



2021

2021/06/04 SUSTech CSE



2021 Spring Java Final Review

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This lesson is designed to help
you to pass the exam, but this
course isn't.

Contents

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2 往年题型讲评分析

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02

知识点梳理

1 计算机基础知识



- CPU
- Bit & Byte
- Binary
- Octal
- Decimal
- Hexadecimal

2 第一个Java程序



给阿姨倒杯卡布奇诺

- Hello World!
- JDK & JRE & JVM & IDE
- Reserved word & keyword
- Main method
- Comment **//** **/* */**
- Block **{ }** semi-colon **;**

Bug的由来

图片来自b站视频截图：Crash Course Computer Science



Bug的由来

图片来自b站视频截图：Crash Course Computer Science

Handwritten notes on a grid background, likely a log or test report, detailing the discovery of the first computer bug:

1000 Stopped - antenna ✓
1300 (032) MP - MC ~~1.982147000~~
(033) PRO 2 2.130476415 (23) 4.615925059(-2)
conch 2.130676415
Relays 6-2 in 033 failed special speed test
in relay " 10.00 test.
Relays changed
1100 Started Cosine Tape (Sine check)
1525 Started Multi-Adder Test.
1545 Relay #70 Panel F
(moth) in relay.
First actual case of bug being found.
1530 Antenna started.

1947年9月，哈佛马克2型的操作员从故障继电器中，拔出一只死虫，

September 1947, operators on the Harvard Mark II pulled a dead moth from a malfunctioning relay.



Who is the first
programmer in
the history?



Ada Lovelace

3 输入 输出 标识符



- Arguments & Scanner
- `in.next()` and `in.nextLine()`
- `System.out.println()`
- `print()` & `printf("%?", ??)`
- `%b %c %d %f %s`
- Identifiers

4 八种基本数据类型



- byte short int long
- float double
- boolean
- char
- ASCII & Unicode
- \t \n \r \\ \' \uxxxx

