

**procedure** FWT

$n = 2^d \leftarrow$  size of array  $X$  where  $d$  is positive integer

**for**  $i = 0$  to  $d - 1$  **do**

$m = n/2^i$

$z = m/2$

**for**  $j = 0$  to  $2^i - 1$  **do**

**for**  $k = 0$  to  $z - 1$  **do**

$t1 = m \times j + k$

$t2 = m \times j + z + k$

$a = X[t1]$

$b = X[t2]$

$X[t1] = a + b$

$X[t2] = a - b$

**end for**

**end for**

**end for**

**return**  $X$

**end procedure**