

Fișierul Experiment

```
; Model statements for module: Create 1
60$    CREATE,      1,MinutesToBaseTime(0.0),Entity 1:MinutesToBaseTime(EXPO(15)):NEXT(61$);
61$    ASSIGN:      Generarea entitatilor.NumberOut=Generarea entitatilor.NumberOut + 1:NEXT(0$);

; Model statements for module: Station 1
0$     STATION,     Intrare;
66$    DELAY:       0.0,,VA:NEXT(1$);

; Model statements for module: Assign 1
1$     ASSIGN:      Entity.Sequence=DISC(0.3,1,1,2):    Timp_intrare=TNOW:
                    Entity.Picture=(Entity.Sequence==1)*5+(Entity.Sequence==2)*25:NEXT(46$);

; Model statements for module: Allocate 2
46$    QUEUE,       Cerere de alocare Elct.Queue;
        ALLOCATE,   1:Electrocar(CYC,Numar):NEXT(38$);

; Model statements for module: Decide 3
38$    BRANCH,      1:
        If,(M==Intrare) .AND.(LT(Electrocar, Numar).NE.Intrare),48$,Yes:
        If,(M.NE.Intrare) .AND.(LT(Electrocar, Numar)==Intrare),55$,Yes:
        If,(M==Intrare) .AND. (LT(Electrocar, Numar)==Intrare),40$,Yes:
        Else,39$,Yes;

; Model statements for module: Move 10
39$    MOVE:        Electrocar(Numar),Entity.Station:NEXT(40$);

; Model statements for module: Delay 6
40$    DELAY:       2,,Other:NEXT(41$);

; Model statements for module: Decide 4
41$    BRANCH,      1:
        If,M==Intrare,70$,Yes:
        Else,71$,Yes;
70$    ASSIGN:      Entitatea se gaseste la intrare.NumberOut True=Entitatea se gaseste la intrare.NumberOut True + 1
                    :NEXT(42$);
71$    ASSIGN:      Entitatea se gaseste la intrare.NumberOut False=Entitatea se gaseste la intrare.NumberOut False + 1
                    :NEXT(45$);

; Model statements for module: Seize 7
42$    QUEUE,       Cerere intrare pasaj.Queue;
        SEIZE,      2,Other: Pasaj,1:NEXT(73$);
73$    DELAY:       0.0,,VA:NEXT(44$);

; Model statements for module: Transport 4
44$    TRANSPORT:   Electrocar(Numar),Semafor;

; Model statements for module: Transport 5
45$    TRANSPORT:   Electrocar(Numar),SEQ;

; Model statements for module: Move 6
48$    MOVE:        Electrocar(Numar),Semafor:NEXT(49$);

; Model statements for module: Seize 5
49$    QUEUE,       Cerere intrare in pasaj.Queue;
        SEIZE,      2,Other: Pasaj,1:NEXT(75$);
75$    DELAY:       0.0,,VA:NEXT(51$);

; Model statements for module: Move 7
51$    MOVE:        Electrocar(Numar),Intrare:NEXT(52$);

; Model statements for module: Release 5
52$    RELEASE:     Pasaj,1:NEXT(53$);
; Model statements for module: Delay 7
53$    DELAY:       2,,Other:NEXT(41$);
```

```

; Model statements for module: Seize 11
55$    QUEUE,      Cerere pentru trecere prin pasaj.Queue;
        SEIZE,      2,Other: Pasaj,1:NEXT(77$);
77$    DELAY:      0.0,,VA:NEXT(54$);

; Model statements for module: Move 11
54$    MOVE:      Electrocar(Numar),Semafor:NEXT(58$);

; Model statements for module: Release 10
58$    RELEASE:    Pasaj,1:NEXT(57$);

; Model statements for module: Move 12
57$    MOVE:      Electrocar(Numar),Entity.Station:NEXT(59$);

; Model statements for module: Delay 17
59$    DELAY:      2,,Other:NEXT(41$);

; Model statements for module: Station 3
2$     STATION,    Semafor;
80$    DELAY:      0.0,,VA:NEXT(3$);

; Model statements for module: Release 3
3$     RELEASE:    Pasaj,1:NEXT(4$);

; Model statements for module: Transport 3
4$     TRANSPORT:  Electrocar(Numar),SEQ;

; Model statements for module: Station 4
5$     STATION,    Prelucrare;
83$    DELAY:      0.0,,VA:NEXT(6$);

; Model statements for module: Delay 4
6$     DELAY:      2,,Other:NEXT(7$);

; Model statements for module: Free 1
7$     FREE:      Electrocar(Numar):NEXT(8$);

; Model statements for module: Seize 4
8$     QUEUE,      Cerere pentru resursa prelucrare.Queue;
        SEIZE,      2,Other: Resursa_prelucrare,1:NEXT(85$);
85$    DELAY:      0.0,,VA:NEXT(10$);

; Model statements for module: Delay 5
10$    DELAY:      Timp_prel,,Other:NEXT(11$);

; Model statements for module: Release 4
11$    RELEASE:    Resursa_prelucrare,1:NEXT(46$);

; Model statements for module: Station 5
12$    STATION,    V1;
88$    DELAY:      0.0,,VA:NEXT(13$);

; Model statements for module: Delay 9
13$    DELAY:      2,,Other:NEXT(14$);

; Model statements for module: Free 2
14$    FREE:      Electrocar(Numar):NEXT(15$);

; Model statements for module: Seize 8
15$    QUEUE,      Cerere pentru resursa V1.Queue;
        SEIZE,      2,Other: Resursa_V1,1:NEXT(90$);
90$    DELAY:      0.0,,VA:NEXT(17$);

; Model statements for module: Delay 10
17$    DELAY:      Timp_prel,,Other:NEXT(18$);

