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--file GPsortDefs.mesa
--last modified by Bruce on July 27, 1978 6:26 PM

DIRECTORY
  AltoDefs: FROM "altodefs" USING [Address],
  StreamDefs: FROM "streamdefs" USING [DiskHandle];

GPsortDefs: DEFINITIONS =
BEGIN

CompareProcType: TYPE = PROCEDURE[p1: POINTER, p2: POINTER] RETURNS[INTEGER];
Fd: TYPE = RECORD[
  dh: StreamDefs.DiskHandle,
  endOfRun: BOOLEAN,
  dummyRuns: CARDINAL,
  totalRuns: CARDINAL,
  len: ItemLength,
  buffer: ItemHandle,
  head: CARDINAL,
  tail: INTEGER, -- CARDINAL ?
  record: ItemHandle ];
FdHandle: TYPE = POINTER TO Fd;
GetProcType: TYPE = PROCEDURE [p: POINTER] RETURNS [CARDINAL];
Item: TYPE = ARRAY AltoDefs.Address OF UNSPECIFIED; -- the item being sorted
ItemHandle: TYPE = POINTER TO Item;
ItemHeader: TYPE = RECORD[len: ItemLength, rec: Item];
ItemHeaderHandle: TYPE = POINTER TO ItemHeader;
ItemLength: TYPE = INTEGER;
PutProcType: TYPE = PROCEDURE [p: POINTER, len: CARDINAL];

EOR: INTEGER = -1; -- end of run
EQ: INTEGER = 0;
GT: INTEGER = 1;
LT: INTEGER = -1;

Sort: PROCEDURE[get: GetProcType, put: PutProcType, compare: CompareProcType,
  expectedItemSize: CARDINAL, maxItemSize: CARDINAL, reservedPages: CARDINAL];
RecordTooLong: ERROR;

-- private procedures
Alloc: PROCEDURE [nwords: CARDINAL] RETURNS [p: POINTER];
DeleteFile: PROCEDURE[dh: StreamDefs.DiskHandle];
EraseHeap: PROCEDURE;
FillBuffer: PROCEDURE[file: FdHandle, size: INTEGER];
FlushBuffer: PROCEDURE[file: FdHandle];
Free: PROCEDURE [p: POINTER];
InitHeap: PROCEDURE[npages: CARDINAL];

END...
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