

① TODO: Problem Statement

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**Algorithm 1** TODO

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```
1: function PLACEPOSTOFFICES( $H, n$ )
2:    $P \leftarrow \emptyset$ 
3:
4:   APPEND( $P, H[1] + 100$ )
5:    $j \leftarrow 1$ 
6:   for  $i$  from 2 to  $n$  do
7:     if  $|H[i] - P[j]| > 100$  then
8:       APPEND( $P, H[i] + 100$ )
9:        $j \leftarrow j + 1$ 
10:    end if
11:  end for
12:
13:  return  $P$ 
14: end function
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② TODO: Problem Statement

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**Algorithm 2** TODO

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```
1: function MAXPROFIT( $B, S, n$ )
2:    $buy \leftarrow 0$ 
3:    $sell \leftarrow 0$ 
4:   for  $i$  from 1 to  $n + 1$  do
5:     if  $B[buy] > B[i]$  then
6:        $buy \leftarrow i$ 
7:        $sell \leftarrow i$ 
8:     else
9:       if  $S[sell] < S[i]$  then
10:         $sell \leftarrow i$ 
11:      end if
12:    end if
13:  end for
14:
15:  return ( $buy, sell$ )
16: end function
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③ TODO: Problem Statement

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**Algorithm 3** TODO

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**function** LARGESTSUM( $A$ ,  $n$ ) $max \leftarrow -\infty$  $submax \leftarrow -\infty$ **for**  $k$  from 1 to  $n$  **do****if**  $max \leq A[k]$  **then** $subMax \leftarrow max$  $max \leftarrow A[k]$ **end if****end for****if**  $max$  equals  $-\infty$  or  $submax$  equals  $-\infty$  **then****return**  $-\infty$ **else****return**  $max$  and  $submax$ **end if****end function**

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