ALGORITHM 5: *calCodeOverlayBasicPre*(G, $PASS$, <V,R>, <V,S>)

Initialize $code\_overlay \leftarrow 0$
for $r \in R$ **do**
  /* s_{last} *is the last segment that is loaded to region r following PASS* */
  Initialize $mem\_state[r] \leftarrow s_{last}$
end for
for $i \in [0, |PASS| - 1]$ **do**
  $s_{cur} \leftarrow getSegment(<V,S>, i)$
  $r_{cur} \leftarrow getRegion(<V,R>, i)$
  $r_{pre} \leftarrow getRegion(<V,R>, (i - 1 + |PASS|)\%|PASS|)$
  if $s_{cur} \neq mem\_state[r_{cur}]$ **then**
    if $r_{cur} = r_{pre}$ **then**
      $code\_overlay \leftarrow code\_overlay + T_c(s_{cur})$
    else
      $code\_overlay \leftarrow code\_overlay + T_{overlap}(s_{cur})$
    end if
    $mem\_state[r_{cur}] \leftarrow s_{cur}$
  end if
end for
return $code\_overlay$