```

```

; Model statements for module: Release 7
18$    RELEASE:    Resursa_V1,1:NEXT(46$);

; Model statements for module: Station 6
19$    STATION,    V2;
93$    DELAY:      0.0,,VA:NEXT(20$);

; Model statements for module: Delay 11
20$    DELAY:      2,,Other:NEXT(21$);

; Model statements for module: Free 3
21$    FREE:       Electrocar(Numar):NEXT(22$);

; Model statements for module: Seize 9
22$    QUEUE,      Cerere pentru resursa V2.Queue;
        SEIZE,      2,Other:    Resursa_V2,1:NEXT(95$);
95$    DELAY:      0.0,,VA:NEXT(24$);

; Model statements for module: Delay 12
24$    DELAY:      Timp_prel,,Other:NEXT(25$);

; Model statements for module: Release 8
25$    RELEASE:    Resursa_V2,1:NEXT(46$);

; Model statements for module: Station 7
26$    STATION,    Ambalare;
98$    DELAY:      0.0,,VA:NEXT(27$);

; Model statements for module: Delay 13
27$    DELAY:      2,,Other:NEXT(28$);

; Model statements for module: Free 4
28$    FREE:       Electrocar(Numar):NEXT(29$);

; Model statements for module: Seize 10
29$    QUEUE,      Cerere pentru resursa Ambalare.Queue;
        SEIZE,      2,Other:    Resursa_Ambalare,1:NEXT(100$);
100$    DELAY:      0.0,,VA:NEXT(31$);

; Model statements for module: Delay 14
31$    DELAY:      Timp_prel,,Other:NEXT(32$);

; Model statements for module: Release 9
32$    RELEASE:    Resursa_Ambalare,1:NEXT(46$);

; Model statements for module: Station 9
33$    STATION,    lesire;
103$    DELAY:      0.0,,VA:NEXT(34$);

; Model statements for module: Delay 16
34$    DELAY:      2,,Other:NEXT(35$);

; Model statements for module: Free 6
35$    FREE:       Electrocar(Numar):NEXT(36$);

; Model statements for module: Record 2
36$    TALLY:      Timp_in_sistem,INT(Timp_intrare),1:NEXT(37$);

; Model statements for module: Dispose 2
37$    ASSIGN:      Dispose 2.NumberOut=Dispose 2.NumberOut + 1;
104$    DISPOSE:    Yes;

