Memory Models:
Concept Challenge

Collaborative Challenge

- **Pause** Try to solve the problem yourself

- **Discuss** with other learners (if you can)

- **Watch** the UCSD learners video

- **Confirm** your understanding with our explanation

```java
public class SimpleLocation
{
    public double lat;
    public double lon;

    public SimpleLocation(
     double latIn,
     double lonIn)
    {
        this.lat = latIn;
        this.lon = lonIn;
    }
    // More code here
}
```

```java
public class LocationTester
{
  public static void main(String[] args)
  {
      SimpleLocation loc1 =
        new SimpleLocation(39.9, 116.4);
      SimpleLocation loc2 = ;
        new SimpleLocation(55.8, 37.6);
      loc1 = loc2;
      loc1.lat = -8.3;
      System.out.println(loc2.lat +
                         ", " +loc2.lon);
  }
}
```

IVQ START (next slide has MC options)

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public class LocationTester
{
  public static void main(String[] args)
  {
    SimpleLocation loc1 =
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    SimpleLocation loc2 = ;
      new SimpleLocation(55.8, 37.6);
    loc1 = loc2;
    loc1.lat = -8.3;
    System.out.println(loc2.lat + ", "
   + loc2.lon);
  }
}
```

<IVQ PlaceHolder>
What does this program print?
A. 55.8, 37.6
B. -8.3, 37.6
C. -8.3, 116.4
D. 39.9, 116.4

IVQ End
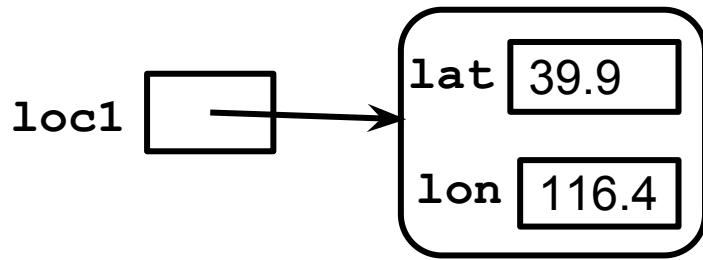
Insert Learner video

```java
public class SimpleLocation
{
    public double lat;
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    public SimpleLocation(double latIn,
                          double lonIn)
    {
        this.lat = latIn;
        this.lon = lonIn;
    }
    // More code here
}
```
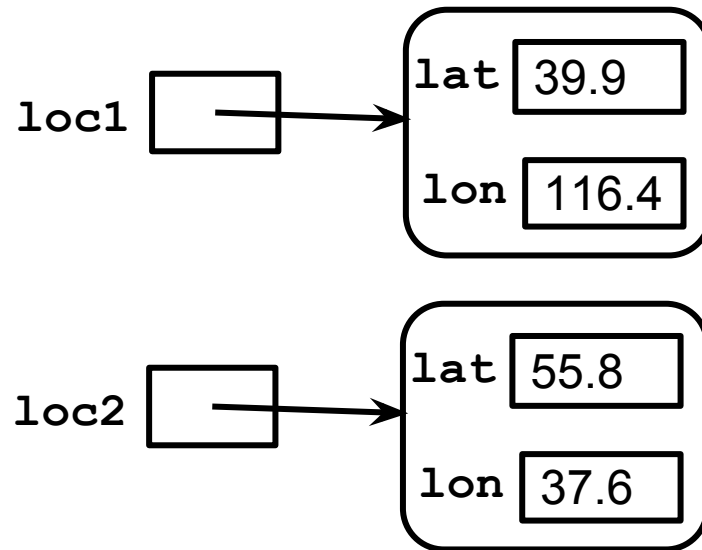
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      loc1 = loc2;
      loc1.lat = -8.3;
      System.out.println(loc2.lat +
                          ", " + loc2.lon);

  }
}
```

loc1 →
lat 39.9
lon 116.4

```java
public class SimpleLocation
{
    public double lat;
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    public SimpleLocation(double latIn,
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    }
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      System.out.println(loc2.lat +
                         ", " + loc2.lon);
  }
}
```

loc1 → lat 39.9 / lon 116.4

loc2 → lat 55.8 / lon 37.6

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    public double lon;

