

```
var i, root, dat;  
// contract:  
requires \forall t; \on(root, t) == root;  
requires 0 <= root < NPROCS;  
assigns dat, i;  
ensures PID == root ==> dat == \old(dat);  
ensures dat == \on(dat, root);  
// code:  
if (PID == root) {  
    i = 0;  
    while (i < NPROCS) {  
        if (i != root)  
            send dat to i;  
        i = i + 1;  
    }  
} else  
    recv dat from root;
```