```

Fișierul Experiment

ATTRIBUTES: Timp_intrare:

Numar:
Timp_prel;

VARIABLES: Dispose 2.NumberOut,CLEAR(Statistics),CATEGORY("Exclude"):

Entitatea se gaseste la intrare.NumberOut True,CLEAR(Statistics),CATEGORY("Exclude"):
Entitatea se gaseste la intrare.NumberOut False,CLEAR(Statistics),CATEGORY("Exclude"):
Generarea entitatilor.NumberOut,CLEAR(Statistics),CATEGORY("Exclude");

QUEUES: Cerere pentru resursa V2.Queue,FIFO,,AUTOSTATS(Yes,,):

Cerere de alocare Elct.Queue,FIFO,,AUTOSTATS(Yes,,):
Cerere pentru trecere prin pasaj.Queue,FIFO,,AUTOSTATS(Yes,,):
Cerere pentru resursa Ambalare.Queue,FIFO,,AUTOSTATS(Yes,,):
Cerere intrare in pasaj.Queue,FIFO,,AUTOSTATS(Yes,,):
Cerere pentru resursa prelucrare.Queue,FIFO,,AUTOSTATS(Yes,,):
Queue 1,FIFO,,AUTOSTATS(Yes,,):
Cerere pentru resursa V1.Queue,FIFO,,AUTOSTATS(Yes,,):
Cerere intrare pasaj.Queue,FIFO,,AUTOSTATS(Yes,,);

RESOURCES: Resource 1,Capacity(1),,,COST(0.0,0.0,0.0),CATEGORY(Resources),,AUTOSTATS(Yes,,):

Resursa_prelucrare,Capacity(1),,,COST(0.0,0.0,0.0),CATEGORY(Resources),,AUTOSTATS(Yes,,):
Resursa_Ambalare,Capacity(1),,,COST(0.0,0.0,0.0),CATEGORY(Resources),,AUTOSTATS(Yes,,):
Resursa_V1,Capacity(1),,,COST(0.0,0.0,0.0),CATEGORY(Resources),,AUTOSTATS(Yes,,):
Resursa_V2,Capacity(1),,,COST(0.0,0.0,0.0),CATEGORY(Resources),,AUTOSTATS(Yes,,):
Pasaj,Capacity(1),,,COST(0.0,0.0,0.0),CATEGORY(Resources),,AUTOSTATS(Yes,,);

STATIONS: Ambalare,,,Ambalare,AUTOSTATS(Yes,,):

Intrare,,,Intrare,AUTOSTATS(Yes,,):
Iesire,,,Iesire,AUTOSTATS(Yes,,):
Prelucrare,,,Prelucrare,AUTOSTATS(Yes,,):
Semafor,,,Semafor,AUTOSTATS(Yes,,):
V1,,,V1,AUTOSTATS(Yes,,):
V2,,,V2,AUTOSTATS(Yes,,);

DISTANCES: Distanta,

Intrare-Semafor-25, Intrare-Prelucrare-70, Intrare-V1-115, Intrare-V2-110,
Intrare-Ambalare-160, Prelucrare-V1-45, Prelucrare-V2-40, Prelucrare-Ambalare-80,
V1-V2-85, V1-Ambalare-45, V1-Prelucrare-45, V2-V1-85, V2-Prelucrare-40,
V2-Ambalare-40, Semafor-Prelucrare-45, Ambalare-Iesire-80, Iesire-Ambalare-80,
V2-Semafor-85, V1-Semafor-90, Prelucrare-Iesire-160, Iesire-Prelucrare-160,
Iesire-V2-120, Iesire-V1-125, Iesire-Intrare-230, Iesire-Semafor-205, Ambalare-Semafor-125;

TRANSPORTERS: Electrocar,2,Distance(Distanta),60.000000000000000---,Station(Intrare)-Active,Station(Semafor)-Active,AUTOSTATS(Yes,,);

