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1: //Insertion sort using binary search
2:
3: #include<stdio.h>
4:
5: int binarysearch(int a[],int k,int low,int high){
6:     while(low<=high){
7:         int mid=low+(high-low)/2;
8:         if (k==a[mid])
9:             return mid+1;
10:        else if(k>a[mid])
11:            low=mid+1;
12:        else
13:            high=mid-1;
14:    }
15:    return low;
16: }
17:
18: void insertionsort(int a[],int n){
19:     int i,bin,j,k,v;
20:     for(i=1;i<n;i++){
21:         j=i-1;
22:         v=a[i];
23:         bin=binarysearch(a,v,0,j);
24:
25:         while(j>=bin){
26:             a[j+1]=a[j];
27:             j--;
28:         }
29:         a[j+1]=v;
30:     }
31: }
32:
33: int main()
34: {
35:     int a[]={37,23,0,17,12,72,31,46,100,88,54};
36:     int n=sizeof(a)/sizeof(a[0]);
37:     insertionsort(a,n);
38:     printf("sorted array:\n");
39:     for(int i=0;i<n;i++){

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40:         printf("%d",a[i]);
41:     }
42:     return 0;
43: }
44:
45:
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