

```

1  struct monoQueue{
2
3      stack<pii> s1, s2;
4
5      int size(){
6          return s1.size() + s2.size();
7      }
8
9      int empty(){
10         return !size();
11     }
12
13     void clear(){
14         while(!empty()) pop();
15     }
16
17     int get_gcd(){
18
19         if(empty()){
20             return 0;
21         }
22         if(!s1.empty() && !s2.empty()){
23             return __gcd(s1.top().second, s2.top().second);
24         }
25         if(!s2.empty()){
26             return s2.top().second;
27         }
28         return s1.top().second;
29     }
30
31     void push(int val){
32
33         if(s2.empty()){
34             s2.push({val, val});
35         }
36         else{
37             s2.push({val, __gcd(s2.top().second, val)});
38         }
39     }
40
41     void pop(){
42
43         if(s1.empty()){
44             while(!s2.empty()){
45
46                 if(s1.empty()){
47                     s1.push({s2.top().first, s2.top().first});
48                 }
49                 else{
50                     s1.push({s2.top().first, __gcd(s2.top().first, s1.top().second)});
51                 }
52
53                 s2.pop();
54             }
55         }
56         assert(!s1.empty());
57         s1.pop();
58     }
59 };

```