Algorithms

### 3.3 Red-Black BST Demo

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## Red-black BST construction demo

insert S


## Red-black BST construction demo

insert E


## Red-black BST construction demo

insert A


## Red-black BST construction demo

two left reds in a row
insert A
(rotate $S$ right)


## Red-black BST construction demo

both children red
(flip colors)


## Red-black BST construction demo

both children red
(flip colors)


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

insert R


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

insert C


## Red-black BST construction demo



## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

insert H


## Red-black BST construction demo



## Red-black BST construction demo



## Red-black BST construction demo



## Red-black BST construction demo



## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

insert X


## Red-black BST construction demo

insert X


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

insert M


## Red-black BST construction demo

insert M


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

## insert P



## Red-black BST construction demo

insert $P$


## Red-black BST construction demo

insert $P$


## Red-black BST construction demo



## Red-black BST construction demo

two left reds in a row
(rotate R right)


## Red-black BST construction demo

two red children

(flip colors)


## Red-black BST construction demo

two red children

(flip colors)


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

red-black BST


## Red-black BST construction demo

insert L


## Red-black BST construction demo

insert L


## Red-black BST construction demo

red-black BST


