1.
JVM
class   static   static
new:

- static   static

- static

- 8

- Native
-

    2.   Eden   survival   from+ to
                            java8   Metaspace
    Eden+Survivor   survivor   from   to
            from   to   GC
        JVM   Full GC   JVM
                YGC,   Survice

            Eden   GC
        Survive
                                        JVM

3.
new

4. GC
                                        +1   -1   0
            JVM   A   B,B   A

                    GC ROOT   -static
                            GC ROOT   GC ROOT

5. SafePoint
    GC   Java   safepoint   VMThread
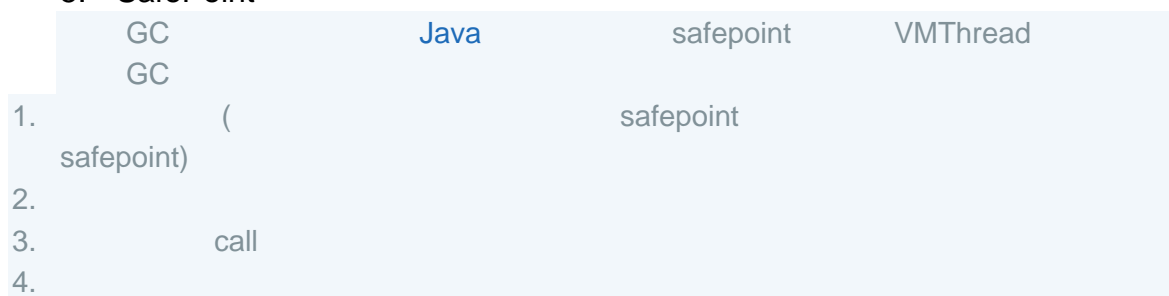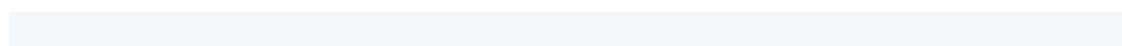   GC
1.   (safepoint
safepoint)
2.
3.   call
4.

6. GC

8 1 Eden survivor YGC

7. GC CMS G1

GC

CMS "—"
G1 "—" **Region**
""

8. Minor GC Full GC

MGC YGC JVM FGC

9. jmap jstack jconsole jhat

jstack jmap jhat dump
mat eclipse

10.

class class

11.JVM ?

java :

1. GC

GC

2.

3.

4.

:

1. , java

2.

3. returnAddress

4.

5.

