ArrayList Example

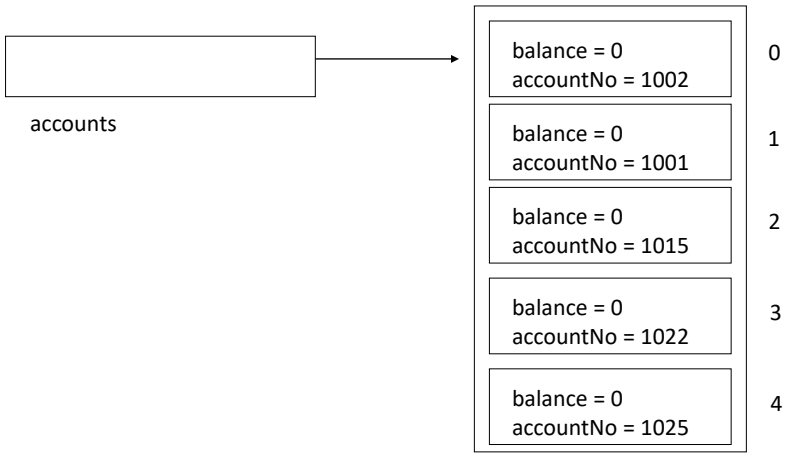
Introduction to OO Programming

```
ArrayList <BankAccount> accounts
            = new ArrayList <BankAccount>();


BankAccount acc = new BankAccount(1002);
accounts.add(acc);

accounts.add(new BankAccount(1001));
accounts.add(new BankAccount(1015));
accounts.add(new BankAccount(1022));
accounts.add(new BankAccount(1025));
```

`ArrayList` accounts



Adding Elements

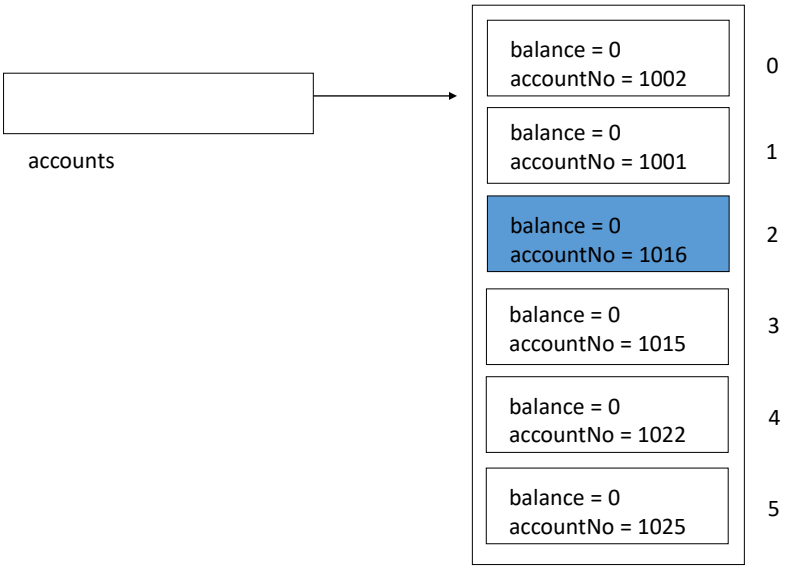
- The `add( )` method is overloaded to allow the insertion of elements at a particular position in an ArrayList

- `add()` adds a new value *before* the index

```
accounts.add(i, a);
```

- Adds the object `a` at position `i` and moves all elements by one position, from the current element at position `i` to the last element in the arrayList

```
BankAccount acc = new BankAccount(1016);
accounts.add(2, acc);
```



Removing Elements

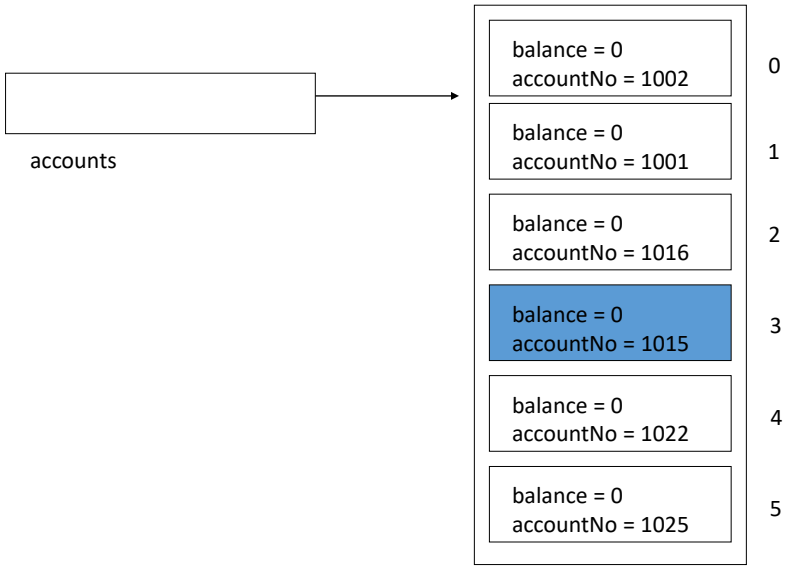
- `remove()` removes an element at an index

```
accounts.remove(i);
```

