

first(F) returns  $f_4 \Rightarrow f = f_4$

enter Update algorithm from reference with  $G = G_{old} = \emptyset$ ,  $P = B_{old} = \emptyset$  and  
 $h = f_4$   
 $G_{old} = \emptyset \Rightarrow C = \emptyset$   
 $C = \emptyset \Rightarrow$  skip first while-loop  
 $D = \emptyset \Rightarrow$  skip second while-loop  
 $B_{old} = \emptyset \Rightarrow$  skip third while-loop  
 $G_{old} = \emptyset \Rightarrow$  skip fourth while-loop  
 $G_{new} = \emptyset \cup \{f_4\}$   
leave Update algorithm from reference with  $G = G_{new} = \{f_4\}$ ,  $P = B_{new} = \emptyset$

first(F) returns  $f_3 \Rightarrow f = f_3$

enter Update algorithm from reference with  $G = G_{old} = \{f_4\}$ ,  $P = B_{old} = \emptyset$   
and  $h = f_3$   
 $C = \{\{f_3, f_4\}\}$   
enter first while-loop  
check if-condition:  $HT(f_3)$  and  $HT(f_4)$  are not disjoint but since  $C = \emptyset$  and  
 $D = \emptyset$  the second criterium of the condition is fulfilled  $\Rightarrow D = \{\{f_3, f_4\}\}$   
enter second while-loop  
check if-condition:  $HT(f_3)$  and  $HT(f_4)$  are not disjoint  $\Rightarrow E = \{\{f_3, f_4\}\}$   
 $B_{old} = \emptyset \Rightarrow$  skip third while-loop  
 $B_{new} = \emptyset \cup \{\{f_3, f_4\}\}$   
enter fourth while-loop  
check if-condition:  $HT(f_3)$  is a divisor of  $HT(f_4)$   
 $G_{new} = \emptyset \cup \{f_3\}$   
leave Update algorithm from reference with  $G = G_{new} = \{f_3\}$ ,  $P = B_{new} =$   
 $\{\{f_3, f_4\}\}$