Tick number: 0
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 1
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 1
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 2
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 2
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 3
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 Process inside this cpu:
 id: p1
 PC: 1
 Total execution time to do: 5
 Array of instructions: [1]
 State:running

_____
 Tick number: 3
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 4
 Total execution time to do: 10
 Array of instructions: []
 State:running

```
--------------------------
cpu id: 1
 Process inside this cpu:
 id: p1
 PC: 2
 Total execution time to do: 5
 Array of instructions: [1]
 State:running
--------------------------


_____
 Tick number: 4
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 5
 Total execution time to do: 10
 Array of instructions: []
 State:running
--------------------------
cpu id: 1
 Process inside this cpu:
 id: p2
 PC: 1
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running
--------------------------


_____
 Tick number: 5
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 6
 Total execution time to do: 10
 Array of instructions: []
 State:running
--------------------------
cpu id: 1
 Process inside this cpu:
 id: p2
 PC: 2
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running
--------------------------


_____
 Tick number: 6
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 7
 Total execution time to do: 10
```

Array of instructions: []
State:running
----
cpu id: 1
Process inside this cpu:
id: p1
PC: 3
Total execution time to do: 5
Array of instructions: [1]
State:running

_____
Tick number: 7
cpu id: 0
Process inside this cpu:
id: p0
PC: 8
Total execution time to do: 10
Array of instructions: []
State:running
----
cpu id: 1
Process inside this cpu:
id: p1
PC: 4
Total execution time to do: 5
Array of instructions: [1]
State:running

_____
Tick number: 8
cpu id: 0
Process inside this cpu:
id: p0
PC: 9
Total execution time to do: 10
Array of instructions: []
State:running
----
cpu id: 1
Process inside this cpu:
id: p1
PC: 5
Total execution time to do: 5
Array of instructions: [1]
State:running

_____
Tick number: 9
cpu id: 0
Process inside this cpu:
id: p0

PC: 10
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 10
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 Process inside this cpu:
 id: p2
 PC: 3
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running

_____
 Tick number: 11
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 12
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 13
cpu id: 0
 Process inside this cpu:
 id: p2
 PC: 4
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 14
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 15
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 16
cpu id: 0
 Process inside this cpu:
 id: p2
 PC: 5
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 17
cpu id: 0
 Process inside this cpu:
 id: p2
 PC: 6
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 18
cpu id: 0
 Process inside this cpu:
 id: p2
 PC: 7
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running

----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 19
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 No process on this cpu...

_____

_____
Printing the performance details of the FCFS scheduling algorihtm:
CPU utilization for cpu 0: 0.7368421052631579
CPU utilization for cpu 1: 0.42105263157894735

_____
Average waiting time for the processes:3.3333333333333335 time unit

_____
Printing the turnaround time for each process
p1: 7 time unit
p0: 10 time unit
p2: 15 time unit

_____
Printing the CPU response time for each process
p1: 0 time unit
p0: 0 time unit
p2: 0 time unit
*** SJF NOW ****************************
 Tick number: 0
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 1
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 No process on this cpu...

_____

 Tick number: 1
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 2
 Total execution time to do: 10

Array of instructions: []
 State:running
----
cpu id: 1
 No process on this cpu...

_____

 Tick number: 2
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 3
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 Process inside this cpu:
 id: p1
 PC: 1
 Total execution time to do: 5
 Array of instructions: [1]
 State:running

_____

 Tick number: 3
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 4
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 Process inside this cpu:
 id: p1
 PC: 2
 Total execution time to do: 5
 Array of instructions: [1]
 State:running

_____

 Tick number: 4
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 5
 Total execution time to do: 10

Array of instructions: []
 State:running
----
cpu id: 1
 Process inside this cpu:
 id: p2
 PC: 1
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running

_____

 Tick number: 5
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 6
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 Process inside this cpu:
 id: p2
 PC: 2
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running

_____

 Tick number: 6
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 7
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 Process inside this cpu:
 id: p1
 PC: 3
 Total execution time to do: 5
 Array of instructions: [1]
 State:running

_____

 Tick number: 7

cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 8
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 Process inside this cpu:
 id: p1
 PC: 4
 Total execution time to do: 5
 Array of instructions: [1]
 State:running

_____

 Tick number: 8
cpu id: 0
 Process inside this cpu:
 id: p2
 PC: 3
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:ready
----
cpu id: 1
 Process inside this cpu:
 id: p1
 PC: 5
 Total execution time to do: 5
 Array of instructions: [1]
 State:running

_____

 Tick number: 9
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 9
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 No process on this cpu...

_____

 Tick number: 10

cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 10
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 No process on this cpu...