5 运算符

■ + - * / %

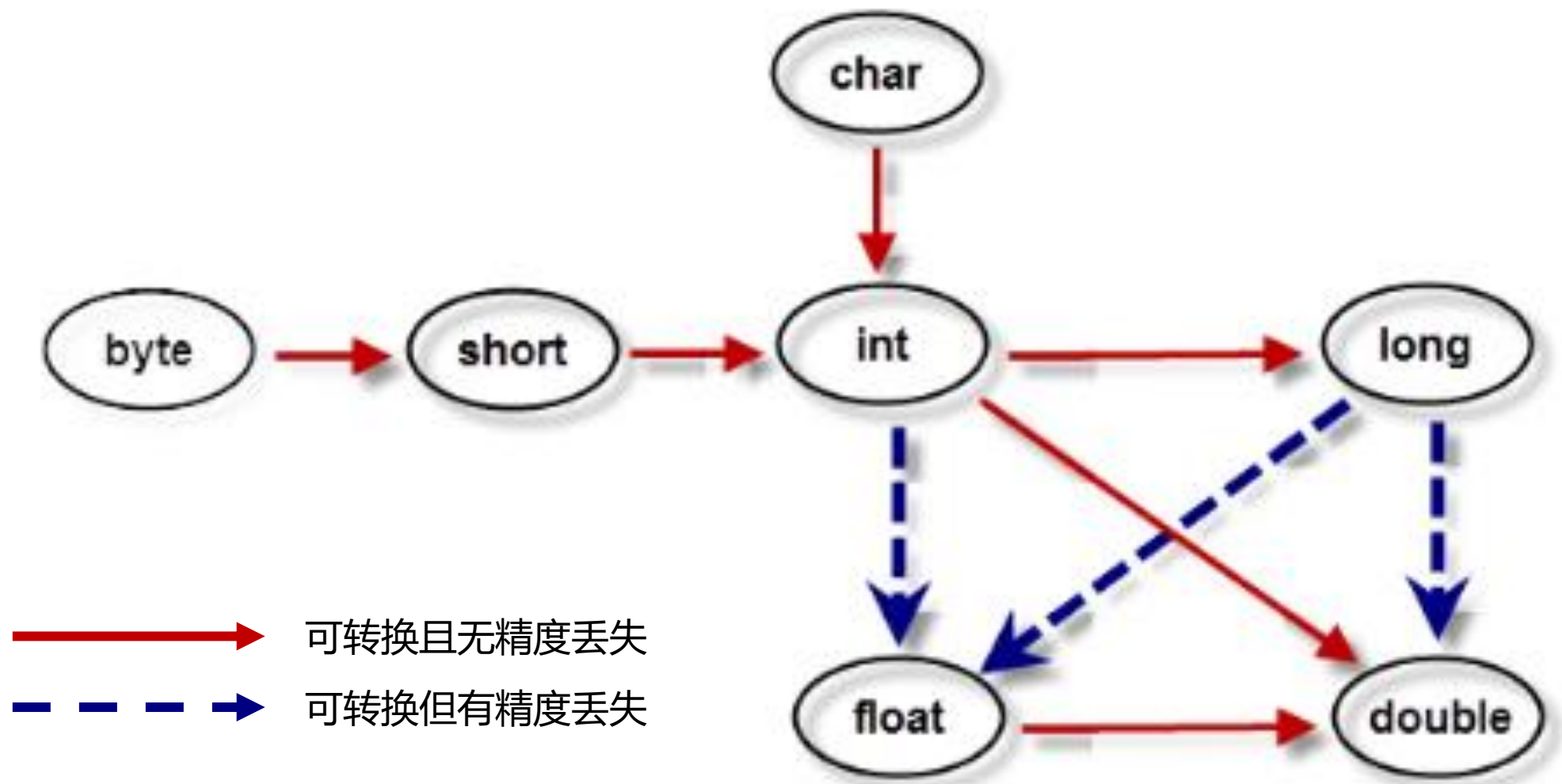
■ ++ / --



6 类型转换

■ 自动转换

■ 强制转换

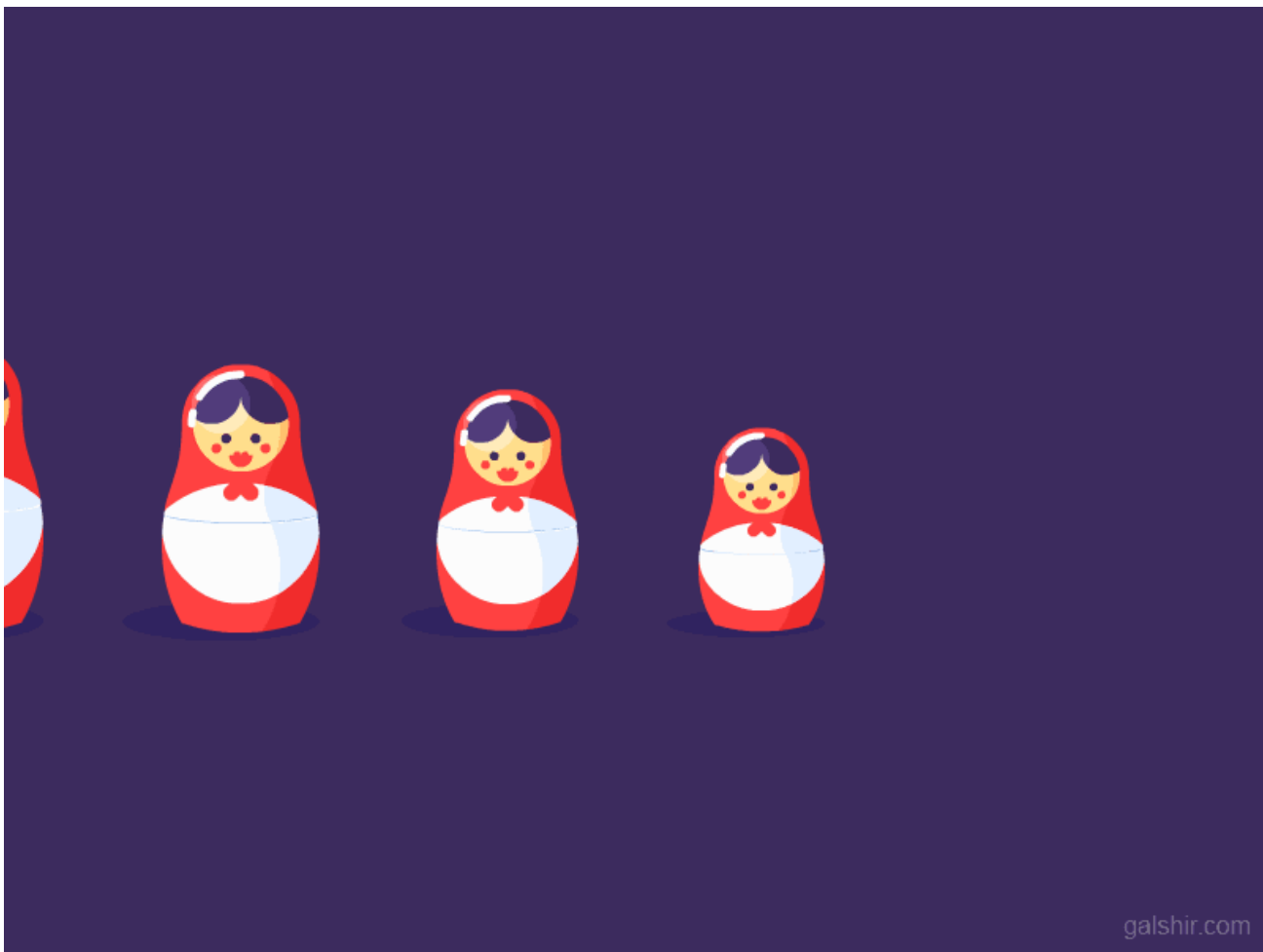


7 判断



- if-else
- switch-case(break)
- Logical operator **&|!^**
- Condition expression **?:**
- ...
- ...

8 循环



while



do-while



for



break



continue



...



9 静态方法

■ How to declare a method

■ How to invoke a method

■ Pass by reference (Q1-2-5)

■ Method overloading

■ Pass by value

■ Method-call Stack

```
public static int max(int a, int b) {  
    if(a > b)    return a;  
    else        return b;  
}
```

