Floor in a Sorted Array

> 寻找给定数组中第一个≤X的数的索引

采用二分法

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

using namespace std;

int floorOfX(vector<int> &arr, int &X, int low, int high) {
    if (low > high) return -1;
    if (X >= arr[high]) return high;
    if (X == arr[low]) return low;
    int mid = low + (high - low) / 2;
    if (arr[mid] == X) return mid;
    if (mid > 0 && arr[mid - 1] <= X && X < arr[mid]) return mid - 1;
    if (X < arr[mid]) return floorOfX(arr, X, low, mid - 1);
    return floorOfX(arr, X, mid + 1, high);
}

int main() {
    int T;
    scanf("%d", &T);
    while (T--) {
        int N, X;
        scanf("%d %d", &N, &X);
        vector<int> arr(N);
        for (int i = 0; i < N; ++i) scanf("%d", &arr[i]);
        printf("%d\n", floorOfX(arr, X, 0, N - 1));
    }
}
```