

- 1) If there was no synchronization tools you could end up with a race conditions, because of the shared resource of the passenger platform queue, threads could be reading/writing to the same slot. We need to provide the critical section with mutual exclusion while also avoiding deadlock. An example would be two taxis picking up the same passenger.

- 2) [2,5,10], [100,10,2]

daniele.bercovici@teaching ~ \$./a.out 2 100

You entered: 2 airplanes per hour

You entered: 100 taxis

Creating airplane thread 0

Creating airplane thread 1

Airplane 0 arrives with 6 passengers

Passenger 1000000 of airplane 0 arrives to platform

Passenger 1000001 of airplane 0 arrives to platform

Passenger 1000002 of airplane 0 arrives to platform

Passenger 1000003 of airplane 0 arrives to platform

Passenger 1000004 of airplane 0 arrives to platform

Passenger 1000005 of airplane 0 arrives to platform

Airplane 1 arrives with 9 passengers

Passenger 1001000 of airplane 1 arrives to platform

Passenger 1001001 of airplane 1 arrives to platform

Passenger 1001002 of airplane 1 arrives to platform

Passenger 1001003 of airplane 1 arrives to platform

Passenger 1001004 of airplane 1 arrives to platform

Passenger 1001005 of airplane 1 arrives to platform

Passenger 1001006 of airplane 1 arrives to platform

Passenger 1001007 of airplane 1 arrives to platform

Passenger 1001008 of airplane 1 arrives to platform

Taxi driver 0 arrives

Taxi driver 0 picked up client 1000000 from platform

Taxi driver 1 arrives

Taxi driver 1 picked up client 1000001 from platform

Taxi driver 2 arrives

Taxi driver 2 picked up client 1000002 from platform

Taxi driver 0 arrives

Taxi driver 0 picked up client 1000003 from platform

Taxi driver 2 arrives

Taxi driver 2 picked up client 1000004 from platform

Taxi driver 1 arrives

Taxi driver 1 picked up client 1000005 from platform

Taxi driver 3 arrives

Taxi driver 3 picked up client 1001000 from platform

Taxi driver 4 arrives

Taxi driver 4 picked up client 1001001 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1001002 from platform
Taxi driver 2 arrives
Taxi driver 2 picked up client 1001003 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1001004 from platform
Taxi driver 3 arrives
Taxi driver 3 picked up client 1001005 from platform
Taxi driver 5 arrives
Taxi driver 5 picked up client 1001006 from platform
Taxi driver 6 arrives
Taxi driver 6 picked up client 1001007 from platform
Taxi driver 7 arrives
Taxi driver 7 picked up client 1001008 from platform
Taxi driver 8 arrives
Taxi driver 8 waits for passengers to enter the platform
Taxi driver 9 arrives
Taxi driver 9 waits for passengers to enter the platform
Taxi driver 4 arrives
Taxi driver 11 arrives
Taxi driver 11 waits for passengers to enter the platform
Taxi driver 4 waits for passengers to enter the platform
Taxi driver 0 arrives
Taxi driver 0 waits for passengers to enter the platform
Taxi driver 2 arrives
Taxi driver 2 waits for passengers to enter the platform
Taxi driver 1 arrives
Taxi driver 1 waits for passengers to enter the platform
Taxi driver 3 arrives
Taxi driver 3 waits for passengers to enter the platform
Taxi driver 7 arrives
Taxi driver 7 waits for passengers to enter the platform
Taxi driver 6 arrives
Taxi driver 6 waits for passengers to enter the platform
Taxi driver 5 arrives
Taxi driver 5 waits for passengers to enter the platform
Taxi driver 10 arrives
Taxi driver 10 waits for passengers to enter the platform
Taxi driver 12 arrives
Taxi driver 12 waits for passengers to enter the platform
Taxi driver 13 arrives
Taxi driver 13 waits for passengers to enter the platform
Taxi driver 14 arrives

Taxi driver 14 waits for passengers to enter the platform
Taxi driver 15 arrives
Taxi driver 15 waits for passengers to enter the platform
Taxi driver 16 arrives
Taxi driver 16 waits for passengers to enter the platform
Taxi driver 17 arrives
Taxi driver 17 waits for passengers to enter the platform
Taxi driver 18 arrives
Taxi driver 18 waits for passengers to enter the platform
Taxi driver 20 arrives
Taxi driver 20 waits for passengers to enter the platform
Taxi driver 19 arrives
Taxi driver 19 waits for passengers to enter the platform
Taxi driver 21 arrives
Taxi driver 21 waits for passengers to enter the platform
Taxi driver 22 arrives
Taxi driver 22 waits for passengers to enter the platform
Taxi driver 24 arrives
Taxi driver 24 waits for passengers to enter the platform
Taxi driver 23 arrives
Taxi driver 23 waits for passengers to enter the platform
Taxi driver 25 arrives
Taxi driver 25 waits for passengers to enter the platform
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Taxi driver 26 waits for passengers to enter the platform
Taxi driver 27 arrives
Taxi driver 27 waits for passengers to enter the platform
Taxi driver 28 arrives
Taxi driver 28 waits for passengers to enter the platform
Taxi driver 29 arrives
Taxi driver 29 waits for passengers to enter the platform
Taxi driver 30 arrives
Taxi driver 30 waits for passengers to enter the platform
Taxi driver 31 arrives
Taxi driver 31 waits for passengers to enter the platform
Taxi driver 32 arrives
Taxi driver 32 waits for passengers to enter the platform
Taxi driver 34 arrives
Taxi driver 34 waits for passengers to enter the platform
Taxi driver 35 arrives
Taxi driver 35 waits for passengers to enter the platform
Taxi driver 36 arrives
Taxi driver 36 waits for passengers to enter the platform
Taxi driver 33 arrives

