

-- Address space package  
-- This generic package provides the basic facilities for memory management of virtual segments.

generic

type WORD is private;

type SEGMENT\_ID is range 0;

type DISPLACEMENT is range 0;

PAGE\_SIZE : INTEGER; --range 1 .. 100;

NUMBER\_OF\_PAGES : INTEGER; --range 1 .. 100;

NUMBER\_OF\_SEGMENTS : INTEGER; --range 1 .. 100;

package ADDRESS\_SPACE is

type ADDRESS is

record

SEGMENT : SEGMENT\_ID;

OFFSET : DISPLACEMENT;

end record;

subtype EXTENSION is STRING (1 .. 3);

procedure CREATE (SEGMENT : SEGMENT\_ID; WITH\_EXTENSION : EXTENSION);

procedure CLOSE (SEGMENT : SEGMENT\_ID);

procedure DESTROY (SEGMENT : SEGMENT\_ID);

procedure WRITE\_THROUGH (SEGMENT : SEGMENT\_ID);

function READ (TARGET : ADDRESS) return WORD;

procedure WRITE (TARGET : ADDRESS; VALUE : WORD);

procedure ALLOCATE\_NEW\_PAGE (TARGET : ADDRESS);

procedure REPORT\_SEGMENT\_STATUS;

procedure REPORT\_MEMORY\_STATUS;

procedure REPORT\_FREE\_PAGES;

READ\_ERROR : exception;

ADDRESS\_NOT\_WRITTEN : exception;

WRITE\_ERROR : exception;

NEW\_PAGE\_ERROR : exception;

CLOSE\_ERROR : exception;

end ADDRESS\_SPACE;