R-7.11

With a preorder traversal, a heap that produces its elements in sorted order is that which is represented by the vector $(1, 2, 5, 3, 4, 6, 7)$. There does not exist a heap for which an inorder traversal produces the keys in sorted order. This is because in a heap the parent is always less than all of its children or greater than all of its children. The heap represented by $(7, 3, 6, 1, 2, 4, 5)$ is an example of one which produces its keys in sorted order during a postorder traversal.