

Tinker Academy

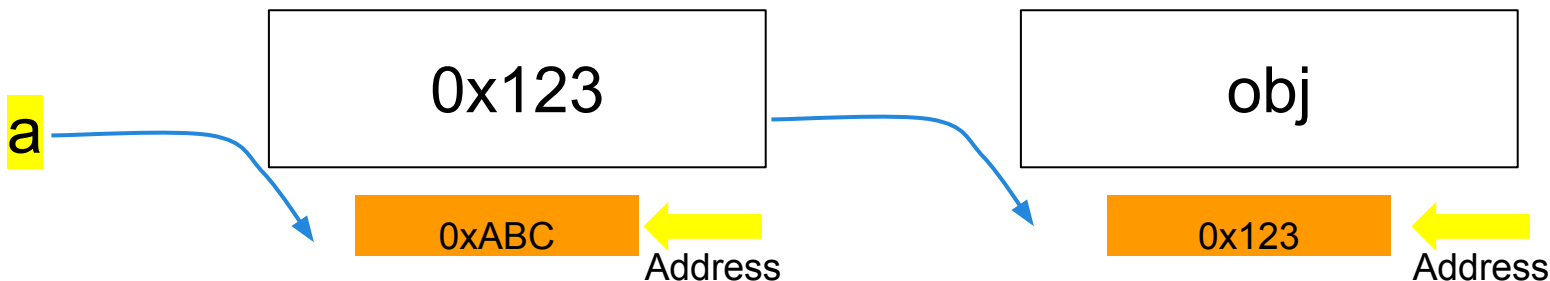
AP Computer Science Prep (Java Programming)
Lecture 4 - DataTypes, Variables & Refs
(References)

References

Lecture 4 - Types, Variables & Refs

Reference Variables

- value stored is the **location of an object***



* or array

Lecture 4 - Types, Variables & Refs

References

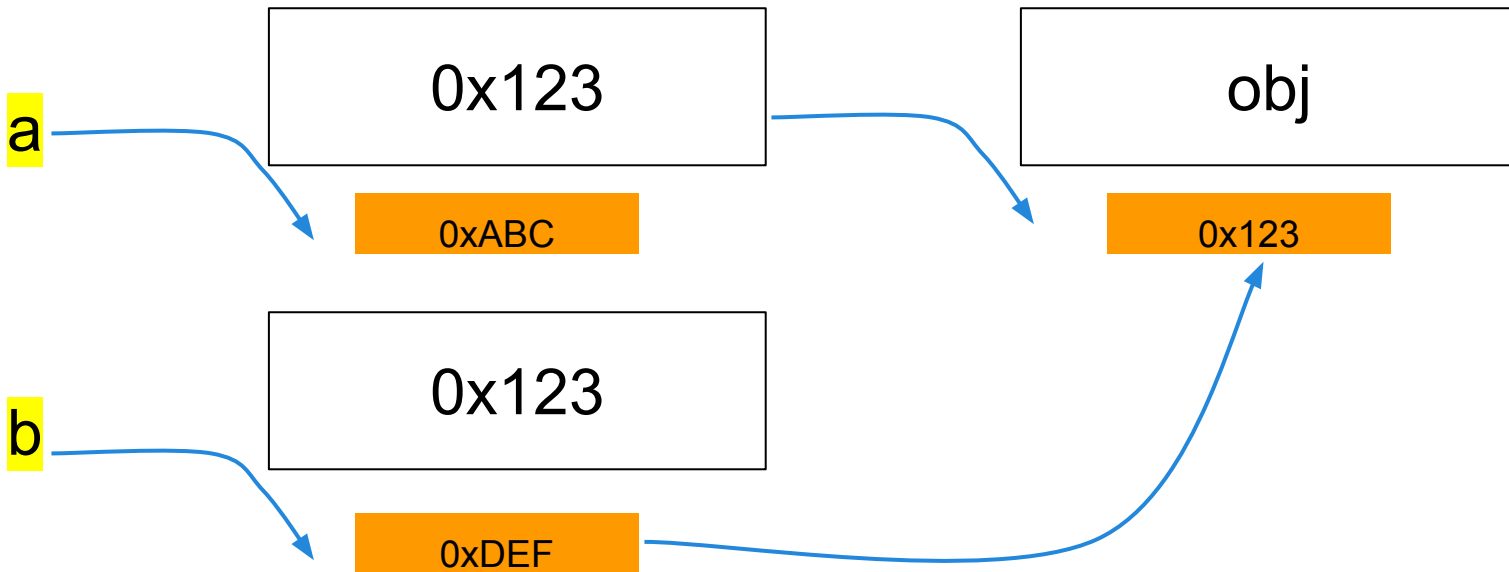
- are **variables** of reference datatype
- value is a reference to a valid object/array OR
- value is the special value null