_____

 Tick number: 11
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 Process inside this cpu:
 id: p2
 PC: 4
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running

_____

 Tick number: 12
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 No process on this cpu...

_____

 Tick number: 13
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 No process on this cpu...

_____

 Tick number: 14
cpu id: 0
 Process inside this cpu:
 id: p2
 PC: 5
 Total execution time to do: 7

Array of instructions: [1, 2, 3]
 State:running
----
cpu id: 1
 No process on this cpu...

_____

 Tick number: 15
cpu id: 0
 Process inside this cpu:
 id: p2
 PC: 6
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running
----
cpu id: 1
 No process on this cpu...

_____

 Tick number: 16
cpu id: 0
 Process inside this cpu:
 id: p2
 PC: 7
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running
----
cpu id: 1
 No process on this cpu...

_____

 Tick number: 17
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 No process on this cpu...

_____

_____
Printing the performance details of the SJF scheduling algorihtm:
CPU utilization for cpu 0: 0.8235294117647058
CPU utilization for cpu 1: 0.47058823529411764

_____
Average waiting time for the processes:3.0 time unit

_____
Printing the turnaround time for each process
p1: 7 time unit
p0: 11 time unit
p2: 13 time unit

_____
Printing the CPU response time for each process
p1: 0 time unit
p0: 0 time unit
p2: 0 time unit
** RR NOW ****************************

 Tick number: 0
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 1
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 1
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 2
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 2
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 3
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 Process inside this cpu:
 id: p1

PC: 1
 Total execution time to do: 5
 Array of instructions: [1]
 State:running

_____
 Tick number: 3
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 4
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 Process inside this cpu:
 id: p1
 PC: 2
 Total execution time to do: 5
 Array of instructions: [1]
 State:running

_____
 Tick number: 4
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 5
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 Process inside this cpu:
 id: p2
 PC: 1
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running

_____
 Tick number: 5
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 5
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1

Process inside this cpu:
id: p2
PC: 2
Total execution time to do: 7
Array of instructions: [1, 2, 3]
State:running

_____

Tick number: 6
cpu id: 0
Process inside this cpu:
id: p0
PC: 6
Total execution time to do: 10
Array of instructions: []
State:running
----
cpu id: 1
Process inside this cpu:
id: p1
PC: 3
Total execution time to do: 5
Array of instructions: [1]
State:running

_____

Tick number: 7
cpu id: 0
Process inside this cpu:
id: p0
PC: 7
Total execution time to do: 10
Array of instructions: []
State:running
----
cpu id: 1
Process inside this cpu:
id: p1
PC: 4
Total execution time to do: 5
Array of instructions: [1]
State:running

_____

Tick number: 8
cpu id: 0
Process inside this cpu:
id: p0
PC: 8
Total execution time to do: 10
Array of instructions: []
State:running

----
cpu id: 1
 Process inside this cpu:
 id: p1
 PC: 5
 Total execution time to do: 5
 Array of instructions: [1]
 State:running

_____
 Tick number: 9
cpu id: 0
 Process inside this cpu:
 id: p0
 PC: 9
 Total execution time to do: 10
 Array of instructions: []
 State:running
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 10
cpu id: 0
 Process inside this cpu:
 id: p2
 PC: 3
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running
----
cpu id: 1
 Process inside this cpu:
 id: p0
 PC: 9
 Total execution time to do: 10
 Array of instructions: []
 State:running

_____
 Tick number: 11
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 Process inside this cpu:
 id: p0
 PC: 10
 Total execution time to do: 10
 Array of instructions: []
 State:running

_____
 Tick number: 12
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 13
cpu id: 0
 Process inside this cpu:
 id: p2
 PC: 4
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 14
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 15
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 16
cpu id: 0
 Process inside this cpu:
 id: p2
 PC: 5
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 17
cpu id: 0
 Process inside this cpu:
 id: p2
 PC: 6
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 18
cpu id: 0
 Process inside this cpu:
 id: p2
 PC: 7
 Total execution time to do: 7
 Array of instructions: [1, 2, 3]
 State:running
----
cpu id: 1
 No process on this cpu...

_____
 Tick number: 19
cpu id: 0
 No process on this cpu...
----
cpu id: 1
 No process on this cpu...

_____
_____
Printing the performance details of the RR scheduling algorihtm:
CPU utilization for cpu 0: 0.6842105263157895
CPU utilization for cpu 1: 0.47368421052631576
_____
Average waiting time for the processes:4.0 time unit

_____
Printing the turnaround time for each process
p1: 7 time unit
p0: 12 time unit
p2: 15 time unit

_____
Printing the CPU response time for each process

p1: 0 time unit
p0: 0 time unit
p2: 0 time unit