Taxi driver 33 waits for passengers to enter the platform
Taxi driver 37 arrives
Taxi driver 37 waits for passengers to enter the platform
Taxi driver 38 arrives
Taxi driver 38 waits for passengers to enter the platform
Taxi driver 39 arrives
Taxi driver 39 waits for passengers to enter the platform
Taxi driver 40 arrives
Taxi driver 40 waits for passengers to enter the platform
Taxi driver 41 arrives
Taxi driver 41 waits for passengers to enter the platform
Taxi driver 42 arrives
Taxi driver 42 waits for passengers to enter the platform
Taxi driver 43 arrives
Taxi driver 43 waits for passengers to enter the platform
Taxi driver 44 arrives
Taxi driver 44 waits for passengers to enter the platform
Taxi driver 45 arrives
Taxi driver 45 waits for passengers to enter the platform
Taxi driver 47 arrives
Taxi driver 47 waits for passengers to enter the platform
Taxi driver 48 arrives
Taxi driver 48 waits for passengers to enter the platform
Taxi driver 49 arrives
Taxi driver 49 waits for passengers to enter the platform
Taxi driver 50 arrives
Taxi driver 50 waits for passengers to enter the platform
Taxi driver 51 arrives
Taxi driver 51 waits for passengers to enter the platform
Taxi driver 52 arrives
Taxi driver 52 waits for passengers to enter the platform
Taxi driver 53 arrives
Taxi driver 53 waits for passengers to enter the platform
Taxi driver 54 arrives
Taxi driver 54 waits for passengers to enter the platform
Taxi driver 55 arrives
Taxi driver 55 waits for passengers to enter the platform
Taxi driver 46 arrives
Taxi driver 58 arrives
Taxi driver 57 arrives
Taxi driver 57 waits for passengers to enter the platform
Taxi driver 58 waits for passengers to enter the platform
Taxi driver 46 waits for passengers to enter the platform
Taxi driver 59 arrives

Taxi driver 65 arrives
Taxi driver 61 arrives
Taxi driver 61 waits for passengers to enter the platform
Taxi driver 62 arrives
Taxi driver 62 waits for passengers to enter the platform
Taxi driver 63 arrives
Taxi driver 63 waits for passengers to enter the platform
Taxi driver 65 waits for passengers to enter the platform
Taxi driver 68 arrives
Taxi driver 68 waits for passengers to enter the platform
Taxi driver 69 arrives
Taxi driver 69 waits for passengers to enter the platform
Taxi driver 70 arrives
Taxi driver 70 waits for passengers to enter the platform
Taxi driver 71 arrives
Taxi driver 71 waits for passengers to enter the platform
Taxi driver 72 arrives
Taxi driver 72 waits for passengers to enter the platform
Taxi driver 73 arrives
Taxi driver 73 waits for passengers to enter the platform
Taxi driver 74 arrives
Taxi driver 74 waits for passengers to enter the platform
Taxi driver 75 arrives
Taxi driver 75 waits for passengers to enter the platform
Taxi driver 76 arrives
Taxi driver 76 waits for passengers to enter the platform
Taxi driver 77 arrives
Taxi driver 77 waits for passengers to enter the platform
Taxi driver 78 arrives
Taxi driver 78 waits for passengers to enter the platform
Taxi driver 79 arrives
Taxi driver 79 waits for passengers to enter the platform
Taxi driver 67 arrives
Taxi driver 81 arrives
Taxi driver 81 waits for passengers to enter the platform
Taxi driver 83 arrives
Taxi driver 83 waits for passengers to enter the platform
Taxi driver 59 waits for passengers to enter the platform
Taxi driver 60 arrives
Taxi driver 60 waits for passengers to enter the platform
Taxi driver 66 arrives
Taxi driver 66 waits for passengers to enter the platform
Taxi driver 86 arrives
Taxi driver 86 waits for passengers to enter the platform