SEQUENCES:

Tip_1,
Prelucrare,,,Timp_prel=UNIF(6,9)&
V1,,,Timp_prel=NORM(7,2)&
Ambalare,,,Timp_prel=TRIA(5,8,12)&
Iesire:
Tip_2,
Prelucrare,,,Timp_prel=UNIF(7,11)&
V2,,,Timp_prel=NORM(10,4)&
Ambalare,,,Timp_prel=TRIA(7,9,13)&
Iesire;

TALLIES: Timp_in_sistem,,DATABASE("Interval","User Specified","Timp_in_sistem");

REPLICATE, 1,,HoursToBaseTime(100),Yes,Yes,,,1440,Minutes,No,No,,,Yes;

EXECUȚIA MODELULUI AVÂND CA ELEMENT DE REFERINȚĂ ENTITATEA 16

Time: 1500.6608 Entity: 16

1 60\$ CREATE
Entity Type set to Entity 1
Next creation scheduled at time 1506.3097
Batch of 1 Entity 1 entities created
2 61\$ ASSIGN
Generarea entitatilor.NumberOut set to 102.0

3 0\$ STATION
Entity 16 entered station Intrare

4 66\$ DELAY
Delayed by 0.0 until time 1500.6608

5 1\$ ASSIGN
Entity Sequence set to 2
Timp_intrare set to 1500.6608
Entity Picture set to Picture.Red Ball

6 46\$ QUEUE
Entity 16 sent to next block

7 ALLOCATE
Electrocar request for allocation
No requested units available
Entity 16 added to queue Cerere de alocare Elct.Queue at rank 1

Time: 1501.8169 Entity: 16

8 38\$ BRANCH
Selecting at most 1 of 4 branches
IF: Entity 16 sent to 48\$

19 48\$ MOVE
Electrocar(1) move to station Semafor
Electrocar(1) to arrive at time 1503.2335 at block 48\$

Time: 1503.2335 Entity: 16

20 49\$ QUEUE
Entity 16 sent to next block
21 SEIZE
Tally Cerere intrare in pasaj.Queue.WaitingTime recorded 0.0
Seized 1.0 unit(s) of resource Pasaj

22 75\$ DELAY
Delayed by 0.0 until time 1503.2335

23 51\$ MOVE
Electrocar(1) move to station Intrare
Electrocar(1) to arrive at time 1503.6502 at block 51\$

Time: 1503.6502 Entity: 16

24 52\$ RELEASE
Pasaj available increased by 1.0 to 1.0
25 53\$ DELAY
Delayed by 2.0 until time 1505.6502

Time: 1505.6502 Entity: 16

11 41\$ BRANCH
Selecting at most 1 of 2 branches
IF: Entity 16 sent to 70\$
12 70\$ ASSIGN
Entitatea se gaseste la intrare.NumberOut True set to 102.0
Entity transferred to block 42\$

14 42\$ QUEUE
Entity 16 sent to next block

15 SEIZE
Tally Cerere intrare pasaj.Queue.WaitingTime recorded 0.0
Seized 1.0 unit(s) of resource Pasaj

16 73\$ DELAY
Delayed by 0.0 until time 1505.6502

17 44\$ TRANSPORT
Electrocar(1) transport to station Semafor
Electrocar(1) to arrive at time 1506.0669 at block 2\$

Time: 1506.0669 Entity: 16

33 2\$ STATION
Entity 16 entered station Semafor
34 80\$ DELAY
Delayed by 0.0 until time 1506.0669
35 3\$ RELEASE
Pasaj available increased by 1.0 to 1.0
36 4\$ TRANSPORT
Entity Job Step set to 1
Timp_prel set to 7.8663393
Electrocar(1) transport to station Prelucrare
Electrocar(1) to arrive at time 1506.8169 at block 5\$

Time: 1506.8169 Entity: 16

37 5\$ STATION
Entity 16 entered station Prelucrare
38 83\$ DELAY
Delayed by 0.0 until time 1506.8169
39 6\$ DELAY
Delayed by 2.0 until time 1508.8169

