

Modelagem orientada a Eventos

Exemplo: modelo *Posto de Gasolina*

Entity Car

Resource clerks = 3

//clerks available to serve

Set carsQueue: Car

Event **carArrival()**

car = create Car

if clerks.available

//clerks quantity > 0

schedule startService(car) now

else

carQueue.enqueue(car)

if modelClock < 100 seconds

//dont generate cars after 100 secs...

schedule carArrival() in 5 seconds

//ex.: in exponential (3) seconds

Event **startService**(Car car)

clerk.allocate();

//clerks quantity --

schedule finishService(car) in 12 seconds

//ex.: in normal(10,2) seconds

Event **finishService**(Car car)

delete car

clerks.free()

//clerks quantity ++

if not carsQueue.Empty

schedule startService(carQueue.dequeue) now

mainLoop

schedule carArrival() now

startSimulation

//shows collected statistics

print carQueue.averageSize

Modelagem orientada a **Processos** - versão 1: com primitiva de passagem do tempo explícita

Exemplo: modelo *Posto de Gasolina*

Entity Car

Set carsQueue: Car

Process **carGenerator**

```
while(modelClock < 100)
    car = create Car
    carQueue.enqueue(car)
    sleep(5) seconds
```

Process **service**

```
while(true)
    if not carsQueue.Empty
        Car car = carQueue.dequeue
        sleep(12) seconds
        delete car
```

mainLoop

```
start carGenerator now
start service now
start service now
start service now
startSimulation
//shows collected statistics
print carQueue.averageSize
```

Modelagem orientada a Processos - versão 2: sem primitiva de passagem do tempo explícita

Exemplo: modelo *Posto de Gasolina*

Entity Car

Set carsQueue: Car

Process **carGenerator(duration)**

```
while(modelClock < 100)
    car = create Car
    carQueue.enqueue(car)
```

Process **service(duration)**

```
while(true)
    if not carsQueue.Empty
        Car car = carQueue.dequeue
        delete car
```

mainLoop

```
start carGenerator(5) now
start service(12) now
start service(12) now
start service(12) now
startSimulation
//shows collected statistics
print carQueue.averageSize
```