题意

柱形图中求面积最大的矩形，输出面积

分析

详见《挑战程序设计竞赛》page 336 - 337

代码

```
1  #include<algorithm>
2  #include<bitset>
3  #include<cstdio>
4  #include<cstring>
5  #include<cstdlib>
6  #include<cmath>
7  #include<deque>
8  #include<iostream>
9  #include<map>
10 #include<queue>
11 #include<set>
12 #include<stack>
13 #include<string>
14 #include<vector>
15 #include<list>
16 #define For(i,a,b) for(int i=(a); i<=(b) ; i++)
17 #define _For(i,a,b) for(int i=(a); i>=(b) ; i--)
18 #define Memset(a,b); memset((a),(b),sizeof((a)));
19 #define Cout(a,b);  printf("%d",(a));printf(b);
20 #define Coutc(a,b);  printf("%c",(a));printf(b);
21 #define Couts(a,b);  printf("%s",(a));printf(b);
22 using namespace std;
23 const int INF = 0x3f3f3f3f;
24 typedef  long long LL;typedef  unsigned long long ULL;typedef  long double
   LDB;
25 inline LL CinLL(){LL x=0,f=1;char ch=getchar();while(ch<'0'||ch>'9'){if(ch=='-
   ')f=-1;ch=getchar();}while(ch>='0'&&ch<='9'){x=x*10+ch-
   '0';ch=getchar();}return x*f;}
26 inline int Cin(){int x=0,f=1;char ch=getchar();while(!isdigit(ch)){if(ch=='-
   ')f=-1;ch=getchar();}while(isdigit(ch))x=x*10+ch-'0',ch=getchar();return f*x;}
27 const int N = 1e5+5;
```

```cpp
stack<int>st;
LL l[N],r[N],h[N];
int n;
void csh()
{
    Memset(l,0);
    Memset(r,0);
    Memset(h,0);
}
int main()
{
    ios::sync_with_stdio(false);
    while(cin>>n && n)
    {
        For(i,1,n) cin>>h[i];
        while(!st.empty()) st.pop();
        For(i,1,n)
        {
            while(!st.empty()&&h[st.top()]>=h[i])
                st.pop();
            if(st.empty()) l[i] = 1;
            else l[i] = st.top()+1;
            st.push(i);
        }

        while(!st.empty()) st.pop();
        _For(i,n,1)
        {
            while(!st.empty()&&h[st.top()]>=h[i])
                st.pop();
            if(st.empty()) r[i] = n;
            else r[i] = st.top()-1;
            st.push(i);
        }
        LL ans = 0;
        For(i,1,n)
        {
            LL tot = (r[i] - l[i]+1) * h[i];
            ans = ans > tot ? ans : tot;
        }
        cout<<ans<<endl;
        csh();
    }
}
```