Taxi driver 87 arrives
Taxi driver 87 waits for passengers to enter the platform
Taxi driver 88 arrives
Taxi driver 88 waits for passengers to enter the platform
Taxi driver 89 arrives
Taxi driver 89 waits for passengers to enter the platform
Taxi driver 90 arrives
Taxi driver 90 waits for passengers to enter the platform
Taxi driver 91 arrives
Taxi driver 91 waits for passengers to enter the platform
Taxi driver 84 arrives
Taxi driver 84 waits for passengers to enter the platform
Taxi driver 67 waits for passengers to enter the platform
Taxi driver 96 arrives
Taxi driver 82 arrives
Taxi driver 82 waits for passengers to enter the platform
Taxi driver 85 arrives
Taxi driver 85 waits for passengers to enter the platform
Taxi driver 96 waits for passengers to enter the platform
Taxi driver 97 arrives
Taxi driver 97 waits for passengers to enter the platform
Taxi driver 98 arrives
Taxi driver 98 waits for passengers to enter the platform
Taxi driver 99 arrives
Taxi driver 99 waits for passengers to enter the platform
Taxi driver 56 arrives
Taxi driver 56 waits for passengers to enter the platform
Taxi driver 80 arrives
Taxi driver 80 waits for passengers to enter the platform
Taxi driver 92 arrives
Taxi driver 92 waits for passengers to enter the platform
Taxi driver 93 arrives
Taxi driver 93 waits for passengers to enter the platform
Taxi driver 94 arrives
Taxi driver 94 waits for passengers to enter the platform
Taxi driver 95 arrives
Taxi driver 95 waits for passengers to enter the platform
Taxi driver 64 arrives
Taxi driver 64 waits for passengers to enter the platform
Airplane 0 arrives with 5 passengers
Passenger 1000000 of airplane 0 arrives to platform
Passenger 1000001 of airplane 0 arrives to platform
Passenger 1000002 of airplane 0 arrives to platform
Passenger 1000003 of airplane 0 arrives to platform

Passenger 1000004 of airplane 0 arrives to platform
Taxi driver 4 picked up client 1000000 from platform
Taxi driver 9 picked up client 1000001 from platform
Taxi driver 8 picked up client 1000002 from platform
Airplane 1 arrives with 7 passengers
Passenger 1001000 of airplane 1 arrives to platform
Passenger 1001001 of airplane 1 arrives to platform
Passenger 1001002 of airplane 1 arrives to platform
Passenger 1001003 of airplane 1 arrives to platform
Passenger 1001004 of airplane 1 arrives to platform
Passenger 1001005 of airplane 1 arrives to platform
Passenger 1001006 of airplane 1 arrives to platform
Taxi driver 0 picked up client 1000003 from platform
Taxi driver 2 picked up client 1000004 from platform
Taxi driver 1 picked up client 1001000 from platform
Taxi driver 3 picked up client 1001001 from platform
Taxi driver 7 picked up client 1001002 from platform
Taxi driver 6 picked up client 1001003 from platform
Taxi driver 5 picked up client 1001004 from platform
Taxi driver 10 picked up client 1001005 from platform
Taxi driver 8 arrives
Taxi driver 0 arrives
Taxi driver 11 picked up client 1001006 from platform
Taxi driver 9 arrives
Taxi driver 9 waits for passengers to enter the platform
Taxi driver 4 arrives
Taxi driver 7 arrives
Taxi driver 7 waits for passengers to enter the platform
Taxi driver 4 waits for passengers to enter the platform
Taxi driver 10 arrives
Taxi driver 10 waits for passengers to enter the platform
Taxi driver 6 arrives
Taxi driver 6 waits for passengers to enter the platform
Taxi driver 5 arrives
Taxi driver 5 waits for passengers to enter the platform
Taxi driver 3 arrives
Taxi driver 3 waits for passengers to enter the platform
Taxi driver 1 arrives
Taxi driver 1 waits for passengers to enter the platform
Taxi driver 2 arrives
Taxi driver 2 waits for passengers to enter the platform
Taxi driver 11 arrives
Taxi driver 11 waits for passengers to enter the platform
Airplane 0 arrives with 5 passengers

Passenger 1000000 of airplane 0 arrives to platform
Passenger 1000001 of airplane 0 arrives to platform
Taxi driver 12 picked up client 1000000 from platform
Passenger 1000002 of airplane 0 arrives to platform
Airplane 1 arrives with 5 passengers
Passenger 1000003 of airplane 0 arrives to platform
Passenger 1000004 of airplane 0 arrives to platform
Taxi driver 15 picked up client 1000001 from platform
Taxi driver 16 picked up client 1000002 from platform
Taxi driver 14 picked up client 1000003 from platform
Taxi driver 13 picked up client 1000004 from platform
Taxi driver 12 arrives
Taxi driver 12 waits for passengers to enter the platform
Passenger 1001000 of airplane 1 arrives to platform
Passenger 1001001 of airplane 1 arrives to platform
Passenger 1001002 of airplane 1 arrives to platform
Passenger 1001003 of airplane 1 arrives to platform
Passenger 1001004 of airplane 1 arrives to platform
Taxi driver 17 picked up client 1001000 from platform
Taxi driver 18 picked up client 1001001 from platform
Taxi driver 19 picked up client 1001002 from platform
Taxi driver 20 picked up client 1001003 from platform
Taxi driver 21 picked up client 1001004 from platform
Taxi driver 14 arrives
Taxi driver 14 waits for passengers to enter the platform
Taxi driver 17 arrives
Taxi driver 17 waits for passengers to enter the platform
Taxi driver 13 arrives
Taxi driver 13 waits for passengers to enter the platform
Taxi driver 16 arrives
Taxi driver 16 waits for passengers to enter the platform
Taxi driver 15 arrives
Taxi driver 15 waits for passengers to enter the platform
Taxi driver 21 arrives
Taxi driver 21 waits for passengers to enter the platform
Taxi driver 20 arrives
Taxi driver 20 waits for passengers to enter the platform
Taxi driver 18 arrives
Taxi driver 18 waits for passengers to enter the platform
Taxi driver 19 arrives
Taxi driver 19 waits for passengers to enter the platform
Airplane 0 arrives with 10 passengers
Passenger 1000000 of airplane 0 arrives to platform
Passenger 1000001 of airplane 0 arrives to platform

