

```
-- file Pass3.Mesa
-- last modified by Satterthwaite, May 18, 1978 10:23 AM
```

## DIRECTORY

```
ComData: FROM "comdata"
  USING [
    bodyRoot, importCtx, moduleCtx, monitored, outerCtx, stopping,
    textIndex, xref],
CompilerDefs: FROM "compilerdefs" USING [MakeSwappable],
CopierDefs: FROM "copierdefs"
  USING [
    CopierInit, CopierReset, FileProblem, FileVersionMix, TableRelocated],
ErrorDefs: FROM "errordefs" USING [errorhti],
P3Defs: FROM "p3defs"
  USING [
    Pass3D, Pass3I, Pass3S, Pass3Xa, Pass3Xb,
    DeclNotify, IdNotify, StmtNotify, ExpANotify, ExpBNotify,
    ExpInit, IdInit, IdFinish,
    BodyList, CheckDirectoryIds, CloseBase, DeclItem,
    DirectoryItem, DirectoryScan, ExportId, ImportItem,
    OpenBase, PopCtx, PushCtx, Sharing],
SymDefs: FROM "symdefs" USING [CSEIndex, recordCSEIndex, HTNull],
TableDefs: FROM "tabledefs"
  USING [TableBase, TableNotifier, AddNotify, DropNotify],
TreeDefs: FROM "treedefs"
  USING [treetype,
    TreeLink, TreeIndex, TreeMap, TreeScan, nullTreeIndex,
    GetNode, reversescanlist, scanlist, updatelist];
```

## Pass3: PROGRAM

```
IMPORTS
  CompilerDefs, CopierDefs, ErrorDefs, P3Defs, TableDefs, TreeDefs,
  dataPtr: ComData
EXPORTS CompilerDefs =
PUBLIC
BEGIN
OPEN TreeDefs;

tb: PRIVATE TableDefs.TableBase;      -- tree base (local copy)

Pass3Notify: PRIVATE TableDefs.TableNotifier =
  BEGIN -- called by allocator whenever table area is repacked
    tb ← base[treetype];
    P3Defs.DeclNotify[base]; P3Defs.IdNotify[base]; P3Defs.StmtNotify[base];
    P3Defs.ExpANotify[base]; P3Defs.ExpBNotify[base]; RETURN
  END;

implicitType: SymDefs.CSEIndex;      -- assumed type of empty
implicitTree: TreeLink;              -- its tree
implicitRecord: SymDefs.recordCSEIndex; -- type of extraction record

lockNode: TreeIndex;                 -- lambda expr for monitor lock
lockHeld: BOOLEAN;                   -- within entry or internal procedure
```

```
-- overall control
```

```
P3Unit: PROCEDURE [unit: TreeLink] RETURNS [TreeLink] =
  BEGIN
    node: TreeIndex;
    nIdLists: CARDINAL;
    TableDefs.AddNotify[Pass3Notify];
    node ← GetNode[unit];
    BEGIN
      ENABLE
      BEGIN
        CopierDefs.FileProblem =>
          BEGIN ErrorDefs.errorhti[fileName, hti]; RESUME [TRUE] END;
        CopierDefs.FileVersionMix =>
          BEGIN ErrorDefs.errorhti[fileVersion, hti]; RESUME END;
        CopierDefs.TableRelocated => RESUME;
      END;
    CopierDefs.CopierInit[];
    nIdLists ← P3Defs.DirectoryScan[(tb+node).son1];
    P3Defs.IdInit[nIdLists]; P3Defs.ExpInit[];
    scanlist[(tb+node).son1, P3Defs.DirectoryItem];
```