CloudSim is used for modelling and simulating a cloud computing environment as a means for evaluating a hypothesis prior to software development in order to reproduce tests and results.

Result which we are getting is the output of scheduler.

Datacenters are created.

```
Starting SJF Scheduler...
Reading the Matrices...
Initialising...
Starting CloudSim version 3.0
Datacenter_0 is starting...
Datacenter_1 is starting...
Datacenter_2 is starting...
Datacenter_3 is starting...
Datacenter_4 is starting...
```

Brokers are assigning particular VMs to the tasks assign in CloudSim.

There are multiple processes in the virtual network created by cloudsim framework. Now each processes will required some vm which will be done by brokers.

```
Broker_0 is starting...
Entities started.
0.0: Broker_0: Cloud Resource List received with 5 resource(s)
0.0: Broker_0: Trying to Create VM #2 in Datacenter_0
0.0: Broker_0: Trying to Create VM #3 in Datacenter_1
0.0: Broker_0: Trying to Create VM #4 in Datacenter_2
0.0: Broker_0: Trying to Create VM #5 in Datacenter_3
0.0: Broker_0: Trying to Create VM #6 in Datacenter_4
0.1: Broker_0: VM #2 has been created in Datacenter #2, Host #0
0.1: Broker_0: VM #3 has been created in Datacenter #3, Host #0
0.1: Broker_0: VM #4 has been created in Datacenter #4, Host #0
0.1: Broker_0: VM #5 has been created in Datacenter #5, Host #0
0.1: Broker_0: VM #6 has been created in Datacenter #6, Host #0
```

Brokers will sends the task

```
0.1: Broker_0: Sending cloudlet 0 to VM #5
0.1: Broker_0: Sending cloudlet 1 to VM #6
0.1: Broker_0: Sending cloudlet 2 to VM #6
0.1: Broker_0: Sending cloudlet 3 to VM #3
0.1: Broker_0: Sending cloudlet 4 to VM #5
0.1: Broker_0: Sending cloudlet 5 to VM #2
0.1: Broker_0: Sending cloudlet 6 to VM #4
0.1: Broker_0: Sending cloudlet 7 to VM #4
0.1: Broker_0: Sending cloudlet 8 to VM #2
0.1: Broker_0: Sending cloudlet 9 to VM #2
0.1: Broker_0: Sending cloudlet 10 to VM #4
0.1: Broker_0: Sending cloudlet 11 to VM #6
0.1: Broker_0: Sending cloudlet 12 to VM #2
0.1: Broker_0: Sending cloudlet 13 to VM #5
0.1: Broker_0: Sending cloudlet 14 to VM #2
0.1: Broker_0: Sending cloudlet 15 to VM #2
0.1: Broker_0: Sending cloudlet 16 to VM #4
0.1: Broker_0: Sending cloudlet 17 to VM #4
0.1: Broker_0: Sending cloudlet 18 to VM #4
0.1: Broker_0: Sending cloudlet 19 to VM #5
0.1: Broker_0: Sending cloudlet 20 to VM #5
0.1: Broker_0: Sending cloudlet 21 to VM #3
0.1: Broker_0: Sending cloudlet 22 to VM #2
```

```
0.1: Broker_0: Sending cloudlet 23 to VM #5
0.1: Broker_0: Sending cloudlet 24 to VM #5
0.1: Broker_0: Sending cloudlet 25 to VM #5
0.1: Broker_0: Sending cloudlet 26 to VM #4
0.1: Broker_0: Sending cloudlet 27 to VM #6
0.1: Broker_0: Sending cloudlet 28 to VM #2
0.1: Broker_0: Sending cloudlet 29 to VM #5
```