Passenger 1000002 of airplane 0 arrives to platform
Passenger 1000003 of airplane 0 arrives to platform
Passenger 1000004 of airplane 0 arrives to platform
Taxi driver 24 picked up client 1000000 from platform
Taxi driver 22 picked up client 1000001 from platform
Taxi driver 25 picked up client 1000002 from platform
Taxi driver 26 picked up client 1000003 from platform
Airplane 1 arrives with 10 passengers
Passenger 1001000 of airplane 1 arrives to platform
Passenger 1001001 of airplane 1 arrives to platform
Passenger 1001002 of airplane 1 arrives to platform
Passenger 1001003 of airplane 1 arrives to platform
Passenger 1001004 of airplane 1 arrives to platform
Passenger 1001005 of airplane 1 arrives to platform
Passenger 1001006 of airplane 1 arrives to platform
Passenger 1001007 of airplane 1 arrives to platform
Passenger 1001008 of airplane 1 arrives to platform
Passenger 1001009 of airplane 1 arrives to platform
Taxi driver 27 picked up client 1000004 from platform
Taxi driver 28 picked up client 1001000 from platform
Taxi driver 29 picked up client 1001001 from platform
Taxi driver 23 picked up client 1001002 from platform
Taxi driver 32 picked up client 1001003 from platform
Taxi driver 33 picked up client 1001004 from platform
Taxi driver 35 picked up client 1001005 from platform
Passenger 1000005 of airplane 0 arrives to platform
Taxi driver 30 picked up client 1001006 from platform
Taxi driver 37 picked up client 1001007 from platform
Taxi driver 36 picked up client 1001008 from platform
Taxi driver 31 picked up client 1001009 from platform
Taxi driver 34 picked up client 1000005 from platform
Taxi driver 28 arrives
Taxi driver 28 waits for passengers to enter the platform
Taxi driver 26 arrives
Taxi driver 26 waits for passengers to enter the platform
Taxi driver 25 arrives
Taxi driver 25 waits for passengers to enter the platform
Taxi driver 33 arrives
Taxi driver 32 arrives
Taxi driver 32 waits for passengers to enter the platform
Passenger 1000006 of airplane 0 arrives to platform
Taxi driver 32 picked up client 1000006 from platform
Taxi driver 27 arrives
Taxi driver 37 arrives

Taxi driver 34 arrives
Taxi driver 31 arrives
Taxi driver 29 arrives
Taxi driver 36 arrives
Taxi driver 22 arrives
Taxi driver 35 arrives
Taxi driver 30 arrives
Taxi driver 32 arrives
Taxi driver 24 arrives
Taxi driver 23 arrives
Taxi driver 33 waits for passengers to enter the platform
Passenger 1000007 of airplane 0 arrives to platform
Passenger 1000008 of airplane 0 arrives to platform
Passenger 1000009 of airplane 0 arrives to platform
Taxi driver 41 picked up client 1000007 from platform
Taxi driver 40 picked up client 1000008 from platform
Taxi driver 39 picked up client 1000009 from platform
Taxi driver 39 arrives
Taxi driver 39 waits for passengers to enter the platform
Taxi driver 40 arrives
Taxi driver 40 waits for passengers to enter the platform
Taxi driver 41 arrives
Taxi driver 41 waits for passengers to enter the platform
Airplane 1 arrives with 10 passengers
Passenger 1001000 of airplane 1 arrives to platform
Passenger 1001001 of airplane 1 arrives to platform
Passenger 1001002 of airplane 1 arrives to platform
Passenger 1001003 of airplane 1 arrives to platform
Passenger 1001004 of airplane 1 arrives to platform
Passenger 1001005 of airplane 1 arrives to platform
Passenger 1001006 of airplane 1 arrives to platform
Passenger 1001007 of airplane 1 arrives to platform
Passenger 1001008 of airplane 1 arrives to platform
Passenger 1001009 of airplane 1 arrives to platform
Taxi driver 42 picked up client 1001000 from platform
Taxi driver 43 picked up client 1001001 from platform
Taxi driver 44 picked up client 1001002 from platform
Taxi driver 45 picked up client 1001003 from platform
Taxi driver 47 picked up client 1001004 from platform
Taxi driver 48 picked up client 1001005 from platform
Taxi driver 49 picked up client 1001006 from platform
Taxi driver 50 picked up client 1001007 from platform
Taxi driver 51 picked up client 1001008 from platform
Taxi driver 52 picked up client 1001009 from platform

