	0.2	1.63	4	
2	SUCCESS	2	2	1.58	0.2	1.78	4	
1	SUCCESS	2	1	2.1	0.2	2.3	4	
13	SUCCESS	2	3	1.2	1.27	2.47	4	
8	SUCCESS	3	8	2.33	0.2	2.53	4	
9	SUCCESS	3	9	2.63	0.2	2.83	4	
4	SUCCESS	2	4	2.63	0.2	2.83	4	
12	SUCCESS	2	2	1.16	1.78	2.94	4	
0	SUCCESS	2	0	2.85	0.2	3.05	4	
15	SUCCESS	2	5	1.67	1.38	3.05	4	
17	SUCCESS	3	7	2.11	1.35	3.46	4	
16	SUCCESS	3	6	2.88	1.63	4.51	4	
23	SUCCESS	2	3	2.08	2.47	4.55	4	
10	SUCCESS	2	0	1.7	3.05	4.75	4	
14	SUCCESS	2	4	2.03	2.83	4.86	4	
11	SUCCESS	2	1	2.78	2.3	5.08	4	
19	SUCCESS	3	9	2.53	2.83	5.35	4	
22	SUCCESS	2	2	2.54	2.94	5.48	4	
18	SUCCESS	3	8	2.95	2.53	5.48	4	
25	SUCCESS	2	5	2.83	3.05	5.88	4	
27	SUCCESS	3	7	2.52	3.46	5.98	4	
24	SUCCESS	2	4	1.49	4.86	6.35	4	
35	SUCCESS	2	5	1.16	5.88	7.04	4	
28	SUCCESS	3	8	1.62	5.48	7.11	4	
33	SUCCESS	2	3	2.82	4.55	7.37	4	
20	SUCCESS	2	0	2.73	4.75	7.48	4	
21	SUCCESS	2	1	2.4	5.08	7.48	4	
26	SUCCESS	3	6	2.97	4.51	7.48	4	