 .
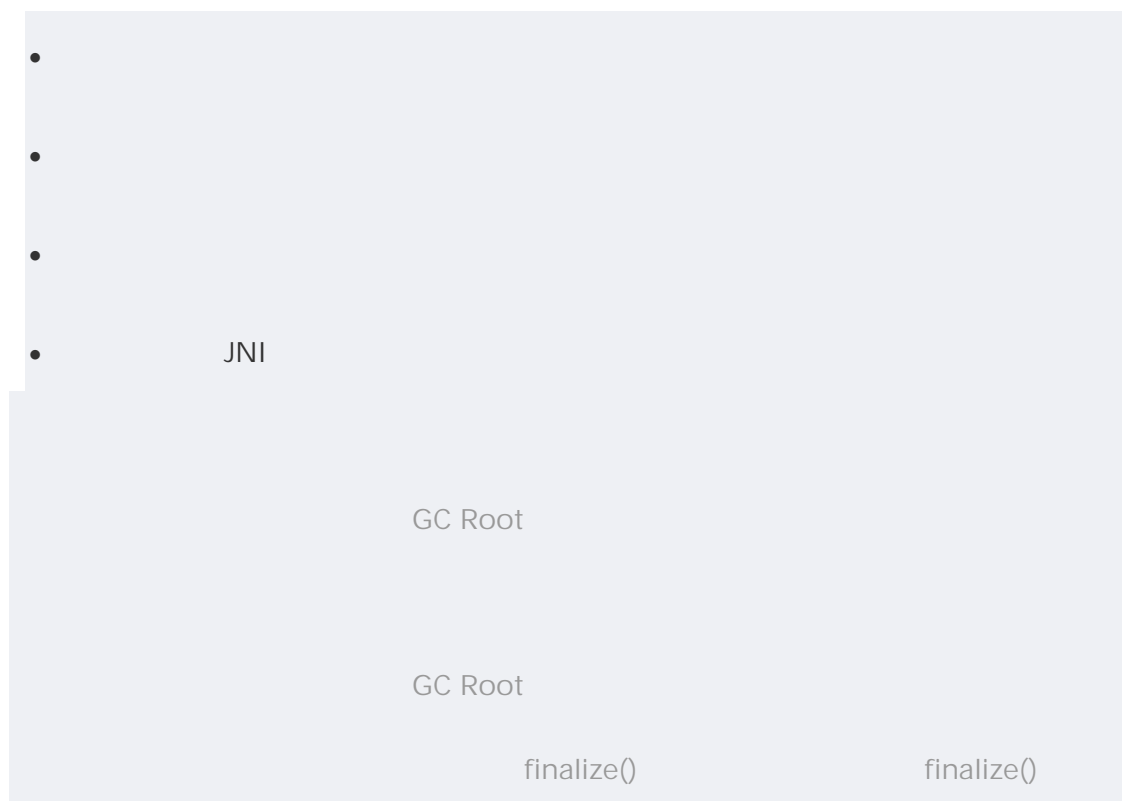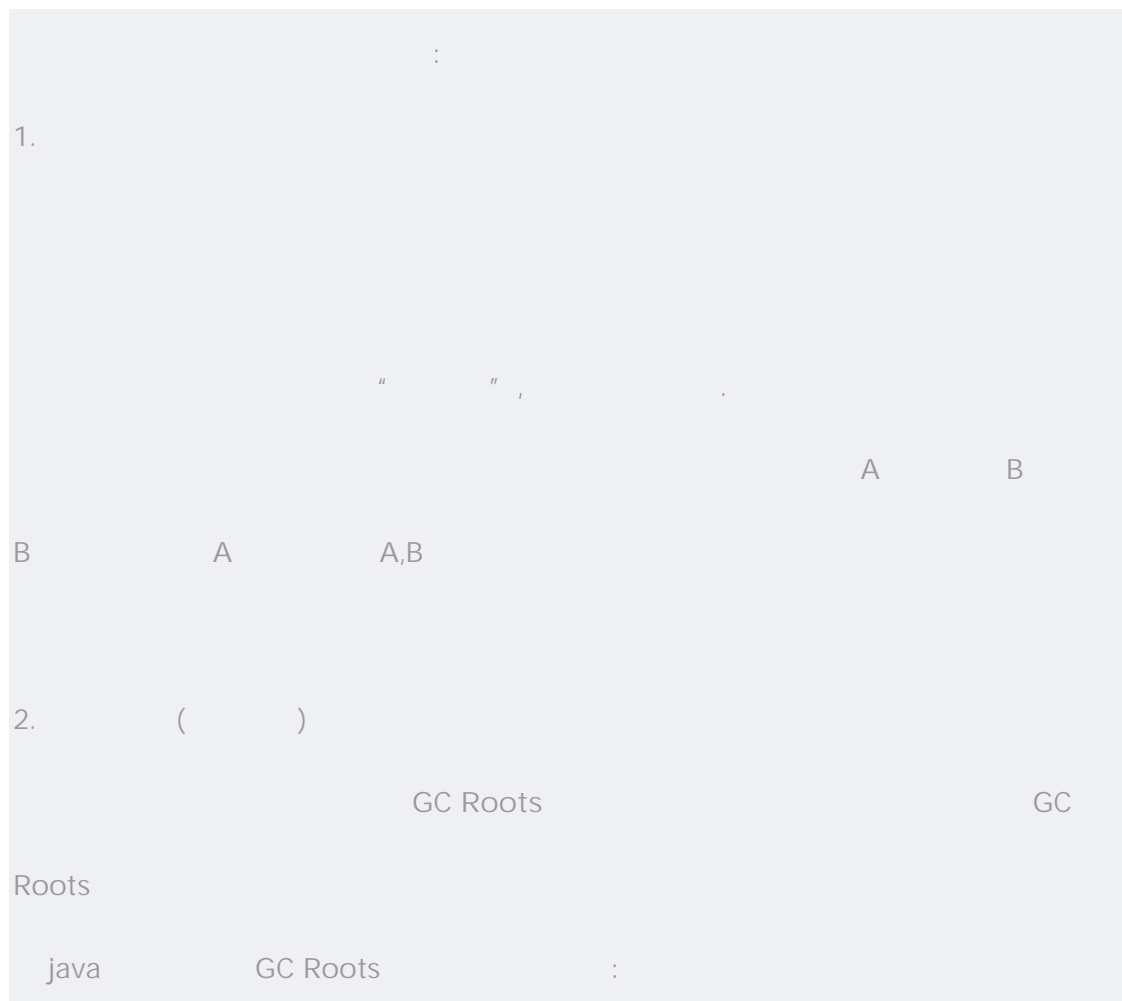