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IMPLEMENTATION RussianMult_i
REFINES RussianMult
CONCRETE_VARIABLES xx,yy,total
INVARIANT  $xx \in N \wedge yy \in N \wedge$ 
            $total \in N$ 
INITIALISATION
    xx,yy,total := 0,0,0
OPERATIONS
    RussMult(aa,bb) =
        xx:=aa; yy:=bb; total:=0;
        WHILE xx > 0 DO
            IF xx mod 2 = 1 THEN
                total := total + yy END;
            xx := xx / 2; yy := yy * 2
        INvariant  $xx \in N \wedge$ 
                  $total+xx*yy = aa * bb$ 
        VARIANT xx
        END
    END
END

```