Algorithm 3 AssignVertex(K)

for $v_i \in V_K$ **do**
    v_i is marked as old
end for
$V_E \leftarrow$ vertices not marked as old in $\bigcup N(k_i) - V_K$
while $V_E \neq \emptyset$ **do**
    for $v_i \in V_E$ **do**
        assign v_i to its closest kernel k_i
        v_i is marked as old
    end for
    V_E'$\leftarrow \emptyset$, V_E'$\leftarrow$ vertices not marked as old in $N|_{V_E}$
    $V_E \leftarrow \emptyset$, $V_E \leftarrow V_E$'
end while