

count

November 12, 2020

1 Count model

```
[1]: from model import Model  
     from dmchunk import Chunk
```

```
[2]: m = Model()
```

```
[3]: print(m)
```

```
=== Model ===  
Time: 0 s  
Goal:None  
DM:
```

```
[4]: fact1 = Chunk(name ="cf1", slots = {"isa" : "count-fact", "num1" : "one",  
    ↪ "num2" : "two"})
```

```
[5]: m.add_encounter(fact1)
```

```
[6]: print(m)
```

```
=== Model ===  
Time: 0 s  
Goal:None  
DM:Chunk cf1  
Slots: {'isa': 'count-fact', 'num1': 'one', 'num2': 'two'}  
Encounters: [0]  
Fan: 0
```

```
Chunk count-fact  
Slots: {}  
Encounters: [0]  
Fan: 1
```

```
Chunk one
```

```
Slots: {}
Encounters: [0]
Fan: 1
```

```
Chunk two
Slots: {}
Encounters: [0]
Fan: 1
```

```
[7]: m.time += 1.0
      m.add_encounter(fact1)
```

```
[8]: print(m)
```

```
=== Model ===
Time: 1.0 s
Goal:None
DM:Chunk cf1
Slots: {'isa': 'count-fact', 'num1': 'one', 'num2': 'two'}
Encounters: [0, 1.0]
Fan: 0
```

```
Chunk count-fact
Slots: {}
Encounters: [0]
Fan: 1
```

```
Chunk one
Slots: {}
Encounters: [0]
Fan: 1
```

```
Chunk two
Slots: {}
Encounters: [0]
Fan: 1
```

```
[9]: numbers = ["zero", "one", "two", "three", "four", "five", "six"]
      for i in range(0, len(numbers)-1):
          fact = Chunk(name = "cf" + numbers[i], slots = {"isa": "count-fact", "num1":
↪ numbers[i], "num2" : numbers[i+1]})
          m.add_encounter(fact)
```

```
[10]: print(m)
```

```
=== Model ===
Time: 1.0 s
Goal:None
DM:Chunk cf1
Slots: {'isa': 'count-fact', 'num1': 'one', 'num2': 'two'}
Encounters: [0, 1.0]
Fan: 0

Chunk count-fact
Slots: {}
Encounters: [0]
Fan: 7

Chunk one
Slots: {}
Encounters: [0]
Fan: 3

Chunk two
Slots: {}
Encounters: [0]
Fan: 3

Chunk cfzero
Slots: {'isa': 'count-fact', 'num1': 'zero', 'num2': 'one'}
Encounters: [1.0]
Fan: 0

Chunk zero
Slots: {}
Encounters: [1.0]
Fan: 1

Chunk cfone
Slots: {'isa': 'count-fact', 'num1': 'one', 'num2': 'two'}
Encounters: [1.0]
Fan: 0

Chunk cftwo
Slots: {'isa': 'count-fact', 'num1': 'two', 'num2': 'three'}
Encounters: [1.0]
Fan: 0

Chunk three
```

```

Slots: {}
Encounters: [1.0]
Fan: 2

Chunk cfthree
Slots: {'isa': 'count-fact', 'num1': 'three', 'num2': 'four'}
Encounters: [1.0]
Fan: 0

Chunk four
Slots: {}
Encounters: [1.0]
Fan: 2

Chunk cffour
Slots: {'isa': 'count-fact', 'num1': 'four', 'num2': 'five'}
Encounters: [1.0]
Fan: 0

Chunk five
Slots: {}
Encounters: [1.0]
Fan: 2

Chunk cffive
Slots: {'isa': 'count-fact', 'num1': 'five', 'num2': 'six'}
Encounters: [1.0]
Fan: 0

Chunk six
Slots: {}
Encounters: [1.0]
Fan: 1

```

```

[11]: def count_from(start, end):
        g = Chunk(name = "goal", slots = {"isa": "count-goal", "start": start, "end":
        → end})
        m.goal = g
        done = False
        while not done:
            if not "current" in g.slots:
                g.slots["current"] = g.slots["start"]
                request = Chunk(name = "request", slots = {"isa": "count-fact",
        → "num1": g.slots["current"]})
                m.time += .05

```

```

        chunk, latency = m.retrieve(request)
        m.add_encounter(chunk)
        m.time += latency
        print(m.time)
        print(g.slots["current"])
        g.slots["current"] = chunk.slots["num2"]
        m.time += 0.3
    elif g.slots["current"] != g.slots["end"]:
        request = Chunk(name = "request", slots = {"isa": "count-fact",
↪ "num1": g.slots["current"]})
        m.time += .05
        chunk, latency = m.retrieve(request)
        m.add_encounter(chunk)
        m.time += latency
        print(m.time)
        print(g.slots["current"])
        g.slots["current"] = chunk.slots["num2"]
        m.time += 0.3
    else:
        print(m.time)
        print(g.slots["current"])
        done = True

```

```
[12]: count_from("two", "five")
```

```

1.0625191475047842
two
1.4562690079965919
three
1.848846647490218
four
2.148846647490218
five

```

```
[13]: print(m)
```

```

=== Model ===
Time: 2.148846647490218 s
Goal:Chunk goal
Slots: {'isa': 'count-goal', 'start': 'two', 'end': 'five', 'current': 'five'}
Encounters: []
Fan: 0

DM:Chunk cf1
Slots: {'isa': 'count-fact', 'num1': 'one', 'num2': 'two'}

```

Encounters: [0, 1.0]
Fan: 0

Chunk count-fact
Slots: {}
Encounters: [0]
Fan: 7

Chunk one
Slots: {}
Encounters: [0]
Fan: 3

Chunk two
Slots: {}
Encounters: [0]
Fan: 3

Chunk cfzero
Slots: {'isa': 'count-fact', 'num1': 'zero', 'num2': 'one'}
Encounters: [1.0]
Fan: 0

Chunk zero
Slots: {}
Encounters: [1.0]
Fan: 1

Chunk cfone
Slots: {'isa': 'count-fact', 'num1': 'one', 'num2': 'two'}
Encounters: [1.0]
Fan: 0

Chunk cftwo
Slots: {'isa': 'count-fact', 'num1': 'two', 'num2': 'three'}
Encounters: [1.0, 1.05]
Fan: 0

Chunk three
Slots: {}
Encounters: [1.0]
Fan: 2

Chunk cfthree
Slots: {'isa': 'count-fact', 'num1': 'three', 'num2': 'four'}
Encounters: [1.0, 1.4125191475047842]
Fan: 0

Chunk four
Slots: {}
Encounters: [1.0]
Fan: 2

Chunk cffour
Slots: {'isa': 'count-fact', 'num1': 'four', 'num2': 'five'}
Encounters: [1.0, 1.806269007996592]
Fan: 0

Chunk five
Slots: {}
Encounters: [1.0]
Fan: 2

Chunk cffive
Slots: {'isa': 'count-fact', 'num1': 'five', 'num2': 'six'}
Encounters: [1.0]
Fan: 0

Chunk six
Slots: {}
Encounters: [1.0]
Fan: 1