

# 159 XTENDED

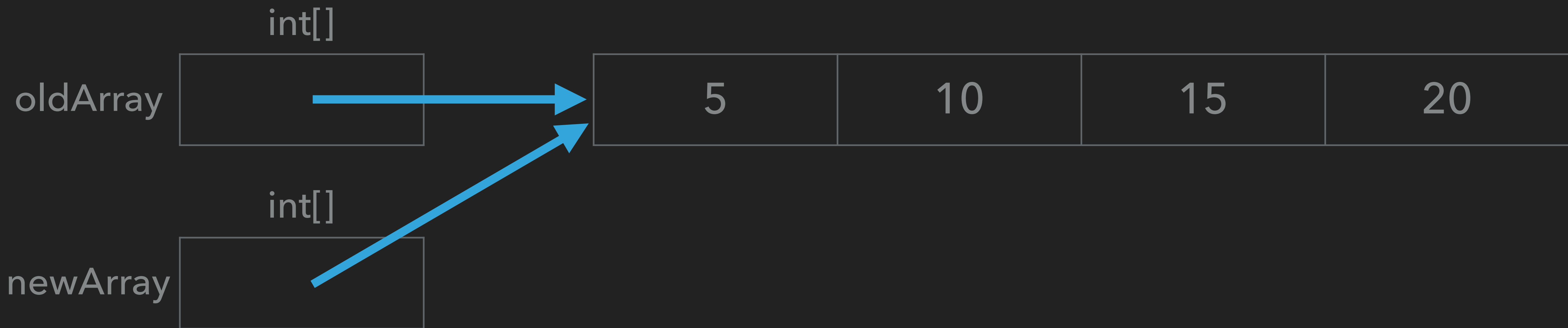
A WEEKLY REVIEW

SHALLOW AND DEEP COPIES

Pull up **Socrative.com**  
and join room **XTEND159**

```
int[] oldArray = {5, 10, 15, 20};
```

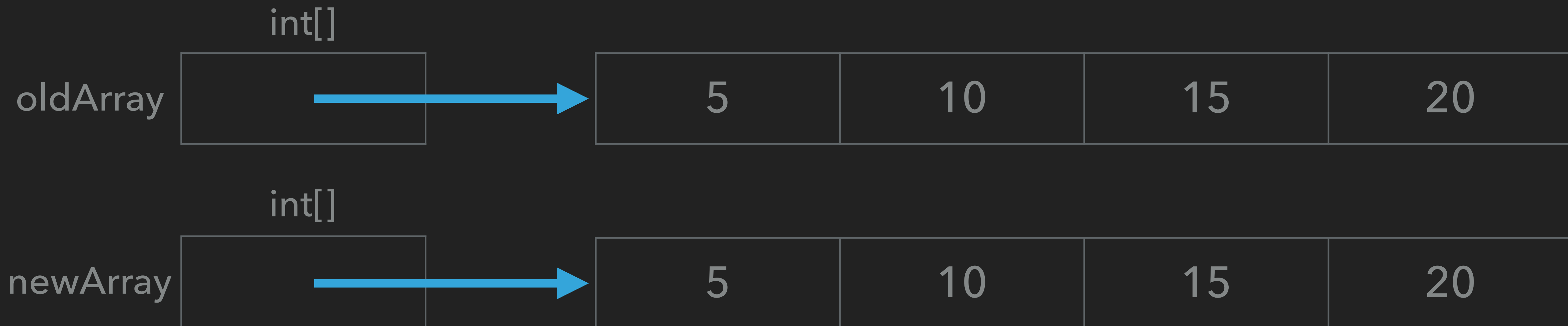
```
int[] newArray = oldArray;
```



**NEWARRAY IS AN ALIAS OF OLDARRAY.**

**KEY POINT: OLDARRAY AND NEWARRAY POINT TO THE SAME ARRAY.**

```
int[] oldArray = {5, 10, 15, 20};  
int[] newArray = new int[oldArray.length];  
for (int i = 0; i < oldArray.length; i++)  
{  
    newArray[i] = oldArray[i];  
}
```



Log on to **Socrative.com**  
and join room **JMUAdkins**

CS 159 REVIEW, JAMES MADISON UNIVERSITY

---

# COPYING

Create a shallow copy of camry into a new Car object named "prius".

```
public class Car
{
    // Attributes
    String make;
    String model;

    public Car(String make, String model)
    {
        this.make = make;
        this.model = model;
    }
}

Car camry = new Car("Toyota", "Prius");
```

Pull up [Socrative.com](https://www.socrative.com)  
and join room **XTEND159**

Create a shallow copy of camry into a new Car object named "prius".

```
public class Car
{
    // Attributes
    String make;
    String model;

    public Car(String make, String model)
    {
        this.make = make;
        this.model = model;
    }
}

Car camry = new Car("Toyota", "Prius");
```

Pull up [Socrative.com](https://www.socrative.com)  
and join room **XTEND159**

Create a shallow copy of camry into a new Car object named "prius".

Pull up Socrative.com  
and join room **XTEND159**

```
Car prius = new Car( camry.make, camry.model);
```

Create a deep copy of camry into a new Car object named "prius".

```
public class Car
{
    // Attributes
    String make;
    String model;

    public Car(String make, String model)
    {
        this.make = make;
        this.model = model;
    }
}

Car camry = new Car("Toyota", "Prius");
```

Pull up [Socrative.com](https://www.socrative.com)  
and join room **XTEND159**



Create a deep copy of camry into a new Car object named "prius".

```
public class Car
{
    // Attributes
    String make;
    String model;

    public Car(String make, String model)
    {
        this.make = make;
        this.model = model;
    }
}

Car camry = new Car("Toyota", "Prius");
```

Pull up [Socrative.com](https://www.socrative.com)  
and join room **XTEND159**

Create a deep copy of camry into a new Car object named "prius".

Pull up Socrative.com  
and join room **XTEND159**

```
Car prius = new Car( new String(camry.make),  
new String(camry.model));
```

Create a copy constructor that can be added to the Car class.

```
public class Car
{
    // Attributes
    String make;
    String model;

    public Car(String make, String model)
    {
        this.make = make;
        this.model = model;
    }
}

Car camry = new Car("Toyota", "Prius");
```

Pull up [Socrative.com](https://www.socrative.com)  
and join room **XTEND159**

Create a copy constructor that can be added to the Car class.

```
public class Car
{
    // Attributes
    String make;
    String model;

    public Car(String make, String model)
    {
        this.make = make;
        this.model = model;
    }
}

Car camry = new Car("Toyota", "Prius");
```

Pull up [Socrative.com](https://www.socrative.com)  
and join room **XTEND159**

Create a copy constructor that can be added to the Car class.

```
public Car (Car toCopy)
{
    make    = new String(toCopy.make);
    model   = new String(toCopy.model);
}
```

Pull up [Socrative.com](https://www.socrative.com)  
and join room **XTEND159**