    public SimpleLocation(double latIn,
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        this.lon = lonIn;
    }
    // More code here
}
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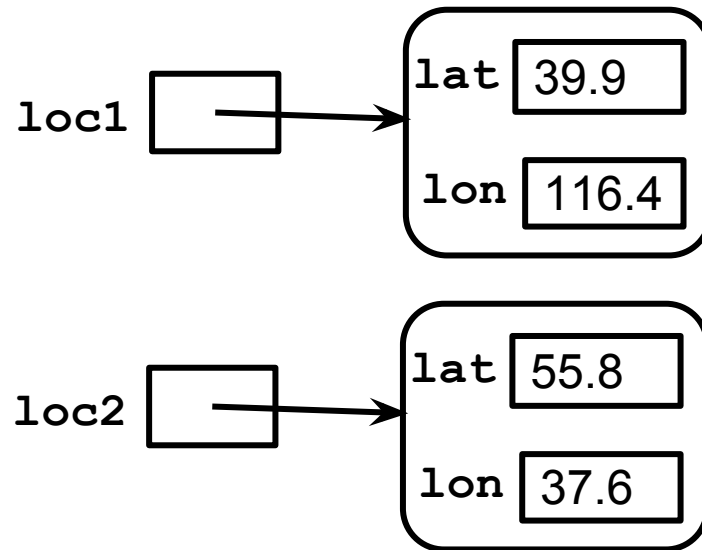
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}
```

loc1 → lat 39.9 / lon 116.4

loc2 → lat 55.8 / lon 37.6

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        this.lon = lonIn;
    }
    // More code here
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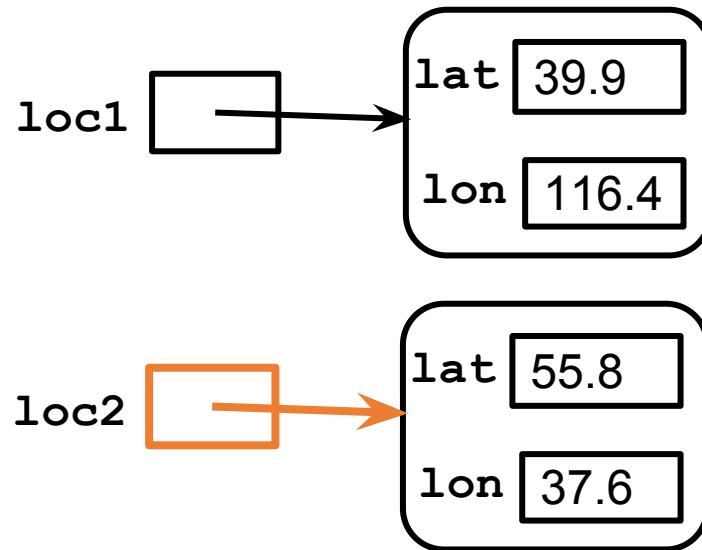
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      loc1 = loc2;
      loc1.lat = -8.3;
      System.out.println(loc2.lat +
                          ", " + loc2.lon);
  }
}
```

loc1

lat 39.9

lon 116.4

loc2

lat 55.8

lon 37.6

```java
public class SimpleLocation
{
    public double lat;
    public double lon;

    public SimpleLocation(double latIn,
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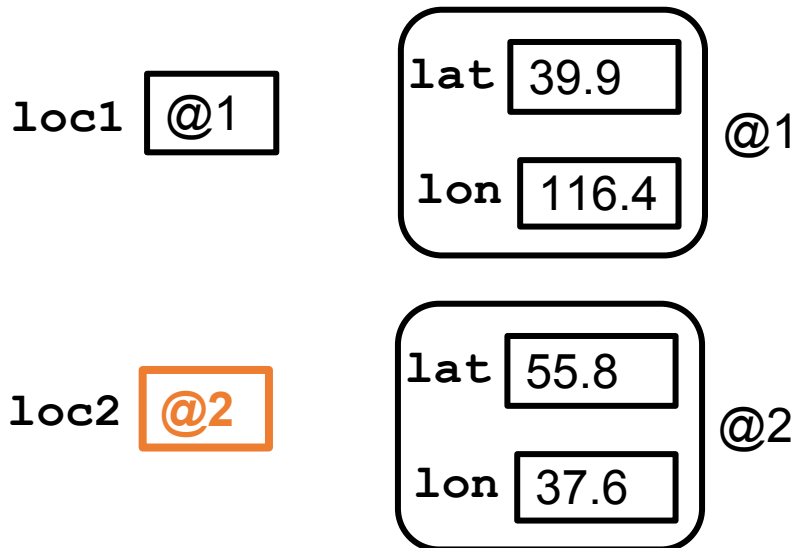
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      loc1.lat = -8.3;
      System.out.println(loc2.lat +
                          ", " + loc2.lon);
  }
}
```

