AlgoExpert   Quad Layout   Go   14px   Sublime   00:00:00

Our Solution(s)   Run Code

Solution 1

```go
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package main

type MinHeap []int

func NewMinHeap(array []int) *MinHeap {
  heap := MinHeap(array)
  ptr := &heap
  ptr.BuildHeap(array)
  return ptr
}

// O(n) time | O(1) space
func (h *MinHeap) BuildHeap(array []int) {
  first := (len(array) - 2) / 2
  for currentIndex := first + 1; currentIndex >= 0; currentIndex
    h.siftDown(currentIndex, len(array)-1)
  }
}

// O(log(n)) time | O(1) space
func (h *MinHeap) siftDown(currentIndex, endIndex int) {
  childOneIdx := currentIndex*2 + 1
  for childOneIdx <= endIndex {
    childTwoIdx := -1
    if currentIndex*2+2 <= endIndex {
      childTwoIdx = currentIndex*2 + 2
    }
    indexToSwap := childOneIdx
    if childTwoIdx > -1 && (*h)[childTwoIdx] < (*h)[childOneIdx]
      indexToSwap = childTwoIdx
    }
```

Your Solutions   Run Code

Solution 1   Solution 2   Solution 3

```go
package main

// Do not edit the class below except for the buildHeap,
// siftDown, siftUp, peek, remove, and insert methods.
// Feel free to add new properties and methods to the class.
type MinHeap []int

func NewMinHeap(array []int) *MinHeap {
  // Do not edit the lines below.
  heap := MinHeap(array)
  ptr := &heap
  ptr.BuildHeap(array)
  return ptr
}

func (h *MinHeap) BuildHeap(array []int) {
  // Write your code here.
}

func (h *MinHeap) siftDown(currentIndex, endIndex int) {
  // Write your code here.
}

func (h *MinHeap) siftUp() {
  // Write your code here.
}

func (h MinHeap) Peek() int {
  // Write your code here.
  return -1
}

func (h *MinHeap) Remove() int {
```

Our Tests

Custom Output   Submit Code

```
func (h *MinHeap) check() bool {
  for current := 0; current < len(*h); current++ {
    parent := (current - 1) / 2
    if parent < 0 {
      return true
    }
    if (*h)[current] < (*h)[parent] {
      return false
    }
  }
  return true
}

var test1 = NewMinHeap([]int{1, 5, 3})

var test2 = NewMinHeap([]int{1, 2, 3, 4, 5, 6, 7, 8, 9})

var test3 = NewMinHeap([]int{[illegible]

var test4 = NewMinHeap([]int{[illegible]
```

Run or submit code when you're ready.