* to understand this you would need to understand class hierarchies and interfaces

Lecture 4 - Types, Variables & Refs

Reference Variables

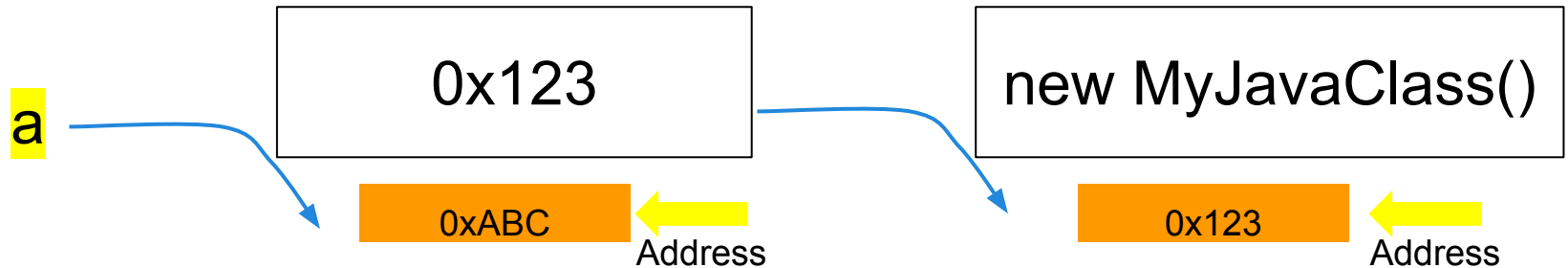
- an object can have multiple references to it



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References

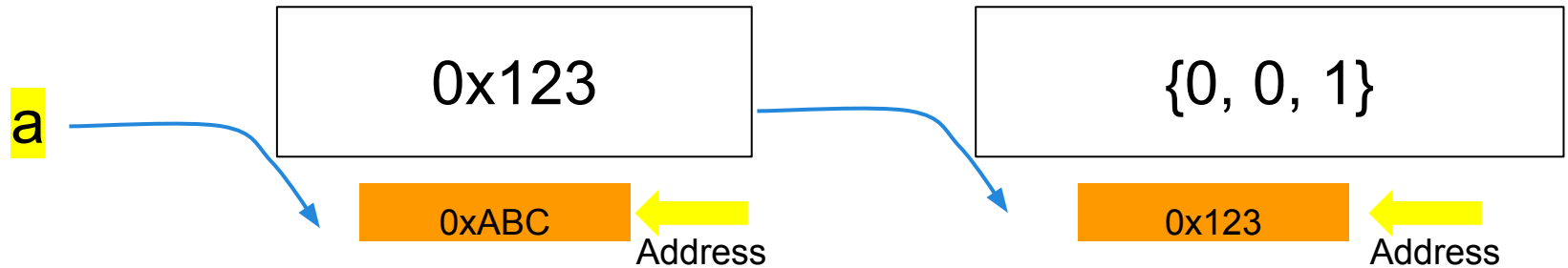
```
MyJavaClass a = new MyJavaClass();
```



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References

```
int[] a = {0, 0, 1};
```



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- references to objects are created using the **new** operator
- references to arrays are created using the array creation expression

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References

Object a = new MyJavaClass();



* `a` is a named location in memory
value at location is the address of the object in memory

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References

- value datatype pointed to is not be the same as the reference datatype*

Object a = new MyJavaClass();



Datatype is the Object class



Datatype is the MyJavaClass class



This code is valid. Why?

* to understand this you would need to understand class hierarchies and interfaces