

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 fullfilled $\Rightarrow D = \{\{f_3, f_4\}\}$
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 $G = G_{new} = \{f_3\}$, $P = B_{new} = \{\{f_3, f_4\}\}$