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1  /*
2  * Scola Tutorial
3  * by Antoine B. Rauzy
4  * Exercise: Dynamic Car assembly
5  */
6
7  domain BodyState {RAW, PAINTED} end
8  domain ComponentState {MISSING, INSTALLED} end
9
10 block AssemblyLine
11     integer carCount 0
12     block Station1 end
13     block Station2 end
14     block Station3 end
15 end
16
17 scenario CarAssembly as AssemblyLine
18     state Initial
19     next Initial IsReady
20     test IsReady
21         case yes (not (is_block car))
22     end
23     next IsReady.yes CreateCar
24     task CreateCar
25         set carCount (add carCount 1)
26         new block car
27         new integer car.number carCount
28         new BodyState car.body RAW
29     end
30     next CreateCar LaunchAssembly
31     fork LaunchAssembly
32         branch isReady
33         branch launch
34     end
35     next LaunchAssembly.isReady IsReady
36     next LaunchAssembly.launch IsStation1Free
37     test IsStation1Free
38         case yes (not (is_block Station1.car))
39     end
40     next IsStation1Free.yes MoveCarToStation1
41     task MoveCarToStation1
42         move car Station1.car
43     end
44     next MoveCarToStation1 Station1Lane.PaintBody
45     scenario Station1Lane as Station1
46         task PaintBody
47             set car.body PAINTED
48         end
49     end
50     next Station1Lane.PaintBody IsStation2Free
51     test IsStation2Free
52         case yes (not (is_block Station2.car))
53     end
54     next IsStation2Free.yes MoveCarToStation2
55     task MoveCarToStation2
56         move Station1.car Station2.car
57     end
58     next MoveCarToStation2 Station2Lane.AssembleEngine
59     scenario Station2Lane as Station2
60         task AssembleEngine
61             new ComponentState car.engine INSTALLED
62         end
63     end
64     next Station2Lane.AssembleEngine IsStation3Free
65     test IsStation3Free
66         case yes (not (is_block Station3.car))
67     end
68     next IsStation3Free.yes MoveCarToStation3
69     task MoveCarToStation3
70         move Station2.car Station3.car
71     end
72     next MoveCarToStation3 Station3Lane.StartAssembly

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73     scenario Station3Lane as Station3
74         state StartAssembly
75         task AssembleFrontWheels
76             new ComponentState car.frontLeftWheel INSTALLED
77             new ComponentState car.frontRightWheel INSTALLED
78         end
79         task AssembleRearWheels
80             new ComponentState car.rearLeftWheel INSTALLED
81             new ComponentState car.rearRightWheel INSTALLED
82         end
83         state AssemblyCompleted
84         next StartAssembly AssembleFrontWheels
85         next AssembleFrontWheels AssembleRearWheels
86         next AssembleFrontWheels AssembleRearWheels
87         next AssembleRearWheels AssemblyCompleted
88     end
89     next Station3Lane.AssemblyCompleted DeliverCar
90     task DeliverCar
91         delete Station3.car
92     end
93     next DeliverCar Terminal
94     state Terminal
95 end
96
```