10 数组

■ Declare create access

■ length

■ Default value

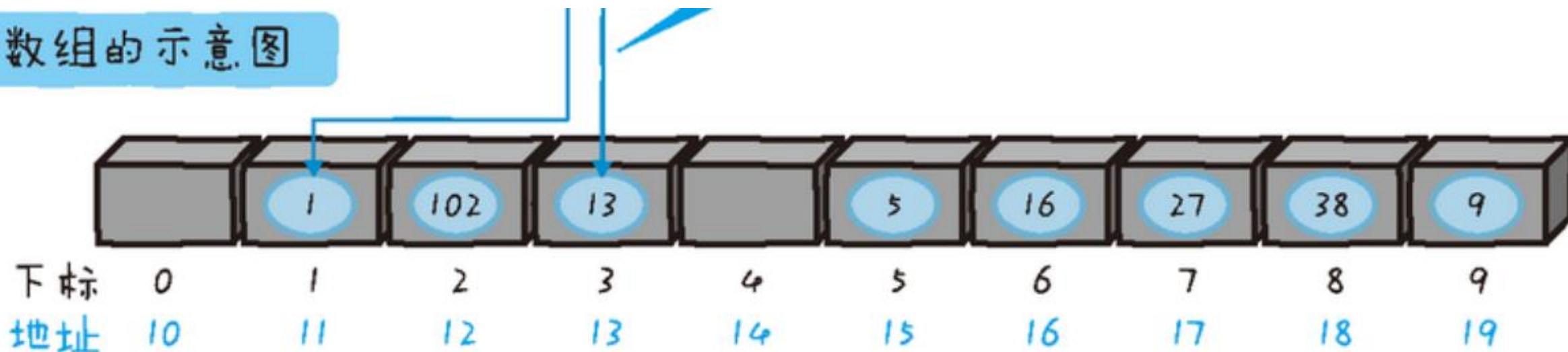
■ foreach

■ Variable-length arguments

■ Search & Sort

■ Multi-dimensional arrays

数组的示意图



11 类和对象

```
Girlfriend gf = new Girlfriend();
```



我可是有对象的人了

- Data field & methods
- Constructors
- How to create an object
- Access method & Data Field
- this
- Encapsulation
- Enum

11 枚举类

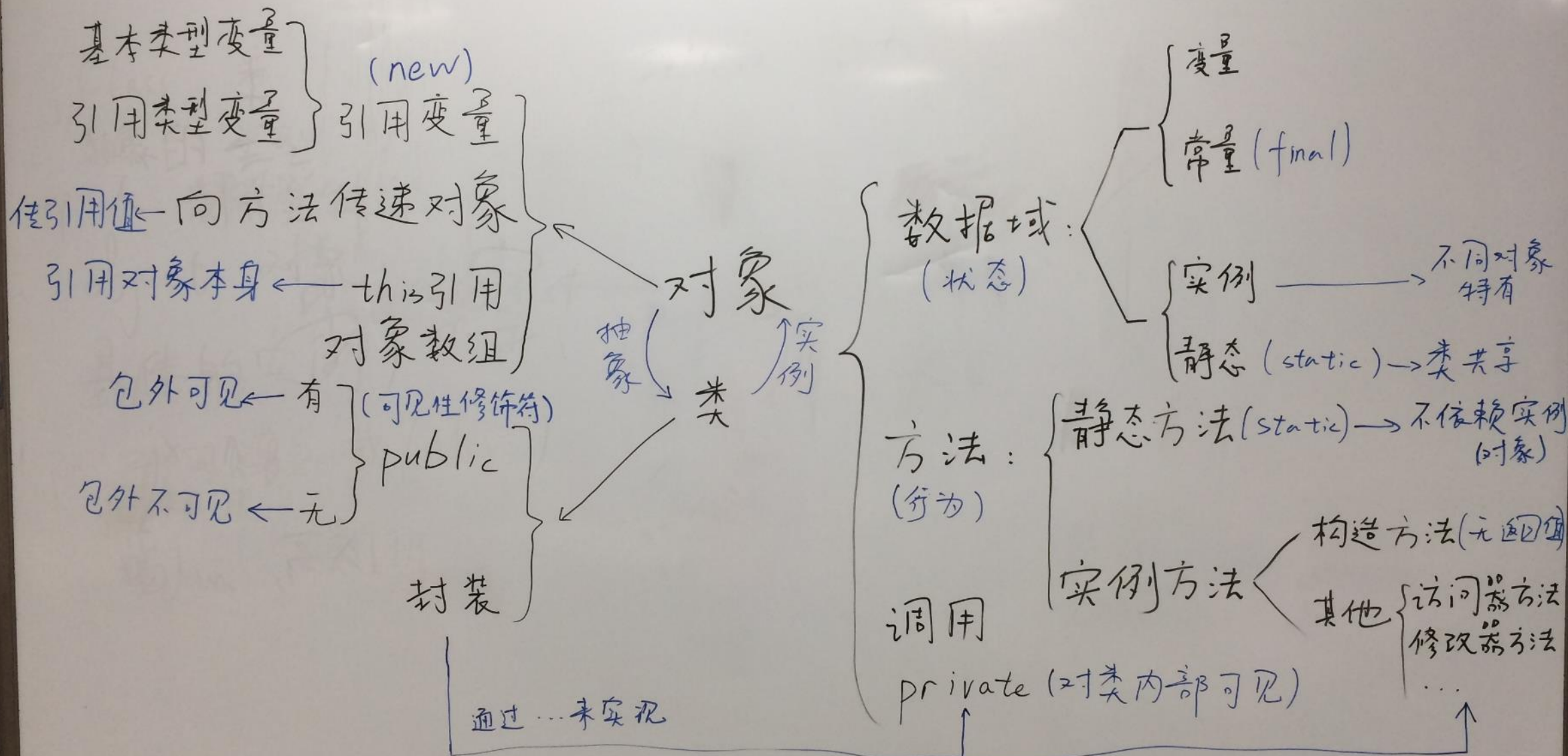
```
public enum Heart { YOU }
```



My Heart, only *YOU*

- Private constructors
- .name()
- .ordinal()
- .values()
- ...