- Removes the element at position i, moves all elements after the removed element by one position, and reduces the size of arrayList by 1

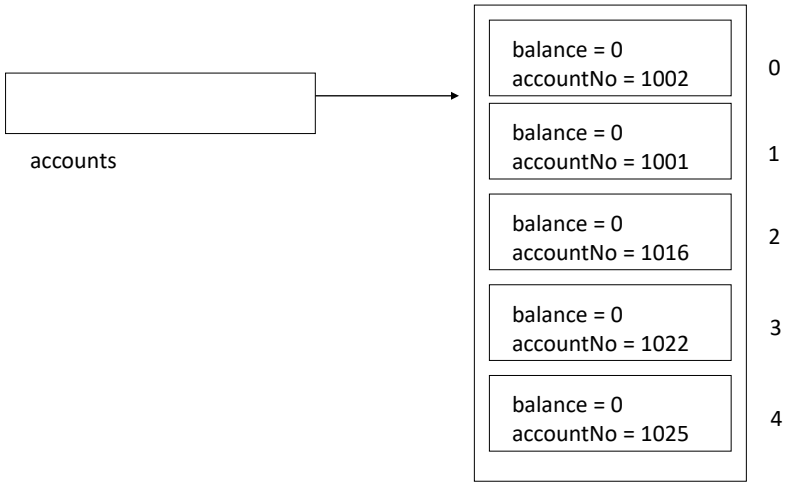
BEFORE…

```
accounts.remove(3);
```



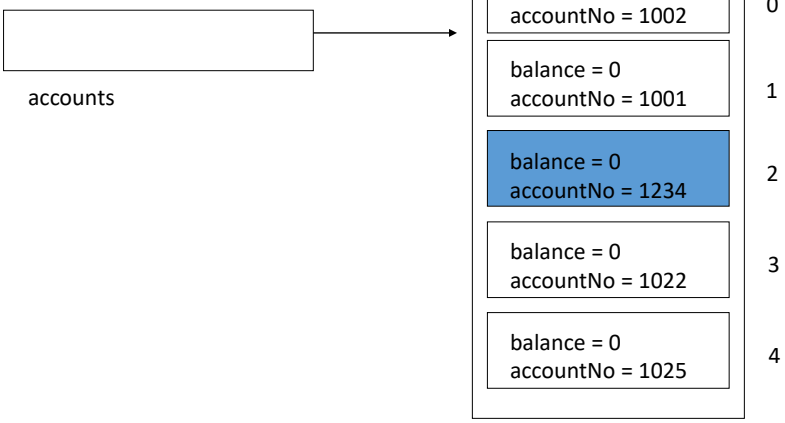
AFTER…

```
accounts.remove(3);
```



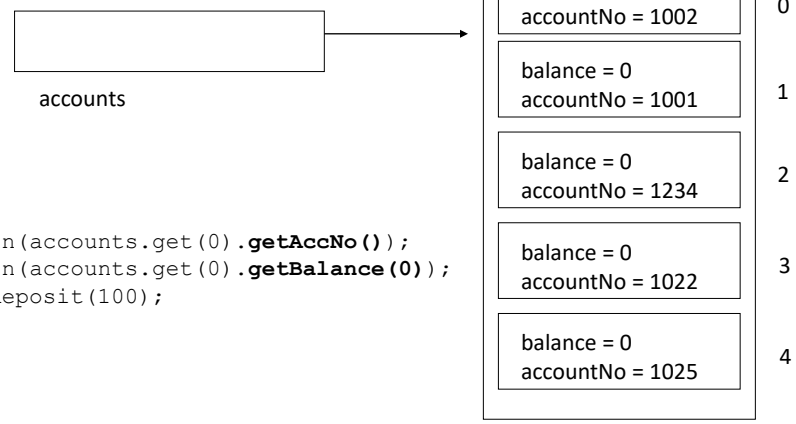
`set()` overwrites an existing value

```
BankAccount acc = new BankAccount(1234);
accounts.set(2, acc );
```



The `get( )` method is used to retrieve elements from an ArrayList

It is possible to call the methods of these objects to perform operations on the returned values




```
System.out.println(accounts.get(0).getAccNo());
System.out.println(accounts.get(0).getBalance(0));
accounts.get(0).deposit(100);
```