loc1 @1

lat 39.9
lon 116.4
@1

loc2 @2

lat 55.8
lon 37.6
@2

```java
public class SimpleLocation
{
    public double lat;
    public double lon;

    public SimpleLocation(double latIn,
                          double lonIn)
    {
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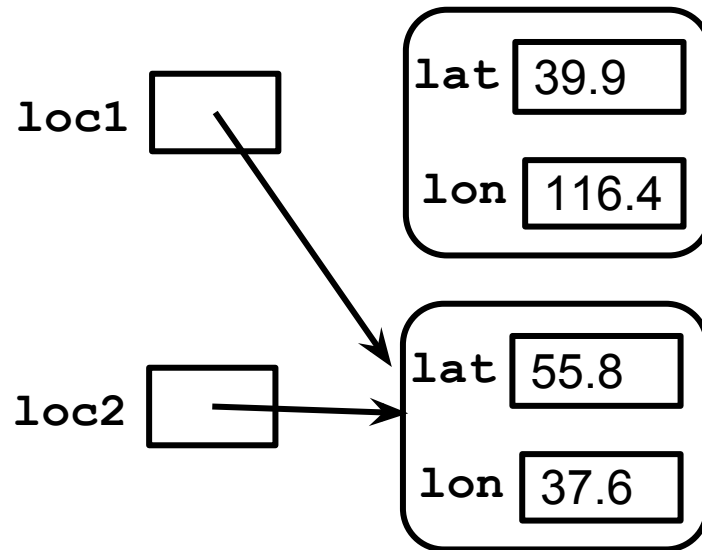
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      loc1 = loc2;
      loc1.lat = -8.3;
      System.out.println(loc2.lat +
                         ", " + loc2.lon);
  }
}
```

loc1

lat	39.9
lon	116.4

loc2

lat	55.8
lon	37.6

```java
public class SimpleLocation
{
    public double lat;
    public double lon;

    public SimpleLocation(double latIn,
                               double lonIn)
    {
        this.lat = latIn;
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    // More code here
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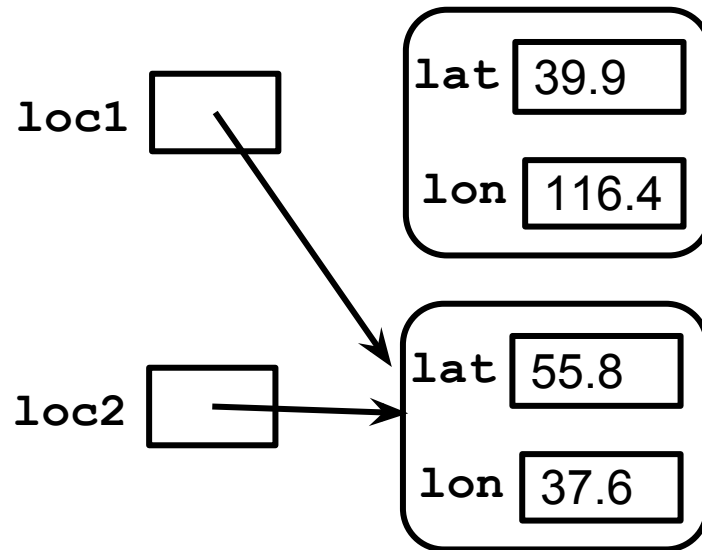
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}
```