Taxi driver 49 arrives
Taxi driver 49 waits for passengers to enter the platform
Taxi driver 51 arrives
Taxi driver 51 waits for passengers to enter the platform
Taxi driver 47 arrives
Taxi driver 47 waits for passengers to enter the platform
Taxi driver 44 arrives
Taxi driver 44 waits for passengers to enter the platform
Taxi driver 45 arrives
Taxi driver 45 waits for passengers to enter the platform
Taxi driver 52 arrives
Taxi driver 52 waits for passengers to enter the platform
Taxi driver 48 arrives
Taxi driver 48 waits for passengers to enter the platform
Taxi driver 50 arrives
Taxi driver 50 waits for passengers to enter the platform
Taxi driver 43 arrives
Taxi driver 43 waits for passengers to enter the platform
Taxi driver 42 arrives
Taxi driver 42 waits for passengers to enter the platform
Airplane 0 arrives with 7 passengers
Passenger 1000000 of airplane 0 arrives to platform
Passenger 1000001 of airplane 0 arrives to platform
Passenger 1000002 of airplane 0 arrives to platform
Passenger 1000003 of airplane 0 arrives to platform
Taxi driver 54 picked up client 1000000 from platform
Taxi driver 53 picked up client 1000001 from platform
Taxi driver 55 picked up client 1000002 from platform
Taxi driver 57 picked up client 1000003 from platform
Passenger 1000004 of airplane 0 arrives to platform
Passenger 1000005 of airplane 0 arrives to platform
Passenger 1000006 of airplane 0 arrives to platform
Taxi driver 46 picked up client 1000004 from platform
Taxi driver 53 arrives
Taxi driver 53 picked up client 1000005 from platform
Taxi driver 61 picked up client 1000006 from platform
Taxi driver 57 arrives
Taxi driver 57 waits for passengers to enter the platform
Taxi driver 55 arrives
Taxi driver 55 waits for passengers to enter the platform
Taxi driver 54 arrives
Taxi driver 54 waits for passengers to enter the platform
Taxi driver 46 arrives
Taxi driver 46 waits for passengers to enter the platform

Taxi driver 53 arrives
Taxi driver 53 waits for passengers to enter the platform
Taxi driver 61 arrives
Taxi driver 61 waits for passengers to enter the platform

daniele.bercovici@teaching ~ \$./a.out 5 10
You entered: 5 airplanes per hour
You entered: 10 taxis
Creating airplane thread 0
Creating airplane thread 1
Airplane 0 arrives with 6 passengers
Passenger 1000000 of airplane 0 arrives to platform
Passenger 1000001 of airplane 0 arrives to platform
Passenger 1000002 of airplane 0 arrives to platform
Creating airplane thread 2
Airplane 1 arrives with 9 passengers
Creating airplane thread 3
Creating airplane thread 4
Airplane 2 arrives with 8 passengers
Passenger 1000003 of airplane 0 arrives to platform
Passenger 1000004 of airplane 0 arrives to platform
Passenger 1000005 of airplane 0 arrives to platform
Passenger 1001000 of airplane 1 arrives to platform
Passenger 1001001 of airplane 1 arrives to platform
Passenger 1001002 of airplane 1 arrives to platform
Passenger 1001003 of airplane 1 arrives to platform
Passenger 1001004 of airplane 1 arrives to platform
Passenger 1001005 of airplane 1 arrives to platform
Passenger 1001006 of airplane 1 arrives to platform
Passenger 1001007 of airplane 1 arrives to platform
Passenger 1001008 of airplane 1 arrives to platform
Airplane 3 arrives with 6 passengers
Passenger 1003000 of airplane 3 arrives to platform
Passenger 1003001 of airplane 3 arrives to platform
Passenger 1003002 of airplane 3 arrives to platform
Passenger 1003003 of airplane 3 arrives to platform
Passenger 1003004 of airplane 3 arrives to platform
Passenger 1003005 of airplane 3 arrives to platform
Airplane 4 arrives with 10 passengers
Passenger 1004000 of airplane 4 arrives to platform

Passenger 1004001 of airplane 4 arrives to platform
Passenger 1004002 of airplane 4 arrives to platform
Passenger 1004003 of airplane 4 arrives to platform
Passenger 1004004 of airplane 4 arrives to platform
Passenger 1004005 of airplane 4 arrives to platform
Passenger 1004006 of airplane 4 arrives to platform
Passenger 1004007 of airplane 4 arrives to platform
Passenger 1004008 of airplane 4 arrives to platform
Passenger 1004009 of airplane 4 arrives to platform
Passenger 1002000 of airplane 2 arrives to platform
Passenger 1002001 of airplane 2 arrives to platform
Passenger 1002002 of airplane 2 arrives to platform
Passenger 1002003 of airplane 2 arrives to platform
Passenger 1002004 of airplane 2 arrives to platform
Passenger 1002005 of airplane 2 arrives to platform
Passenger 1002006 of airplane 2 arrives to platform
Passenger 1002007 of airplane 2 arrives to platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1000000 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1000001 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1000002 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1000003 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1000004 from platform
Taxi driver 2 arrives
Taxi driver 2 picked up client 1000005 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1001000 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1001001 from platform
Taxi driver 2 arrives
Taxi driver 2 picked up client 1001002 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1001003 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1001004 from platform
Taxi driver 4 arrives
Taxi driver 4 picked up client 1001005 from platform
Taxi driver 2 arrives
Taxi driver 2 picked up client 1001006 from platform
Taxi driver 4 arrives