11 类和对象

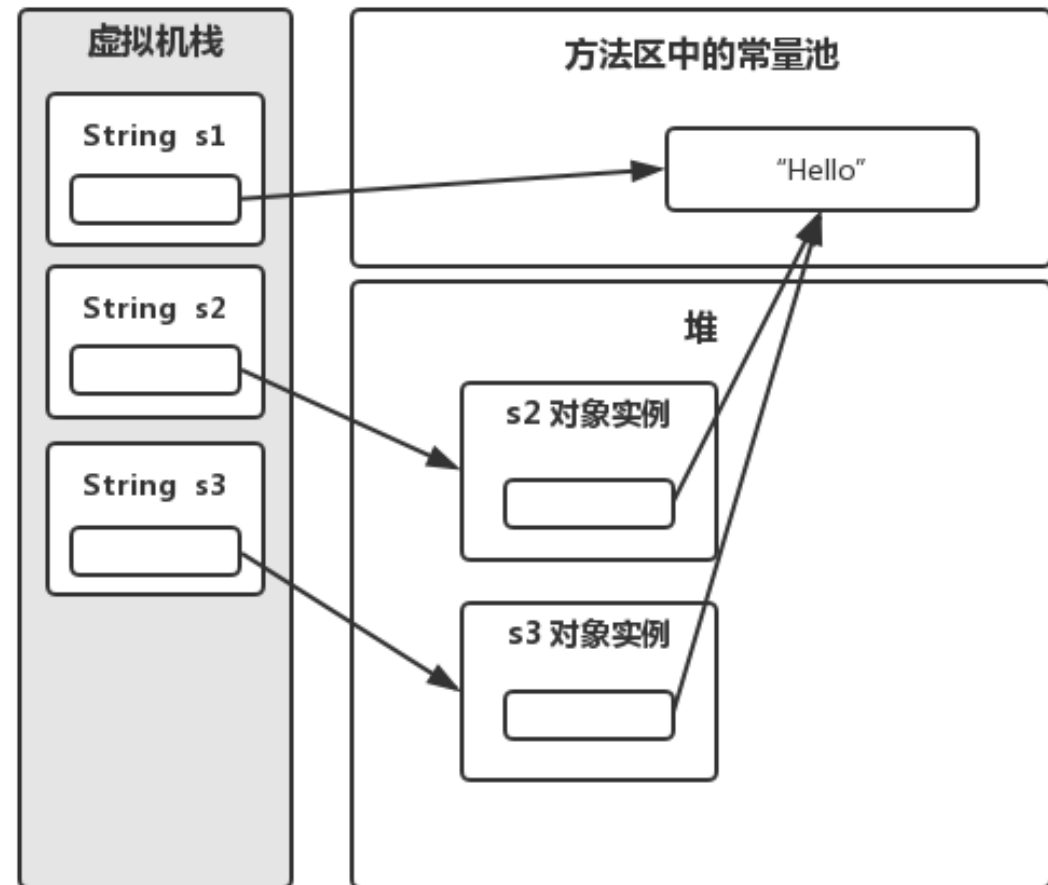


12 String类和其他

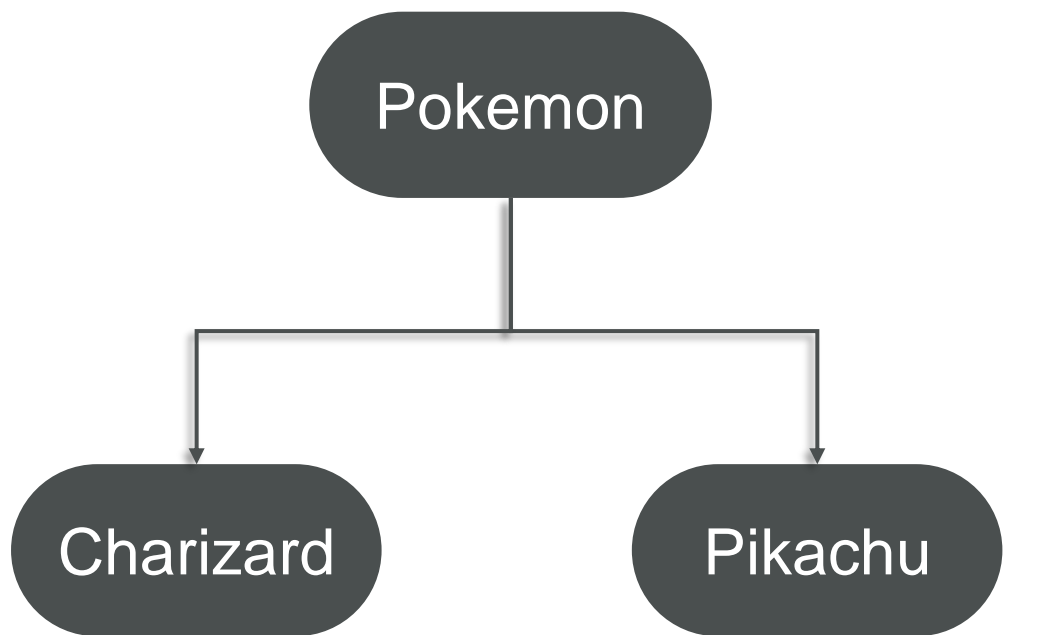
- Constructors
- Methods dealing with String
- Constant Pool

```
String s1 = "Hello";  
String s2 = new String("Hello");  
String s3 = new String("Hello");  
System.out.println( s1 == s2 );  
System.out.println( s2 == s3 );
```

- StringBuilder
- ArrayList<E>
- Wrapper Classes



13 继承和多态



- Constructor Chaining(18Fall)
- super
- Access Modifiers
- Method Overriding
- Object
- Dynamic binding
- instanceof
- final class and method

14 抽象类和接口

Pokemon

Charizard

Pikachu



abstract method

Some attentions

Why interface?

implements

Default modifiers

...

15 泛型



我竟无图以对

- Generic Method
- Generic Class
- Generic Interface
- Bounded Type Parameter
- Wildcards
- Type Erasure
- ...

16 异常处理



对方不想和你说话
并向你抛出了一个异常



对方解决了你的异常
并向你抛出了一串乱码

try-catch

throws

Exception and Error

finally

Create Exception class

Methods for Exception

...