Time: 1508.8169 Entity: 16

40 7\$ FREE
Electrocar(1) freed
Electrocar number available increased to 1
41 8\$ QUEUE
Entity 16 sent to next block
42 SEIZE
Tally Cerere pentru resursa prelucrare.Queue.WaitingTime recorded 0.0
Seized 1.0 unit(s) of resource Resursa_prelucrare
43 85\$ DELAY
Delayed by 0.0 until time 1508.8169
44 10\$ DELAY
Delayed by 7.8663393 until time 1516.6832

Time: 1516.6832 Entity: 16

45 11\$ RELEASE
Resursa_prelucrare available increased by 1.0 to 1.0
Entity 15 removed from queue Cerere pentru resursa prelucrare.Queue
Tally Cerere pentru resursa prelucrare.Queue.WaitingTime recorded 0.090872714
Resource allocated to entity 15
Seized 1.0 unit(s) of resource Resursa_prelucrare
Entity transferred to block 46\$
6 46\$ QUEUE
Entity 16 sent to next block
7 ALLOCATE
Tally Cerere de alocare Elct.Queue.WaitingTime recorded 0.0
Numar set to 2.0
Electrocar request for allocation
Electrocar(2) to arrive at block 7
8 38\$ BRANCH
Selecting at most 1 of 4 branches
IF: Branch not selected
IF: Branch not selected
IF: Branch not selected
ELSE: Entity 16 sent to 39\$
9 39\$ MOVE
Electrocar(2) move to station Prelucrare
Electrocar(2) to arrive at time 1516.6832 at block 39\$
10 40\$ DELAY
Delayed by 2.0 until time 1518.6832

Time: 1518.6832 Entity: 16

11 41\$ BRANCH
Selecting at most 1 of 2 branches
IF: Branch not selected

ELSE: Entity 16 sent to 71\$
 13 71\$ ASSIGN
 Entitatea se gaseste la intrare.NumberOut False set to 302.0
 Entity transferred to block 45\$
 18 45\$ TRANSPORT
 Entity Job Step set to 2
 Timp_prel set to 10.323958
 Electrocar(2) transport to station V2
 Electrocar(2) to arrive at time 1519.3499 at block 19\$

Time: 1519.3499 Entity: 16

55 19\$ STATION
 Entity 16 entered station V2
 56 93\$ DELAY
 Delayed by 0.0 until time 1519.3499
 57 20\$ DELAY
 Delayed by 2.0 until time 1521.3499

Time: 1521.3499 Entity: 16

58 21\$ FREE
 Electrocar(2) freed
 Electrocar number available increased to 1
 59 22\$ QUEUE
 Entity 16 sent to next block
 60 SEIZE
 Tally Cerere pentru resursa V2.Queue.WaitingTime recorded 0.0
 Seized 1.0 unit(s) of resource Resursa_V2
 61 95\$ DELAY
 Delayed by 0.0 until time 1521.3499
 62 24\$ DELAY
 Delayed by 10.323958 until time 1531.6738

Time: 1531.6738 Entity: 16

63 25\$ RELEASE
 Resursa_V2 available increased by 1.0 to 1.0
 Entity transferred to block 46\$
 6 46\$ QUEUE
 Entity 16 sent to next block
 7 ALLOCATE
 Electrocar request for allocation
 No requested units available
 Entity 16 added to queue Cerere de alocare Elct.Queue at rank 2

Time: 1534.7827 Entity: 16

8 38\$ BRANCH
 Selecting at most 1 of 4 branches
 IF: Branch not selected
 IF: Branch not selected
 IF: Branch not selected
 ELSE: Entity 16 sent to 39\$
 9 39\$ MOVE
 Electrocar(2) move to station V2
 Electrocar(2) to arrive at time 1536.7827 at block 39\$

