

```
1 public class Block {  
2     Block north;  
3     Block south;  
4     Layer layer;  
5     int width;  
6     public Block(int width) {  
7         this.width = width;  
8         if (width > 2) {  
9             north = new Block(width / 2);  
10            south = new Block(width / 2);  
11        }  
12        layer = new Layer(width);  
13    }  
14    public int traverse(int input) {  
15        int wire = layer.traverse(input);  
16        if (width > 2) {  
17            if (wire < width / 2) {  
18                return north.traverse(wire);  
19            } else {  
20                return (width / 2) + south.traverse(wire - (width / 2));  
21            }  
22        } else {  
23            return wire;  
24        }  
25    }  
26}
```

FIGURE 12.21 The Block network.