

# Write a program to keep CPU usage as sin function

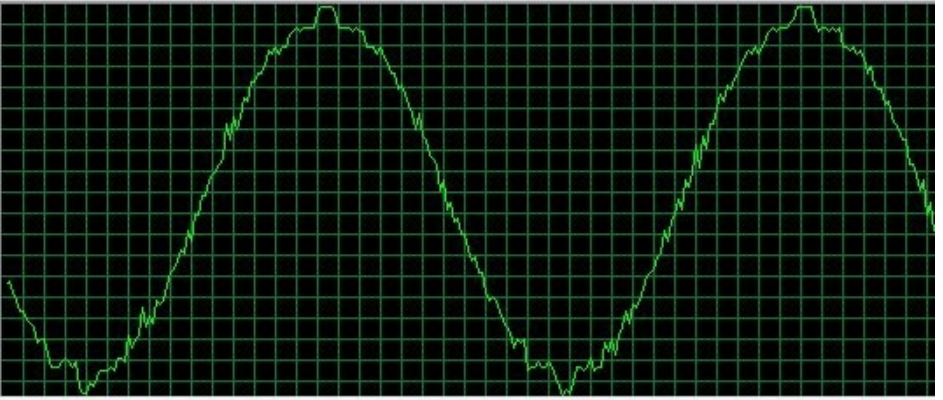


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It is said that this is a problem from interview of Microsoft. Write a program, which makes the CPU usage curve in Windows Task Manager shows a Sin function.



CPU 使用记录



The program below is written in java:

```

1  public class sincpu {
2      private static final int cycle=1024,tick = 256;
3      public static void main (String[] args) throws InterruptedExce
ption {
4          for(int i = 0;;i++){
5              work(calcNextSleep(i % cycle));
6              sleep(tick - calcNextSleep(i % cycle));
7          }
8      }
9
10     private static long calcNextSleep(long i){
11         return (int)(Math.sin((double)i * 2 * Math.PI / cycle) * tick + t
ick) / 2;
12     }
13
14     private static void sleep (long sleepTime) throws Interrupted
Exception
15     {
16         if(sleepTime < 2)
17             Thread.yield();
18         else
19             Thread.sleep(sleepTime);
20     }
21
22     private static void work (long period) {
23         long start = System.currentTimeMillis();
24         for(;;){
25             Math.sin(1);
26             if(System.currentTimeMillis() - start >= period)
27                 break;
28         }
29     }
30 }

```

Be careful you need to turn off other cores if you have multi-core CPU.

