

Java Programming

— Reference Type Variable —

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Declaration of array

```
int[] data;  
data = new int[5];
```

- We can declare an “int type array data”.
- data is an array of 5 elements of int type.

Declaration of reference variable

```
int[] data;
```

- By this declaration, creates an array variable data.
- Size of the array have not yet decided.
- Unlike declarations for primitive data type variables, the declaration of an array variable does not allocate any space in memory for the array.
- If a variable does not contain a reference to an array, the value of the variable is null.

data

Allocation of array

```
int[] data;  
data = new int[5];
```

- Allocate 5 elements using new operator.

data

int

int

int

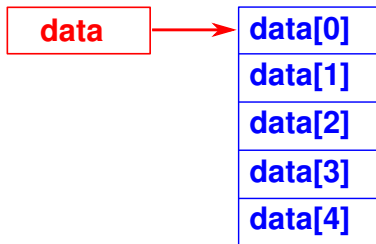
int

int

Allocation of array

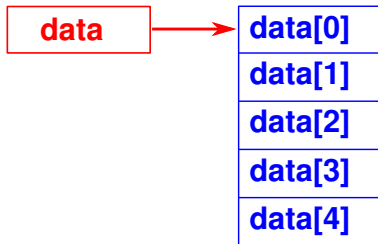
```
int[] data;  
data = new int[5];
```

- After allocation using new operator, the first place of allocated array is assigned to the array name data.



Allocation of array

```
int[] data;  
data = new int[5];
```

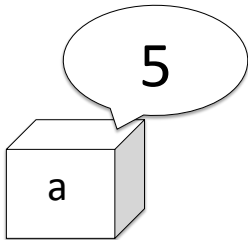


- Actually, array variable `data` only stores the place of allocated array.
- The array variable is called the **reference variable**.

Primitive type variable

- Primitive type variable stores a value directly.
- Variable can be used as a stored value.

```
int a;  
a = 5;
```



Reference type variable

- Reference type variable stores the place of the data.
- Note that it is not the data itself.

```
int[] data;  
data = int[3];
```

