

N 1359

ISO JTC1/SC22/GT5 - FORTRAN

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FORTRAN ORIENTÉ OBJETS *OBJECT - ORIENTED FORTRAN*

Programmes F2k illustrant ALLOCATE avec CAST
F2k programs illustrating ALLOCATE with CAST parameter

AFNOR

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PROGRAMME *FORTRAN-2k* PROGRAM

```
MODULE M_L_OBJECT
  PRIVATE

  TYPE, PUBLIC, EXTENDS():: L_OBJECT
    INTERFACE PRINT
      MODULE PROCEDURE, PASS_OBJ:: No_Print
    END INTERFACE
  END TYPE

CONTAINS

  SUBROUTINE No_Print (this)
    CLASS(L_OBJECT), INTENT(IN):: this
    WRITE(*,ADVANCE="NO") " ??? "
  END SUBROUTINE

ND MODULE M_FLISTE2
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MODULE M_FLISTE2      ! Listes linéaires / linear lists
  USE M_L_OBJECT
  PRIVATE

  TYPE, PUBLIC, EXTENDS(L_Object):: FLISTE2
    CLASS(FLISTE2), POINTER:: TETE => NULL()
    CLASS(FLISTE2), POINTER:: QUEUE => NULL()
    INTERFACE CONS
      MODULE PROCEDURE, PASS_OBJ:: fl2_cons
    END INTERFACE
    INTERFACE NON_VIDE
      MODULE PROCEDURE, PASS_OBJ:: Non_Vide
    END INTERFACE
    INTERFACE MAPCAR
      MODULE PROCEDURE, PASS_OBJ:: mapcar
    END INTERFACE
    INTERFACE COPIE
      MODULE PROCEDURE, PASS_OBJ:: copie
    END INTERFACE
  END TYPE

CONTAINS

FUNCTION fl2_cons (this, o) RESULT (ll)
  CLASS(FLISTE2), INTENT(IN):: this
  CLASS(L_OBJECT), INTENT(IN):: o
  CLASS(FLISTE2), POINTER  :: ll
  ALLOCATE (ll, CAST=self)      ! <=====
  ll%tete => o; ll%queue => this
END FUNCTION

LOGICAL FUNCTION Non_Vide (this)
  CLASS(FLISTE2), INTENT(IN):: this
  Non_Vide = ASSOCIATED (this%queue)
END FUNCTION

SUBROUTINE MAPCAR (this)
  CLASS(FLISTE2), INTENT(IN):: this
  CLASS(FLISTE2):: l
  l => this
  DO WHILE (l%Non_Vide())
    CALL l%tete%PRINT
    l => l%queue
  END DO
  Print*
END SUBROUTINE

FUNCTION Copie (this) RESULT (lres)
  CLASS(FLISTE2), INTENT(IN):: this
  CLASS(FLISTE2), POINTER  :: lres, ll, lsource
  ALLOCATE (ll, CAST = this)      ! <==
  lsource => this; lres => ll
  DO WHILE (lsource%NonVide())
    ll%tete => lsource%tete
    lsource => lsource%queue
    ALLOCATE (ll%queue, CAST = this) ! <==
    ll => ll%queue
  END DO
END FUNCTION
END MODULE M_FLISTE2

```