```
-verbose:gc
-Xms20M
-Xmx20M
-Xmn10M
-XX:+PrintGCDetails
-XX:SurvivorRatio=8
-XX:+UseConcMarkSweepGC
```

```java
package main.java.Test1;

public class GC5_CMS {
    public static void main(String[] args) {
        int size=1024*1024;

        byte[] myAlloc1=new byte[4*size];
        System.out.println("111111");

        byte[] myAlloc2=new byte[4*size];
        System.out.println("222222");

        byte[] myAlloc3=new byte[4*size];
        System.out.println("333333");

        byte[] myAlloc4=new byte[2*size];
        System.out.println("444444");
    }
}
```

```
111111
[GC (Allocation Failure) [ParNew: 6443K->712K(9216K), 0.0027922 secs] 6443K-
>4811K(19456K), 0.0028544 secs] [Times: user=0.06 sys=0.00, real=0.00 secs]
222222
[GC (Allocation Failure) [ParNew: 4964K->132K(9216K), 0.0037149 secs] 9062K-
>9015K(19456K), 0.0037564 secs] [Times: user=0.00 sys=0.00, real=0.00 secs]
[GC (CMS Initial Mark) [1 CMS-initial-mark: 8882K(10240K)] 13111K(19456K),
0.0001624 secs] [Times: user=0.00 sys=0.00, real=0.00 secs]
[CMS-concurrent-mark-start]
333333
444444
[CMS-concurrent-mark: 0.001/0.001 secs] [Times: user=0.00 sys=0.00, real=0.00
secs]
[CMS-concurrent-preclean-start]
[CMS-concurrent-preclean: 0.000/0.000 secs] [Times: user=0.00 sys=0.00, real=0.00
secs]
```

[CMS-concurrent-abortable-preclean-start]
[CMS-concurrent-abortable-preclean: 0.000/0.000 secs] [Times: user=0.00 sys=0.00, real=0.00 secs]
Heap
 par new generation   total 9216K, used 6515K [0x00000000fec00000, 0x00000000ff600000, 0x00000000ff600000)
  eden space 8192K, 77% used [0x00000000fec00000, 0x00000000ff23bb18, 0x00000000ff400000)
  from space 1024K, 12% used [0x00000000ff400000, 0x00000000ff4213b0, 0x00000000ff500000)
  to   space 1024K,   0% used [0x00000000ff500000, 0x00000000ff500000, 0x00000000ff600000)
 concurrent mark-sweep generation total 10240K, used 8882K [0x00000000ff600000, 0x0000000100000000, 0x0000000100000000)
 Metaspace   used 3499K, capacity 4498K, committed 4864K, reserved 1056768K
  class space   used 387K, capacity 390K, committed 512K, reserved 1048576K
[GC (CMS Final Remark) [YG occupancy: 6515 K (9216 K)][Rescan (parallel) , 0.0001241 secs][weak refs processing, 0.0000106 secs][class unloading, 0.0002639 secs][scrub symbol table, 0.0004557 secs][scrub string table, 0.0001219 secs][1 CMS-remark: 8882K(10240K)] 15398K(19456K), 0.0010772 secs] [Times: user=0.00 sys=0.00, real=0.00 secs]