#include <iostream>

using namespace std;

int binarysearch(int arr[],int s,int e,int key){

int start=s;

int end=e;

int mid=(start+end)/2;

while(start<=end){

if(arr[mid]==key){

return mid;

}

else if(arr[mid]>key){

end=mid-1;

}

else if(arr[mid]<key){

start=mid+1;

}

mid=(start+end)/2;

}

return -1;

}

int pivot(int arr[],int n){

int s=0;

int e=n-1;

int mid=(s+e)/2;

while(s<e){

if(arr[mid]>=arr[0]){

s=mid+1;

}

else{

e=mid;

}

mid=(s+e)/2;

}

return s;

}

int pivotsearch(int arr[],int n,int k){

int p=pivot(arr,5);

if(k>=arr[0]&&k<=arr[p-1]){

return binarysearch(arr,0,p-1,k);

}

else{

return binarysearch(arr,p,n-1,k);

}

}

int main() {

int arr[5]={3,8,10,17,1};

cout<<pivotsearch(arr,5,1);

return 0;

}