

Code:

```
#include<bits/stdc++.h>

using namespace std;

int f(vector<int>&a,int t){
    int l=0,r=a.size() - 1;
    while(l<=r){
        int m=l+ (r-l) / 2;
        if(a[m]==t) return m;
        if(a[l]<=a[m]){
            if(a[l]<=t && t<a[m])  r=m-1;
            else  l=m+1;}
        else{
            if(a[m]<t && t<=a[r])  l=m+1;
            else r=m-1;}}
    return -1;}

int main(){
    int z ;
    cin>>z;
    while(z--){
        int n,t;
        cin>>n>>t;
        vector<int>a(n);
        for(int i=0;i<n;i++)cin>>a[i];
        cout<<f(a,t);
    }
}
```

```
PS C:\academics\coding\c++> cd 'c:\academics\coding\c++\output'
PS C:\academics\coding\c++\output> & .\'first.exe'
7 0
4 5 6 7 0 1 2
-1
```

```
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1
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-1
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