

Variable declaration decision tree

Static or dynamic

dynamic

static

Is it an array

yes

Is it an object

yes

$CNode *cn$
 $= new CNode[5]$

no

$int *i =$
 $new int[5]$

Is it an object

yes

$CNode cn[5]$

yes

Is it an object

yes

$int i[5]$

$CNode cn;$

yes

Is it an object

no

$int i$

no

Is it an array

yes

Is it an object

yes

no

New instance or pointer to existing

$CNode *cn$

$cn = new CNode$

$CNode *cn$

$cn = n1$

(where n1 previously allocated)

New instance, pointer to existing

new instance

$i = new int$

point to existing

$i = x1$ or $i = x2$

(where

$int x$

already declared statically or x2 dynamically