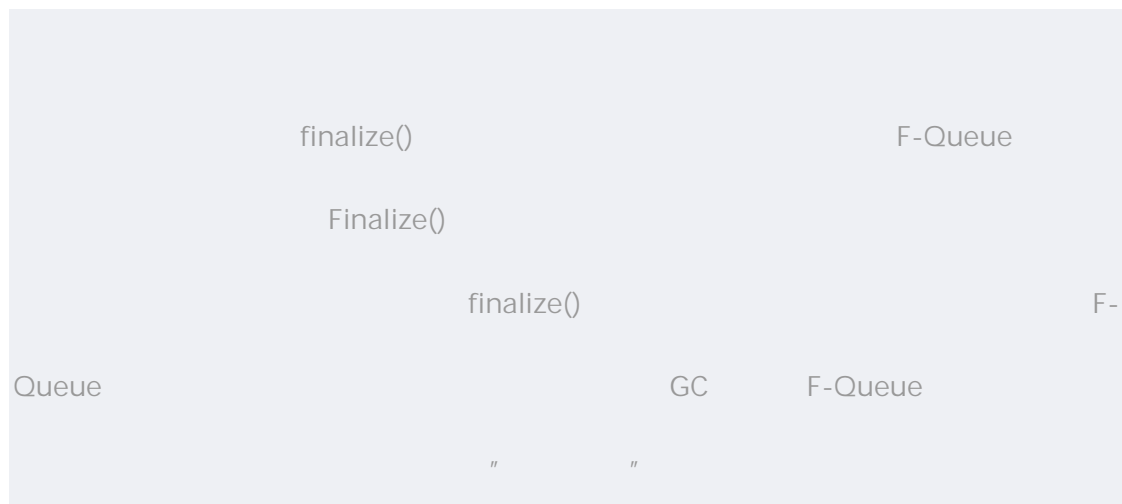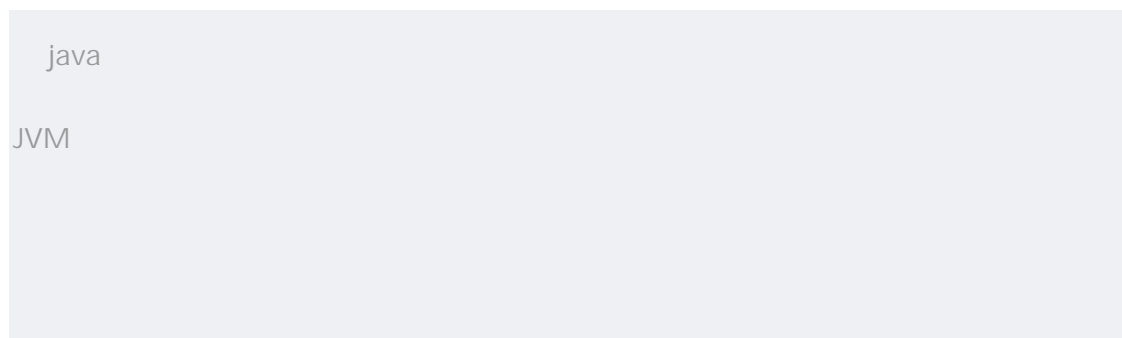
Native

