

---

**Algorithm 1** Arbitrage

---

**Input:** list of odds  $q_{jk}$  for all bookmakers  $j \in J = \{1, \dots, n\}$  where  $|J| \geq 2$

**Output:** list of indices  $j$  for all outcomes  $k$

```
1: procedure FIND ARBITRAGE OPPORTUNITIES  $(j, k)$ 
2:   for all  $k = H, D, A$  do
3:     for all bookmakers  $j \in J$  do return the highest odd  $q_{jk}$  for every outcome  $k$ 
4:   end for
5:   define  $\omega_k \leftarrow \max q_{jk}$ 
6: end for
7: if  $\sum_k \omega_k < 1$  then
8:   return  $(j, k)$  for all outcomes  $k$ 
9: else
10:  return  $-1$ 
11: end if
12: end procedure
```

---