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## Function optimization

P85038\_en

Setzè Concurs de Programació de la UPC - Semifinal (2018-06-20)

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Consider this function:

```
int mystery(const vector<int>& A, const vector<int>& B) {
    int n = A.size ();
    int res = 0;
    for (int i = 0; i < n; ++i)
        for (int j = 0; j < n; ++j)
            if (A[i] ≠ A[j]) res = max(res, B[i] + B[j]);
    return res;
}
```

Implement an alternative function, with the same name, return type and parameters, that computes the same, but as efficiently as possible.

### Precondition

Assume that  $A$  and  $B$  have the same number  $n$  of elements, that  $n$  is between 1 and  $10^5$ , and that the elements of the vectors are all between 1 and  $10^8$ .

### Observation

You only need to submit the required procedure; your main program will be ignored.

### Problem information

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