java

java OOM

12. ?(GC
)

:

1.

"   ",   .

                                                    A   B

B   A   A,B

2.   (   )

                                    GC Roots   GC

Roots

  java   GC Roots   :

-
-
-
- JNI

                                    GC Root

                                    GC Root

                              finalize()   finalize()

finalize()   F-Queue

Finalize()

finalize()   F-

Queue   GC   F-Queue

" "

13.   java   ?

java

JVM

14.java   ?

1.   -   :

1.

2.

GC

2.   :

1   1

8:1:1   Eden   Survior

Eden   Eden

Eden   Survivor

(java   )

3.   -

-

4.

-              -

15.java

java   (JMM)   .JMM

main memory

local memory   /

JMM
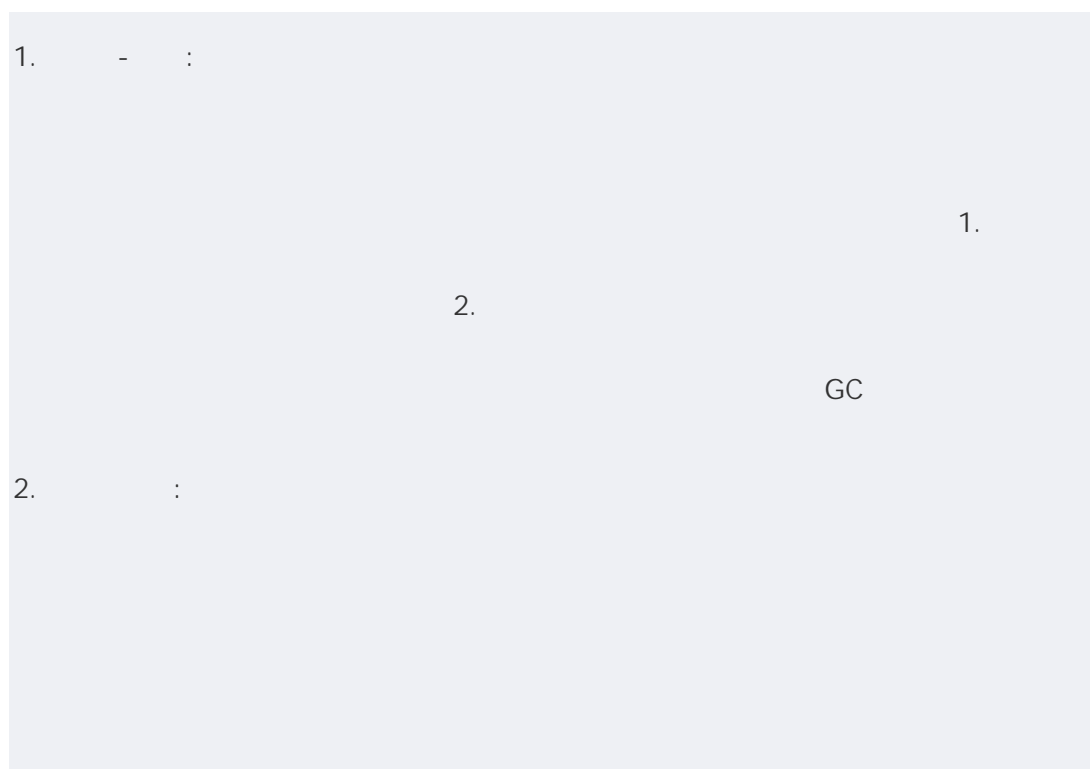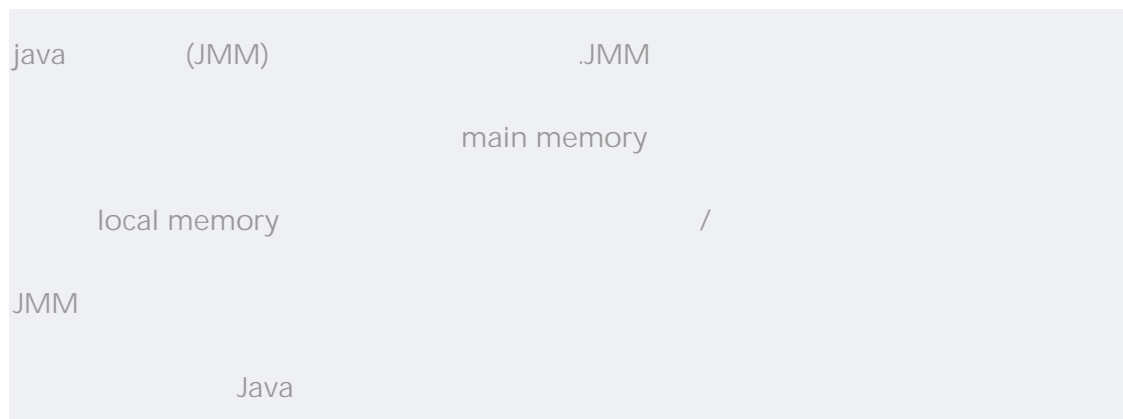
Java

	A	B			2
1.		A		A	
2.		B		A	

16.java ?

java	7
1.	
2.	
3.	Class
	Class	.
	:	
1.	Class
	.	
2.	:	
3.	

4.

Java

```java
public static int value=123; //          value          0

123
```

- 1
- 2

- 1

- 2

Java

17.　　java　　　　　？

Class

java

18.

19. ?

:

1. (Bootstrap ClassLoader) java java

2. (extensions class loader): Java Java

Java

3. system class loader Java CLASSPATH

Java Java

ClassLoader.getSystemClassLoader()

