

The function $create(L, c_U, c_I, c_N)$

```
create( $L, u, i, w$ ) {  
  if there is not already a GSS node labelled ( $L, i$ ) create one  
  let  $v$  be the GSS node labelled ( $L, i$ )  
  if there is not an edge from  $v$  to  $u$  labelled  $w$  {  
    create an edge from  $v$  to  $u$  labelled  $w$   
    for all  $((v, z) \in \mathcal{P})$  {  
      let  $y$  be the node returned by getNodeP( $L, w, z$ )  
      add( $L, u, h, y$ ) where  $h$  is the right extent of  $z$  } }  
  return  $v$  }
```

$create(L, u, i, w)$ takes an algorithm line label, L , a GSS node u , an integer i and an SPPF node z . It finds or creates and then returns a GSS node labelled (L, i) with an edge labelled w from (L, i) to u .

It is always called on the current GSS node, input position and SPPF node, $create(L, c_U, c_I, c_N)$, and the returned node becomes the current GSS node.

If $create()$ adds an edge to an existing node v then the set \mathcal{P} is checked for elements (v, z) , records of pop actions that have already been applied to v , and these actions are applied down the new edge.