

# Class and Objects

Array of Objects

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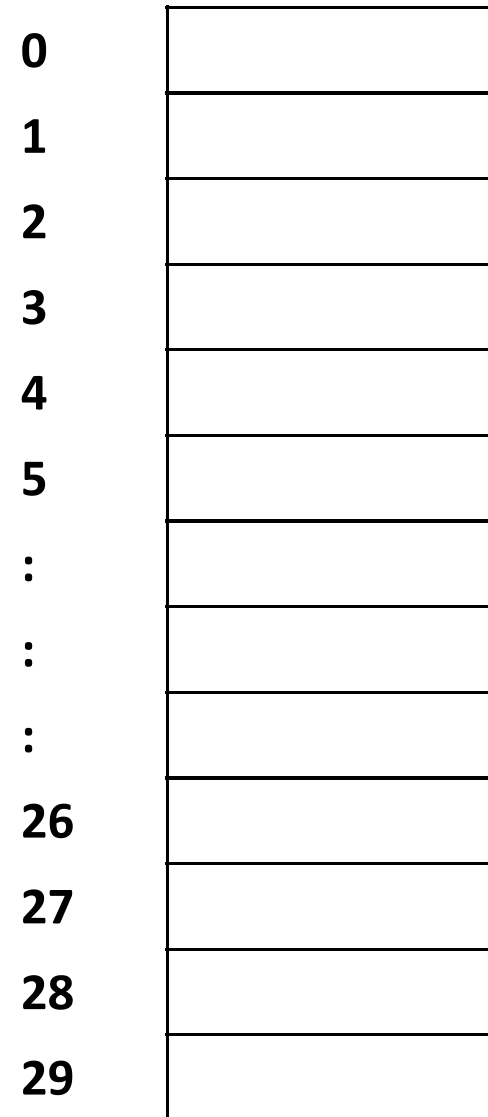
- An array is a composite data that contains element of the same type.
- When the element type contained by an array is a reference type, then we say, an array contain the objects.
- These objects contained by an array must be of the same class.

# Array of Objects - Declaration

- It is declared as other arrays, using a square brackets [] after the class name:
- Suppose we have a class Account, the declaration of array of Accounts is as follows:
  - Account [] acc;
- The above statement notify the compiler that the variable acc will contain several elements of type Account. At this moment, the array of accounts is not yet created in the memory

# Declaration and Instantiation

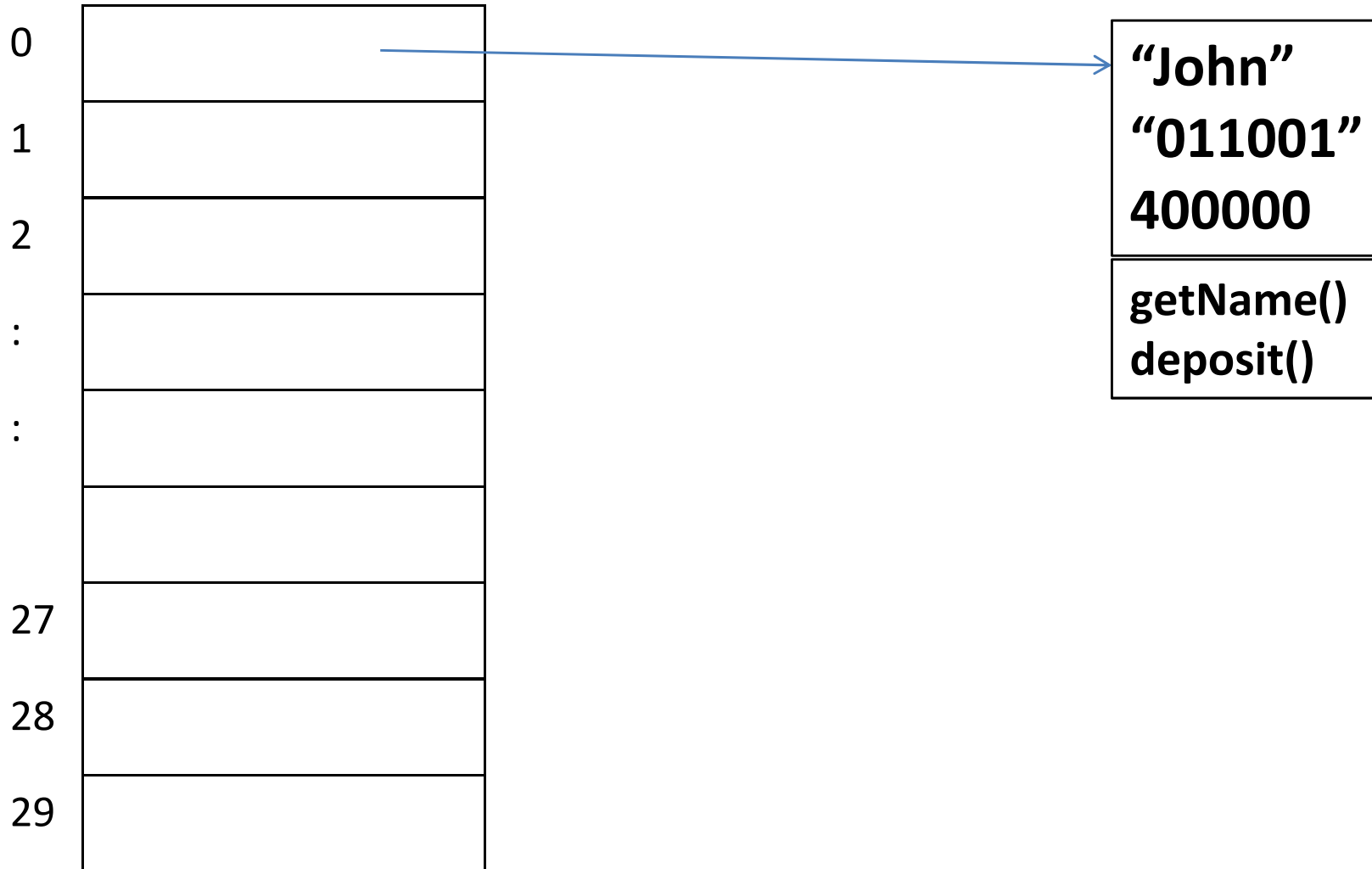
- Next, we create the array in memory by new operator:
  - `acc = new Account[30];`
- The above statement will create the array, as shown in the diagram.
- Note that the account objects are not yet created. What has been created is array whose elements will contain reference to objects Account



# Instantiation

- In order to create the objects of account, you have to create the object for each array index as follows:
  - `acc[0] = new Account("John", "011001",400000);`
- The statement now creates the object account whose reference is stored at first element of an array acc.
- To make things clear, acc is an array and acc[0] is an object (or name of object) of type Account.
- acc is not account object but its elements are

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# Accessing the Objects

- To access the objects, we need both, the array name and its index as follows:
  - `acc[0].getName();`
- This will access the name of account holder, it will return “John”
  - `acc[0].deposit(100000);`
- This will deposit the amount 100000 to the first account

# Other things remain!

- Other operations on array will remain as normal
- For example to know the size of array:
  - `acc.length; //Gives the size of array`
- You can assign as we do in other array types as follows
  - `Account mum = new Account("Mami","02233",200000);`
  - `acc[3] = mum;`
- The first line create the objects account and the second line store this reference to an array! This is usual as in other array operations