Stage 3 - modified dependency accumulation

$\hat{\delta}[v] \leftarrow 0, v \in \forall V$; $level \leftarrow V$;

while *level>0* **do**

  while $Q[level]$ *not empty* **do**

    dequeue $w \leftarrow Q[level]$;

    for *all* $v \in P[w]$ **do**

      if $t[v] =$*Not-Touched* **then**

        enqueue $v \rightarrow Q[level-1]$;

        $t[v] \leftarrow$ Up;

        $\hat{\delta}[v] \leftarrow \delta[v]$;

      $\hat{\delta}[v] \leftarrow \hat{\delta}[v] + \frac{\hat{\sigma}[v]}{\hat{\sigma}[w]}(1 + \hat{\delta}[w])$;

      if $t[v] =$ *Up* $\wedge (v \neq u_{high} \vee w \neq u_{low})$ **then**

        $\hat{\delta}[v] \leftarrow \hat{\delta}[v] - \frac{\sigma[v]}{\sigma[w]}(1 + \delta[w])$;

      if $w \neq r$ **then**

        $C_B[w] \leftarrow C_B[w] + \hat{\delta}[w] - \delta[w]$;

  $level \leftarrow level - 1$;

$\sigma[v] \leftarrow \hat{\sigma}[v], v \in \forall V$;