```
depthfirst_member  THM

⊢  For any graph
   ∀the_obj:GraphObject(the_graph), i:V.
   (inr(i) ∈ depthfirst(the_obj)) & (inl(i) ∈ depthfirst(the_obj))
  by UnivCD
     THEN
     (Inst
      Thm* For any graph
           ∀the_obj:GraphObject(the_graph).
           ∃L:V List.
           no_repeats(V;L)
           & (∀y:V. (y ∈ L))
           & depthfirst(the_obj) = dfsl(the_obj;L)
      {depthfirst_DASH_dfsl}
      [the_graph;the_obj])
     THEN
     ExRepD
     THEN
     (HypSubst -1 0)
     THEN
     (Inst
      Thm* For any graph
           ∀the_obj:GraphObject(the_graph), L:V List.
           (∀i∈L.(inr(i) ∈ dfsl(the_obj;L))
           & (inl(i) ∈ dfsl(the_obj;L)))
      {dfsl_member}
      [the_graph;the_obj;L])
     THEN
     (Unfold `l_all` -1)
     THEN
     (InstHyp [i] -1)
     THEN
     EasyHyp
END
```