package Searching;

public class Binary {

public static void main(String[] args) {

// int[] arr = {122,113,105,97,88,79,52,44,36,28,19};

// int[] arr = {19,28,36,44,52,79,88,97,105,113,122};

char[] arr = {'c', 'f','j'};

char target = 'c';

// System.out.println(binary(arr,target));

System.out.println(nextGreatestLetter(arr,target));

}

public static int binary(int[] arr, int target) {

int start = 0;

int end = arr.length-1;

boolean isAsc = arr[start] < arr[end];

while (start <= end) {

int mid = start + (end-start) /2;

if (target == arr[mid]) {

return mid;

} else if (isAsc) {

if (target > arr[mid]) {

start = mid+1;

} else if (target < arr[mid]) {

end = mid-1;

}

} else {

if (target < arr[mid]) {

start = mid+1;

} else if (target > arr[mid]) {

end = mid-1;

}

}

}

return -1;

}

static char nextGreatestLetter(char[] letters, char target) {

int start = 0;

int end = letters.length - 1;

while (start <= end) {

int mid = start + (end - start) /2;

if (target < letters[mid]) {

end = mid-1;

} else {

start = mid+1;

}

}

return letters[start % letters.length];

}

}