

Agenda

- Array
- Variable Arity/Argument Method
- Method Overloading
- ~~Method Arguments~~
 - ~~pass by value and reference~~
- ~~Object/Field Initializer~~
- ~~final~~

Array

- Array is collection of similar data elements. Each element is accessible using indexes
- It is a reference type in java
- its object is created using new operator (on heap).
- The array of primitive type holds values (0 if uninitialized) and array of non-primitive type holds references (null if uninitialized).
- In Java, checking array bounds is responsibility of JVM. When invalid index is accessed, `ArrayIndexOutOfBoundsException` is thrown.
- Array types are
 - 1. 1-D array
 - 2. 2-D/Multi-dimensional array
 - 3. Ragged array
 - In 2D array if the second dimension of array is having different length then such array is called as Ragged Array

Variable Arity/Argument Method

- It is a method which can take variable no of arguments.
- We can also pass array to this method.
- If we want to pass different types of variables to this arity method then we can use the object as the type.

Method Overloading

- Defining methods with same name but different arguments(signature) is called as method overloading
- Arguments can differ in one of the following ways
 - Count (no of parameters)

```
static int multiply(int a, int b) {  
    return a * b;  
}  
static int multiply(int a, int b, int c) {  
    return a * b * c;  
}
```

- type

```
static int square(int x) {  
    return x * x;  
}  
static double square(double x) {  
    return x * x;  
}
```

- Order

```
static double divide(int a, double b) {  
    return a / b;  
}  
static double divide(double a, int b) {  
    return a / b;  
}
```

- Note that return type is NOT considered in method overloading.

Labwork

- Array diagram and working
- For Demo02 you have to write an accept method in Student class.
inside for loop you also have to create the object first and then call the accept() on those objects
- Solve assignment