Taxi driver 4 picked up client 1001007 from platform
Taxi driver 6 arrives
Taxi driver 6 picked up client 1001008 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1003000 from platform
Taxi driver 8 arrives
Taxi driver 8 picked up client 1003001 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1003002 from platform
Taxi driver 4 arrives
Taxi driver 4 picked up client 1003003 from platform
Taxi driver 6 arrives
Taxi driver 6 picked up client 1003004 from platform
Taxi driver 8 arrives
Taxi driver 8 picked up client 1003005 from platform
Taxi driver 9 arrives
Taxi driver 9 picked up client 1004000 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1004001 from platform
Taxi driver 5 arrives
Taxi driver 2 arrives
Taxi driver 2 picked up client 1004002 from platform
Taxi driver 8 arrives
Taxi driver 8 picked up client 1004003 from platform
Taxi driver 4 arrives
Taxi driver 4 picked up client 1004004 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1004005 from platform
Taxi driver 5 picked up client 1004006 from platform
Taxi driver 9 arrives
Taxi driver 9 picked up client 1004007 from platform
Taxi driver 7 arrives
Taxi driver 7 picked up client 1004008 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1004009 from platform
Taxi driver 6 arrives
Taxi driver 6 picked up client 1002000 from platform
Taxi driver 9 arrives
Taxi driver 3 arrives
Taxi driver 1 arrives
Taxi driver 0 arrives
Taxi driver 8 arrives
Taxi driver 2 arrives
Taxi driver 9 picked up client 1002001 from platform

Taxi driver 7 arrives
Taxi driver 7 picked up client 1002002 from platform
Taxi driver 4 arrives
Taxi driver 6 arrives
Taxi driver 5 arrives
Taxi driver 9 arrives
Taxi driver 1 picked up client 1002003 from platform
Taxi driver 0 picked up client 1002004 from platform
Taxi driver 8 picked up client 1002005 from platform
Taxi driver 2 picked up client 1002006 from platform
Taxi driver 3 picked up client 1002007 from platform
Taxi driver 1 arrives
Taxi driver 1 waits for passengers to enter the platform
Taxi driver 8 arrives
Taxi driver 8 waits for passengers to enter the platform
Taxi driver 0 arrives
Taxi driver 0 waits for passengers to enter the platform
Taxi driver 2 arrives
Taxi driver 2 waits for passengers to enter the platform
Taxi driver 7 arrives
Taxi driver 7 waits for passengers to enter the platform
Taxi driver 3 arrives
Taxi driver 3 waits for passengers to enter the platform
Airplane 0 arrives with 7 passengers
Passenger 1000000 of airplane 0 arrives to platform
Passenger 1000001 of airplane 0 arrives to platform
Passenger 1000002 of airplane 0 arrives to platform
Passenger 1000003 of airplane 0 arrives to platform
Passenger 1000004 of airplane 0 arrives to platform
Passenger 1000005 of airplane 0 arrives to platform
Passenger 1000006 of airplane 0 arrives to platform
Airplane 1 arrives with 6 passengers
Taxi driver 1 picked up client 1000000 from platform
Passenger 1001000 of airplane 1 arrives to platform
Passenger 1001001 of airplane 1 arrives to platform
Passenger 1001002 of airplane 1 arrives to platform
Passenger 1001003 of airplane 1 arrives to platform
Passenger 1001004 of airplane 1 arrives to platform
Passenger 1001005 of airplane 1 arrives to platform
Taxi driver 4 picked up client 1000001 from platform
Taxi driver 6 picked up client 1000002 from platform
Taxi driver 0 picked up client 1000003 from platform
Taxi driver 8 picked up client 1000004 from platform
Taxi driver 9 picked up client 1000005 from platform

Taxi driver 1 arrives
Taxi driver 1 picked up client 1000006 from platform
Taxi driver 4 arrives
Taxi driver 2 picked up client 1001000 from platform
Taxi driver 6 arrives
Taxi driver 6 picked up client 1001001 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1001002 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1001003 from platform
Taxi driver 4 picked up client 1001004 from platform
Airplane 2 arrives with 7 passengers
Passenger 1002000 of airplane 2 arrives to platform
Passenger 1002001 of airplane 2 arrives to platform
Passenger 1002002 of airplane 2 arrives to platform
Passenger 1002003 of airplane 2 arrives to platform
Passenger 1002004 of airplane 2 arrives to platform
Passenger 1002005 of airplane 2 arrives to platform
Passenger 1002006 of airplane 2 arrives to platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1001005 from platform
Taxi driver 9 arrives
Taxi driver 9 picked up client 1002000 from platform
Airplane 4 arrives with 10 passengers
Passenger 1004000 of airplane 4 arrives to platform
Passenger 1004001 of airplane 4 arrives to platform
Passenger 1004002 of airplane 4 arrives to platform
Passenger 1004003 of airplane 4 arrives to platform
Taxi driver 8 arrives
Taxi driver 0 arrives
Taxi driver 4 arrives
Taxi driver 6 arrives
Taxi driver 9 arrives
Airplane 3 arrives with 7 passengers
Passenger 1004004 of airplane 4 arrives to platform
Passenger 1004005 of airplane 4 arrives to platform
Taxi driver 5 picked up client 1002001 from platform
Taxi driver 8 picked up client 1002002 from platform
Taxi driver 2 arrives
Taxi driver 1 arrives
Taxi driver 0 picked up client 1002003 from platform
Taxi driver 5 arrives
Taxi driver 5 picked up client 1002004 from platform
Taxi driver 0 arrives