Brokers will receive the task

```
1762.552: Broker_0: Cloudlet 6 received
2496.9719999999998: Broker_0: Cloudlet 3 received
2824.884: Broker_0: Cloudlet 1 received
3098.756: Broker_0: Cloudlet 0 received
3715.38: Broker_0: Cloudlet 5 received
4894.976: Broker_0: Cloudlet 7 received
5252.296: Broker_0: Cloudlet 2 received
5769.379999999999: Broker_0: Cloudlet 10 received
6063.216: Broker_0: Cloudlet 21 received
6836.876: Broker_0: Cloudlet 4 received
7001.4: Broker_0: Cloudlet 8 received
7777.768: Broker_0: Cloudlet 11 received
8119.156: Broker_0: Cloudlet 9 received
8599.36: Broker_0: Cloudlet 13 received
9031.624: Broker_0: Cloudlet 27 received
9994.076: Broker_0: Cloudlet 16 received
10250.092: Broker_0: Cloudlet 19 received
10839.612: Broker_0: Cloudlet 17 received
10930.72: Broker_0: Cloudlet 12 received
11679.84: Broker_0: Cloudlet 14 received
13471.408: Broker_0: Cloudlet 15 received
13702.127999999999: Broker_0: Cloudlet 18 received
14271.188: Broker_0: Cloudlet 20 received
14530.063999999998: Broker_0: Cloudlet 26 received
14629.764: Broker_0: Cloudlet 22 received
16200.196: Broker_0: Cloudlet 23 received
17447.748: Broker_0: Cloudlet 28 received
20260.756: Broker_0: Cloudlet 24 received
20933.112: Broker_0: Cloudlet 25 received
24101.872000000003: Broker_0: Cloudlet 29 received
24101.872000000003: Broker_0: All Cloudlets executed. Finishing...
24101.872000000003: Broker_0: Destroying VM #2
24101.872000000003: Broker_0: Destroying VM #3
24101.872000000003: Broker_0: Destroying VM #4
24101.872000000003: Broker_0: Destroying VM #5
24101.872000000003: Broker_0: Destroying VM #6
Broker_0 is shutting down...
Simulation: No more future events
CloudInformationService: Notify all CloudSim entities for shutting down.
Datacenter_0 is shutting down...
Datacenter_1 is shutting down...
Datacenter_2 is shutting down...
Datacenter_3 is shutting down...
Datacenter_4 is shutting down...
Broker_0 is shutting down...
Simulation completed.
Simulation completed.
```

Now broker will assign the received task to different VMs

```
========== OUTPUT ==========
Cloudlet ID    STATUS    Data center ID    VM ID        Time    Start Time    Finish Time
    06        SUCCESS        04            04        1762.45        00.1            1762.55
    03        SUCCESS        03            03        2496.87        00.1            2496.97
    01        SUCCESS        06            06        2824.78        00.1            2824.88
    00        SUCCESS        05            05        3098.66        00.1            3098.76
    05        SUCCESS        02            02        3715.28        00.1            3715.38
```

```
    07        SUCCESS        04            04        3132.42        1762.55            4894.98
    02        SUCCESS        06            06        2427.41        2824.88            5252.3
    10        SUCCESS        04            04        874.4        4894.98            5769.38
    21        SUCCESS        03            03        3566.24        2496.97            6063.22
    04        SUCCESS        05            05        3738.12        3098.76            6836.88
    08        SUCCESS        02            02        3286.02        3715.38            7001.4
    11        SUCCESS        06            06        2525.47        5252.3            7777.77
    09        SUCCESS        02            02        1117.76        7001.4            8119.16
    13        SUCCESS        05            05        1762.48        6836.88            8599.36
    27        SUCCESS        06            06        1253.86        7777.77            9031.62
    16        SUCCESS        04            04        4224.7        5769.38            9994.08
    19        SUCCESS        05            05        1650.73        8599.36            10250.09
    17        SUCCESS        04            04        845.54        9994.08            10839.61
    12        SUCCESS        02            02        2811.56        8119.16            10930.72
    14        SUCCESS        02            02        749.12        10930.72            11679.84
    15        SUCCESS        02            02        1791.57        11679.84
13471.41
    18        SUCCESS        04            04        2862.52        10839.61
13702.13
    20        SUCCESS        05            05        4021.1        10250.09            14271.19
    26        SUCCESS        04            04        827.94        13702.13            14530.06
    22        SUCCESS        02            02        1158.36        13471.41
14629.76
    23        SUCCESS        05            05        1929.01        14271.19             16200.2
    28        SUCCESS        02            02        2817.98        14629.76
17447.75
    24        SUCCESS        05            05        4060.56        16200.2            20260.76
    25        SUCCESS        05            05        672.36        20260.76            20933.11
    29        SUCCESS        05            05        3168.76        20933.11
24101.87
Makespan using SJF: 5921.723407502085
SJF.SJF_Scheduler finished!
```