Time: 1536.7827 Entity: 16

10 40\$ DELAY
 Delayed by 2.0 until time 1538.7827

Time: 1538.7827 Entity: 16

11 41\$ BRANCH
 Selecting at most 1 of 2 branches
 IF: Branch not selected
 ELSE: Entity 16 sent to 71\$
 13 71\$ ASSIGN
 Entitatea se gaseste la intrare.NumberOut False set to 306.0
 Entity transferred to block 45\$
 18 45\$ TRANSPORT

Entity Job Step set to 3
Timp_prel set to 10.012552
Electrocar(2) transport to station Ambalare
Electrocar(2) to arrive at time 1539.4494 at block 26\$

Time: 1539.4494 Entity: 16

64 26\$ STATION
Entity 16 entered station Ambalare

65 98\$ DELAY
Delayed by 0.0 until time 1539.4494
66 27\$ DELAY
Delayed by 2.0 until time 1541.4494

Time: 1541.4494 Entity: 16

67 28\$ FREE
Electrocar(2) freed
Electrocar number available increased to 1
Entity 8 removed from queue Cerere de alocare Elct.Queue
Tally Cerere de alocare Elct.Queue.WaitingTime recorded 9.7721442
Numar set to 2.0
Electrocar(2) to arrive at block 7
68 29\$ QUEUE
Entity 16 sent to next block
69 SEIZE
Tally Cerere pentru resursa Ambalare.Queue.WaitingTime recorded 0.0
Seized 1.0 unit(s) of resource Resursa_Ambalare
70 100\$ DELAY
Delayed by 0.0 until time 1541.4494
71 31\$ DELAY
Delayed by 10.012552 until time 1551.4619

Time: 1551.4619 Entity: 16

72 32\$ RELEASE
Resursa_Ambalare available increased by 1.0 to 1.0
Entity transferred to block 46\$
6 46\$ QUEUE
Entity 16 sent to next block
7 ALLOCATE
Electrocar request for allocation
No requested units available
Entity 16 added to queue Cerere de alocare Elct.Queue at rank 3

Time: 1559.4685 Entity: 16

8 38\$ BRANCH
Selecting at most 1 of 4 branches
IF: Branch not selected
IF: Branch not selected
IF: Branch not selected
ELSE: Entity 16 sent to 39\$
9 39\$ MOVE
Electrocar(1) move to station Ambalare
Electrocar(1) to arrive at time 1559.4685 at block 39\$
10 40\$ DELAY
Delayed by 2.0 until time 1561.4685

Time: 1561.4685 Entity: 16

11 41\$ BRANCH
Selecting at most 1 of 2 branches
IF: Branch not selected
ELSE: Entity 16 sent to 71\$
13 71\$ ASSIGN
Entitatea se gaseste la intrare.NumberOut False set to 309.0
Entity transferred to block 45\$
18 45\$ TRANSPORT

Entity Job Step set to 4
Electrocar(1) transport to station lesire
Electrocar(1) to arrive at time 1562.8019 at block 33\$

Time: 1562.8019 Entity: 16

73 33\$ STATION
Entity 16 entered station lesire

74 103\$ DELAY
Delayed by 0.0 until time 1562.8019

75 34\$ DELAY
Delayed by 2.0 until time 1564.8019

Time: 1564.8019 Entity: 16

76 35\$ FREE
Electrocar(1) freed
Electrocar number available increased to 1
Entity 3 removed from queue Cerere de alocare Elct.Queue
Tally Cerere de alocare Elct.Queue.WaitingTime recorded 6.5186561
Numar set to 1.0
Electrocar(1) to arrive at block 7

77 36\$ TALLY
Tally Timp_in_sistem recorded 64.141032

78 37\$ ASSIGN
Dispose 2.NumberOut set to 102.0

79 104\$ DISPOSE
Tally Entity 1.VATime recorded 0.0
Tally Entity 1.NVATime recorded 0.0
Tally Entity 1.WaitTime recorded 12.271517
Tally Entity 1.TranTime recorded 7.6666667
Tally Entity 1.OtherTime recorded 44.202849
Tally Entity 1.TotalTime recorded 64.141032
Disposing entity 16