Taxi driver 8 arrives
Taxi driver 3 picked up client 1002005 from platform
Taxi driver 6 picked up client 1002006 from platform
Taxi driver 9 picked up client 1004000 from platform
Taxi driver 5 arrives
Taxi driver 3 arrives
Passenger 1003000 of airplane 3 arrives to platform
Passenger 1003001 of airplane 3 arrives to platform
Taxi driver 6 arrives
Taxi driver 6 picked up client 1004001 from platform
Passenger 1003002 of airplane 3 arrives to platform
Passenger 1003003 of airplane 3 arrives to platform
Passenger 1003004 of airplane 3 arrives to platform
Passenger 1003005 of airplane 3 arrives to platform
Taxi driver 4 picked up client 1004002 from platform
Taxi driver 6 arrives
Taxi driver 6 picked up client 1004003 from platform
Taxi driver 7 picked up client 1004004 from platform
Taxi driver 9 arrives
Taxi driver 1 picked up client 1004005 from platform
Taxi driver 3 picked up client 1003000 from platform
Taxi driver 0 picked up client 1003001 from platform
Taxi driver 4 arrives
Taxi driver 6 arrives
Taxi driver 5 picked up client 1003002 from platform
Taxi driver 7 arrives
Taxi driver 1 arrives
Taxi driver 3 arrives
Passenger 1003006 of airplane 3 arrives to platform
Taxi driver 2 picked up client 1003003 from platform
Taxi driver 8 picked up client 1003004 from platform
Taxi driver 5 arrives
Taxi driver 0 arrives
Taxi driver 9 picked up client 1003005 from platform
Passenger 1004006 of airplane 4 arrives to platform
Passenger 1004007 of airplane 4 arrives to platform
Taxi driver 6 picked up client 1003006 from platform
Taxi driver 4 picked up client 1004006 from platform
Taxi driver 7 picked up client 1004007 from platform
Taxi driver 9 arrives
Taxi driver 9 waits for passengers to enter the platform
Passenger 1004008 of airplane 4 arrives to platform
Passenger 1004009 of airplane 4 arrives to platform
Taxi driver 6 arrives

Taxi driver 8 arrives
Taxi driver 4 arrives
Taxi driver 2 arrives
Taxi driver 1 picked up client 1004008 from platform
Taxi driver 7 arrives
Taxi driver 3 picked up client 1004009 from platform
Taxi driver 3 arrives
Taxi driver 3 waits for passengers to enter the platform
Taxi driver 1 arrives
Taxi driver 1 waits for passengers to enter the platform

daniele.bercovici@teaching ~ \$./a.out 10 2
You entered: 10 airplanes per hour
You entered: 2 taxis
Creating airplane thread 0
Creating airplane thread 1
Creating airplane thread 2
Airplane 0 arrives with 6 passengers
Passenger 1000000 of airplane 0 arrives to platform
Passenger 1000001 of airplane 0 arrives to platform
Creating airplane thread 3
Airplane 1 arrives with 9 passengers
Airplane 2 arrives with 8 passengers
Creating airplane thread 4
Airplane 3 arrives with 6 passengers
Creating airplane thread 5
Airplane 4 arrives with 10 passengers
Passenger 1000002 of airplane 0 arrives to platform
Passenger 1004000 of airplane 4 arrives to platform
Passenger 1002000 of airplane 2 arrives to platform
Passenger 1000003 of airplane 0 arrives to platform
Passenger 1003000 of airplane 3 arrives to platform
Passenger 1001000 of airplane 1 arrives to platform
Passenger 1002001 of airplane 2 arrives to platform
Passenger 1002002 of airplane 2 arrives to platform
Passenger 1002003 of airplane 2 arrives to platform
Passenger 1002004 of airplane 2 arrives to platform
Passenger 1002005 of airplane 2 arrives to platform
Passenger 1002006 of airplane 2 arrives to platform
Passenger 1002007 of airplane 2 arrives to platform
Passenger 1003001 of airplane 3 arrives to platform
Passenger 1003002 of airplane 3 arrives to platform
Passenger 1003003 of airplane 3 arrives to platform