4. java.lang.ClassLoader
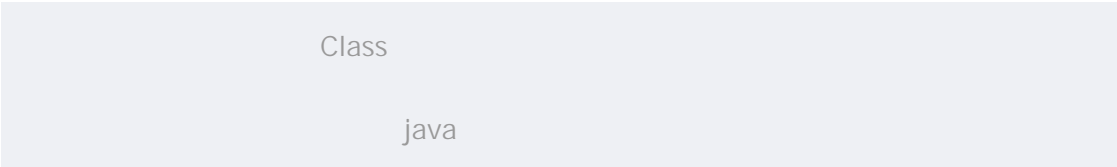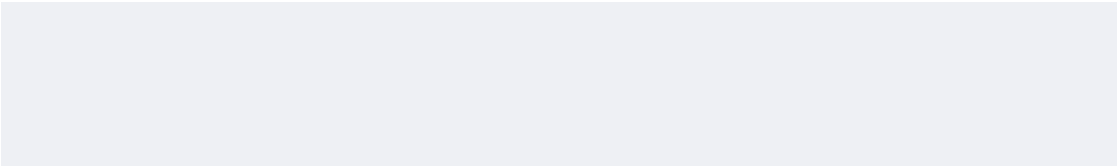
20. java Minor GC Major GC

1. Eden

2. .

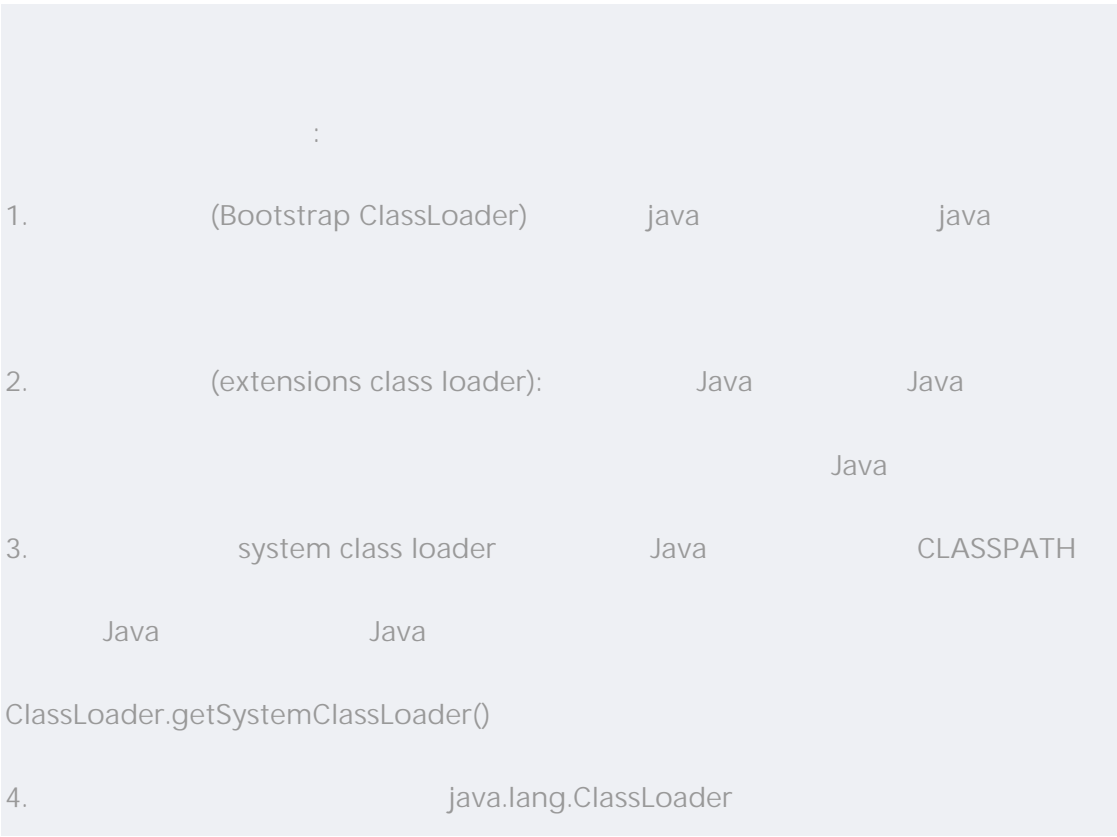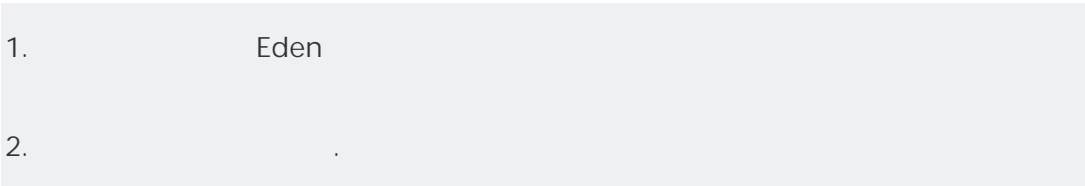3.   .

    Eden   Minor GC.Minor Gc

           Eden   Gc

     ;Full Gc/Major GC   GC

      Minor GC,   Full GC   Minor

GC