```
1 class Solution {
public:
       int lengthOfLIS(vector<int>& nums) {
            int n = nums.size();
           vector<int> ret;
5
           ret.push_back(nums[0]);
           for(int i = 1; i < n; i++)
            {
                if(nums[i] > ret.back())
                {
10
                    ret.push_back(nums[i]);
11
                }
12
                else
13
                {
14
                    int left = 0;
15
                    int right = ret.size()-1;
16
                    while(left < right)</pre>
17
                     {
18
                         int mid = (left+right) >> 1;
19
                         if(ret[mid] < nums[i]) left = mid+1;</pre>
20
                         else right = mid;
21
                    }
22
                    ret[left] = nums[i];
23
24
25
            return ret.size();
26
       }
27
28 };
```