Passenger 1003004 of airplane 3 arrives to platform
Passenger 1003005 of airplane 3 arrives to platform
Airplane 5 arrives with 6 passengers
Passenger 1005000 of airplane 5 arrives to platform
Passenger 1005001 of airplane 5 arrives to platform
Passenger 1005002 of airplane 5 arrives to platform
Passenger 1005003 of airplane 5 arrives to platform
Passenger 1005004 of airplane 5 arrives to platform
Passenger 1005005 of airplane 5 arrives to platform
Passenger 1001001 of airplane 1 arrives to platform
Passenger 1001002 of airplane 1 arrives to platform
Passenger 1001003 of airplane 1 arrives to platform
Passenger 1001004 of airplane 1 arrives to platform
Passenger 1001005 of airplane 1 arrives to platform
Passenger 1001006 of airplane 1 arrives to platform
Passenger 1001007 of airplane 1 arrives to platform
Passenger 1001008 of airplane 1 arrives to platform
Passenger 1000004 of airplane 0 arrives to platform
Passenger 1000005 of airplane 0 arrives to platform
Creating airplane thread 6
Passenger 1004001 of airplane 4 arrives to platform
Passenger 1004002 of airplane 4 arrives to platform
Passenger 1004003 of airplane 4 arrives to platform
Passenger 1004004 of airplane 4 arrives to platform
Passenger 1004005 of airplane 4 arrives to platform
Passenger 1004006 of airplane 4 arrives to platform
Passenger 1004007 of airplane 4 arrives to platform
Passenger 1004008 of airplane 4 arrives to platform
Passenger 1004009 of airplane 4 arrives to platform
Creating airplane thread 7
Airplane 6 arrives with 9 passengers
Passenger 1006000 of airplane 6 arrives to platform
Passenger 1006001 of airplane 6 arrives to platform
Passenger 1006002 of airplane 6 arrives to platform
Passenger 1006003 of airplane 6 arrives to platform
Passenger 1006004 of airplane 6 arrives to platform
Passenger 1006005 of airplane 6 arrives to platform
Passenger 1006006 of airplane 6 arrives to platform
Creating airplane thread 8
Airplane 7 arrives with 5 passengers
Passenger 1006007 of airplane 6 arrives to platform
Passenger 1006008 of airplane 6 arrives to platform
Passenger 1007000 of airplane 7 arrives to platform
Creating airplane thread 9

Airplane 8 arrives with 8 passengers

Passenger 1007001 of airplane 7 arrives to platform

Passenger 1007002 of airplane 7 arrives to platform

Passenger 1007003 of airplane 7 arrives to platform

Passenger 1007004 of airplane 7 arrives to platform

Passenger 1008000 of airplane 8 arrives to platform

Passenger 1008001 of airplane 8 arrives to platform

Passenger 1008002 of airplane 8 arrives to platform

Passenger 1008003 of airplane 8 arrives to platform

Passenger 1008004 of airplane 8 arrives to platform

Passenger 1008005 of airplane 8 arrives to platform

Passenger 1008006 of airplane 8 arrives to platform

Passenger 1008007 of airplane 8 arrives to platform

Airplane 9 arrives with 6 passengers

Passenger 1009000 of airplane 9 arrives to platform

Passenger 1009001 of airplane 9 arrives to platform

Passenger 1009002 of airplane 9 arrives to platform

Passenger 1009003 of airplane 9 arrives to platform

Passenger 1009004 of airplane 9 arrives to platform

Passenger 1009005 of airplane 9 arrives to platform

Taxi driver 0 arrives

Taxi driver 0 picked up client 1000000 from platform

Taxi driver 1 arrives

Taxi driver 1 picked up client 1000001 from platform

Taxi driver 0 arrives

Taxi driver 0 picked up client 1000002 from platform

Taxi driver 1 arrives

Taxi driver 1 picked up client 1004000 from platform

Taxi driver 0 arrives

Taxi driver 0 picked up client 1002000 from platform

Taxi driver 1 arrives

Taxi driver 1 picked up client 1000003 from platform

Taxi driver 0 arrives

Taxi driver 0 picked up client 1003000 from platform

Taxi driver 1 arrives

Taxi driver 1 picked up client 1001000 from platform

Taxi driver 0 arrives

Taxi driver 0 picked up client 1002001 from platform

Taxi driver 1 arrives

Taxi driver 1 picked up client 1002002 from platform

Taxi driver 0 arrives

Taxi driver 0 picked up client 1002003 from platform

Taxi driver 1 arrives

Taxi driver 1 picked up client 1002004 from platform

Taxi driver 0 arrives
Taxi driver 0 picked up client 1002005 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1002006 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1002007 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1003001 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1003002 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1003003 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1003004 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1003005 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1005000 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1005001 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1005002 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1005003 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1005004 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1005005 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1001001 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1001002 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1001003 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1001004 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1001005 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1001006 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1001007 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1001008 from platform

Taxi driver 0 arrives
Taxi driver 0 picked up client 1000004 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1000005 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1004001 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1004002 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1004003 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1004004 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1004005 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1004006 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1004007 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1004008 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1004009 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1006000 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1006001 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1006002 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1006003 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1006004 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1006005 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1006006 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1006007 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1006008 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1007000 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1007001 from platform

Taxi driver 0 arrives
Taxi driver 0 picked up client 1007002 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1007003 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1007004 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1008000 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1008001 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1008002 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1008003 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1008004 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1008005 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1008006 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1008007 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1009000 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1009001 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1009002 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1009003 from platform
Taxi driver 1 arrives
Taxi driver 1 picked up client 1009004 from platform
Taxi driver 0 arrives
Taxi driver 0 picked up client 1009005 from platform
Taxi driver 1 arrives
Taxi driver 1 waits for passengers to enter the platform
Taxi driver 0 arrives
Taxi driver 0 waits for passengers to enter the platform

- 3) There are no known bugs when run on the mimi machine, however there are when I run it on my local machine, when there are not enough passengers arriving for the amount of taxis. If the queue is empty, taxi keeps picking people up. The full semaphore for

some unknown reason is still allowing access to the queue even when it is empty. This causes the taxis to be stuck in an infinite loop.