

ESOF 422 - Homework 1

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Question 1

.use

```
model IteratorPattern

class Iterator
  attributes
  operations
  next()
  begin
  end

  hasNext(): Boolean
  begin
  end

end

class Container < Iterator
  attributes
  operations
  set()
  begin
  end

  get()

  createIterator(): Iterator
  begin
  declare c:Container;
  result := c
  end

  next()
  hasNext(): Boolean
  end

class Client
  attributes
  operations
  populateContainer()
  begin
  declare c:Container;
  c.set()
  end

  traverse()
  begin
  declare trav:Iterator;
  trav.next()
  end
end
```

```
association client_container between
Client[0] role client2
Container[0..*] role container
end
```

```
association client_iterator between
Client[0] role client1
Iterator[0..*] role iter
end
```

Question 2

.x

```
-- This file creates 1 client, 1 container, and 2 iterators. We first
-- assume that the Container has information we would like to iterate over.
-- We then call the necessary methods and iterate over the contents.
```

```
!create client:Client
!create container:Container
!insert (client,container) into client_container
!client.populateContainer()
```

```
!container.createIterator()
!create iter:Iterator
!insert (client,iter) into client_iterator
```

```
!client.traverse()
```