loc1

lat 39.9

lon 116.4

loc2

lat 55.8

lon 37.6

```java
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{
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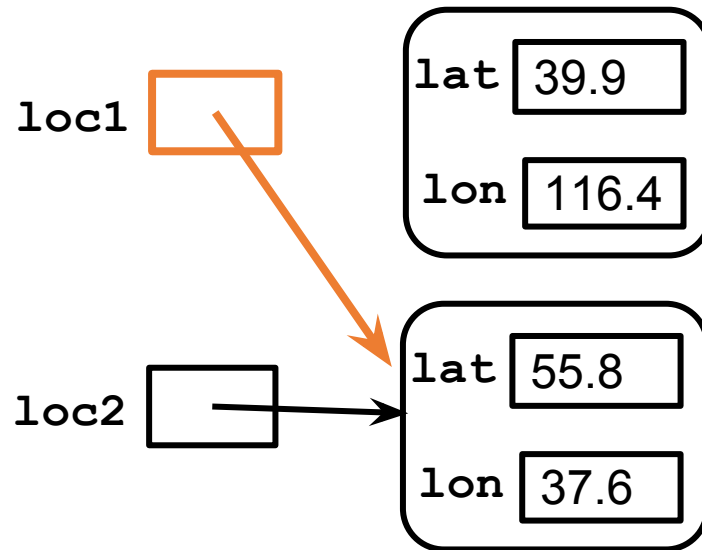
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loc1

lat 39.9

lon 116.4

loc2

lat 55.8

lon 37.6

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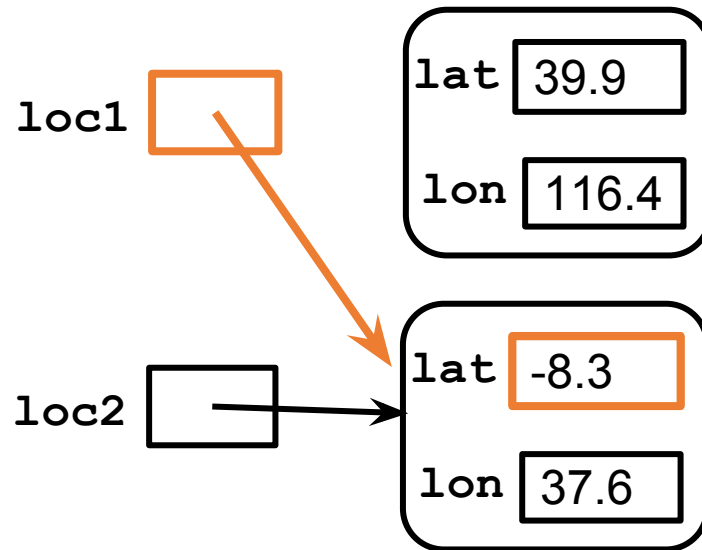
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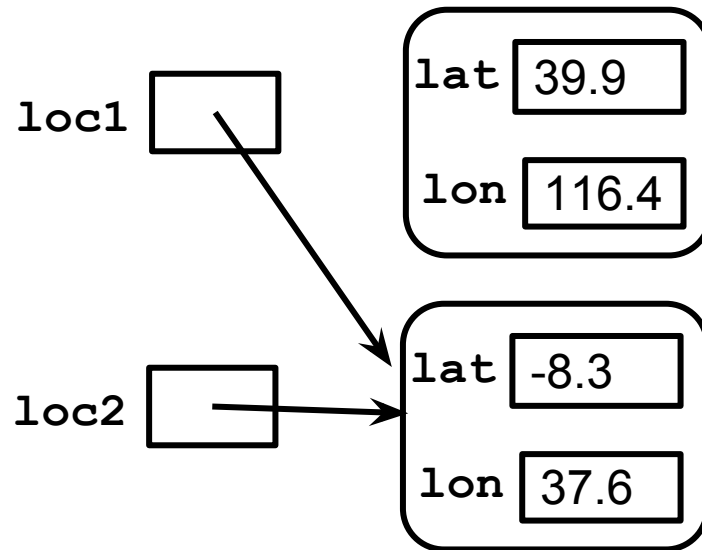
loc1

lat 39.9

lon 116.4

loc2

lat -8.3

lon 37.6

```java
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loc1

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lon 116.4

loc2

lat -8.3
lon 37.6

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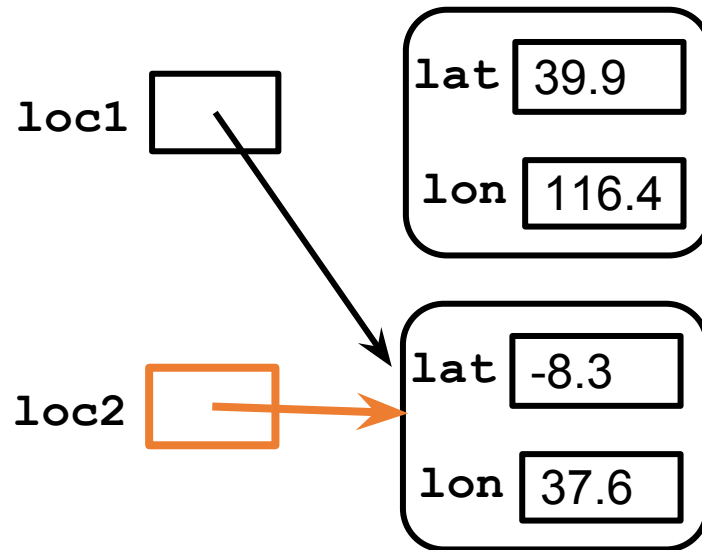
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      loc1 = loc2;
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      System.out.println(loc2.lat +
                         ", " + loc2.lon);
  }
}
```

-8.3, 37.6

loc1 →

lat 39.9

lon 116.4

loc2 →

lat -8.3

lon 37.6