

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.





The program below is written in java:

```
1 public class sincpu {
2     private static final int cycle=1
024,tick = 256;
3     public static void main (String[]
args) throws InterruptedException {
4         for(int i = 0;;i++){
5             work(calcNextSleep(i % c
ycle));
6             sleep(tick - calcNextSle
ep(i % cycle));
7         }
8     }
9
10    private static long calcNextSleep
(long i){
11        return (int)(Math.sin((double
)i * 2 * Math.PI / cycle) * tick + tick)
/ 2;
12    }
13
14    private static void sleep (long
sleepTime) throws InterruptedException
15    {
16        if(sleepTime < 2)
17            Thread.yield();
18        else
19            Thread.sleep(sleepTime);
```

```
20     }
21
22     private static void work (long p
period) {
23         long start = System.currentT
imeMillis();
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.

