The dynamic memory used shrinks as well as grows as needed, dynamically allocated. Such data structures can be virtually unlimited in size if the objects contain some pointer type fields that hold addresses of structure type objects. A linked data structure consists of some structure type objects (variables) that

Lecture 310: Lecture 8

LAB 3 and PROJ available now.

Lecture 150: Ch. 5

Linked Lists: DSO Ch. 5

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which equals eleven; and 0, 9, and \( \odot \).

return value from a function call, and C/C++ literals like 386, 0x3BD, 0x13

answers from class discussion: initialize in a declaration, input from the user,

Ask yourself: How do you program in C++ to "get" an integer value? Some

alternative array [] syntax:

\[
\text{alternative pointe r variables or values: in an EXPRESSION:}
\]

\[
\text{Declarations pointer variables: in a DECLARATION:}
\]

\[
\text{Obtaining pointer (i.e., address) values: (}^{*}, \text{ declared array name, new,}
\]

\[
\text{Pointer fundamentals:}
\]
Unlike this is a Core Learning Objective.
and developing program code to do manipulations

Understanding Data Structure Diagrams

Nothing happens...until user types 17 center:

\texttt{cin >> *PMyInteger;}

\texttt{PMyInteger = new int; //Useless, time and space wasting operation.}

\texttt{int * PMyInteger;}

\texttt{//Useless, new int; //Useless;}

\texttt{cin >> *PMyInteger;}

\texttt{garbage}

\texttt{variable is created}

\texttt{an anonymous integer}

\texttt{PMyInteger = new int;}

\texttt{garbage}

\texttt{PMyInteger}

\texttt{PMyInteger}
MyLSequence

temporary pointers, counters, etc, what you design.

HEAD

TAIL

NULL

NULL

pointer to (addr of) a Node

pointer to (addr of) a Landmark

pointer to (addr of) a C-string

Name

Lat

Long

−3.07

16.75

18.37

−35.92

18.37

−35.92

Names

Lat

Long

−73.98

40.77

New York City, USA

Cape Town, South Africa

Timbuktu, Mali