02

往年题型讲评分析

题型内容

判断题

01

02

选词填空

单选题

03

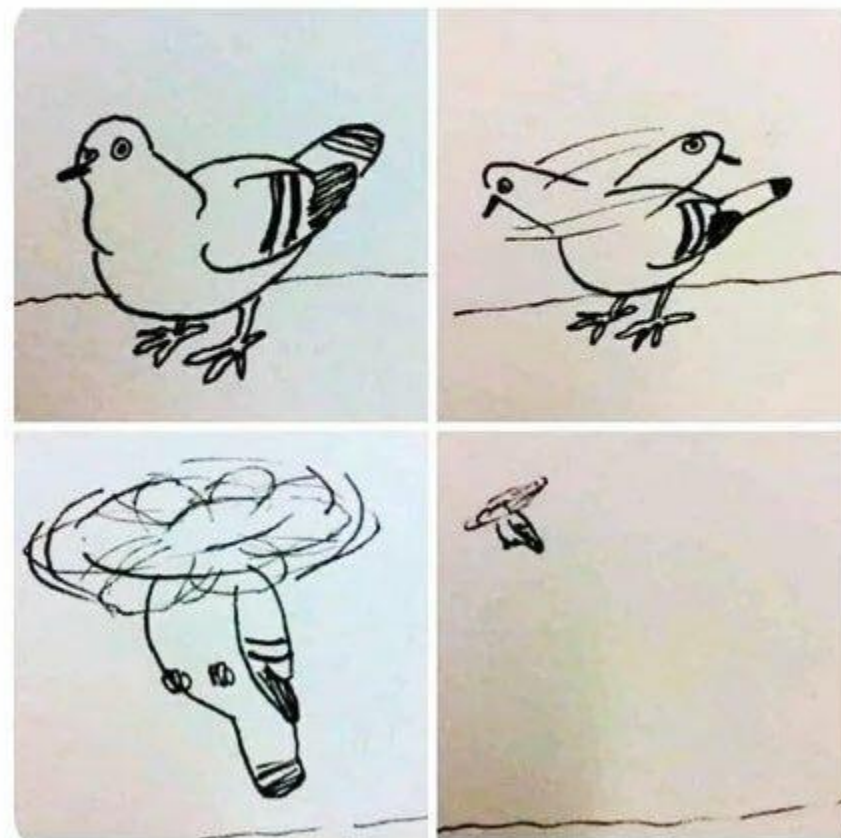
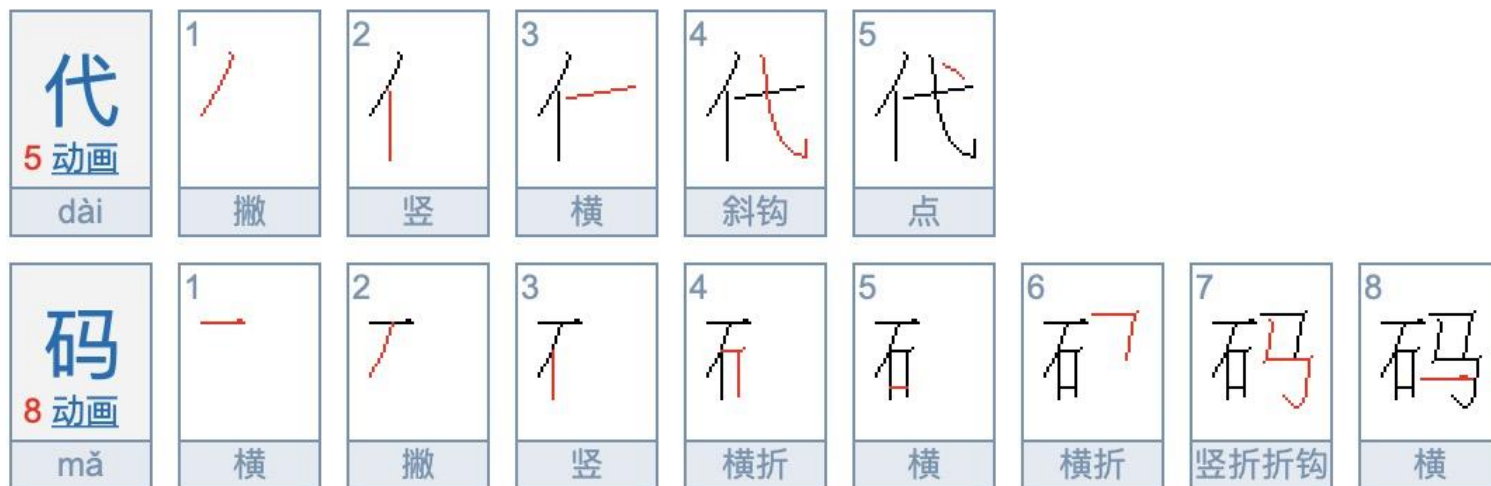
04

看代码写输出
补充代码逻辑

05 手写代码题



When your program
is a complete mess,
but it does its job





03

答疑.....



2021

部分图源自CSDN / 博客园 / 百度图片 / 哔哩哔哩

Thanks for listening!