**package** lis;

**import** java.util.Scanner;

**public** **class** seq{

**public** **static** **void** main(String args[])

{

**int** size=6;

**int**[]a= {5,8,3,7,9,1};

**if**(size<=1)System.***out***.println("longest increasing subsequence length is" + size);

**int**[]tail= **new** **int**[size];

tail[0]=a[0];

**int** lastidx=0;

**for**(**int** i=1; i<size; i++)

{

**int** idx=*binarysearch*(tail, 0, lastidx, a[i]);

tail[idx]=a[i];

lastidx=Math.*max*(lastidx,idx);

}

System.***out***.println("longest increasing subsequence length is " + (lastidx+1));

}

**static** **int** binarysearch(**int**[]arr, **int** l, **int** r, **int** val)

{

**if**(arr[r]<val)**return** r+1;

**while**(l<r)

{

**int** mid=(l+r)/2;

**if**(arr[mid]==val)**return** mid+1;

**else** **if**(arr[mid]<val)l=mid+1;

**else** r=mid;

}

**return** r;

}

}