

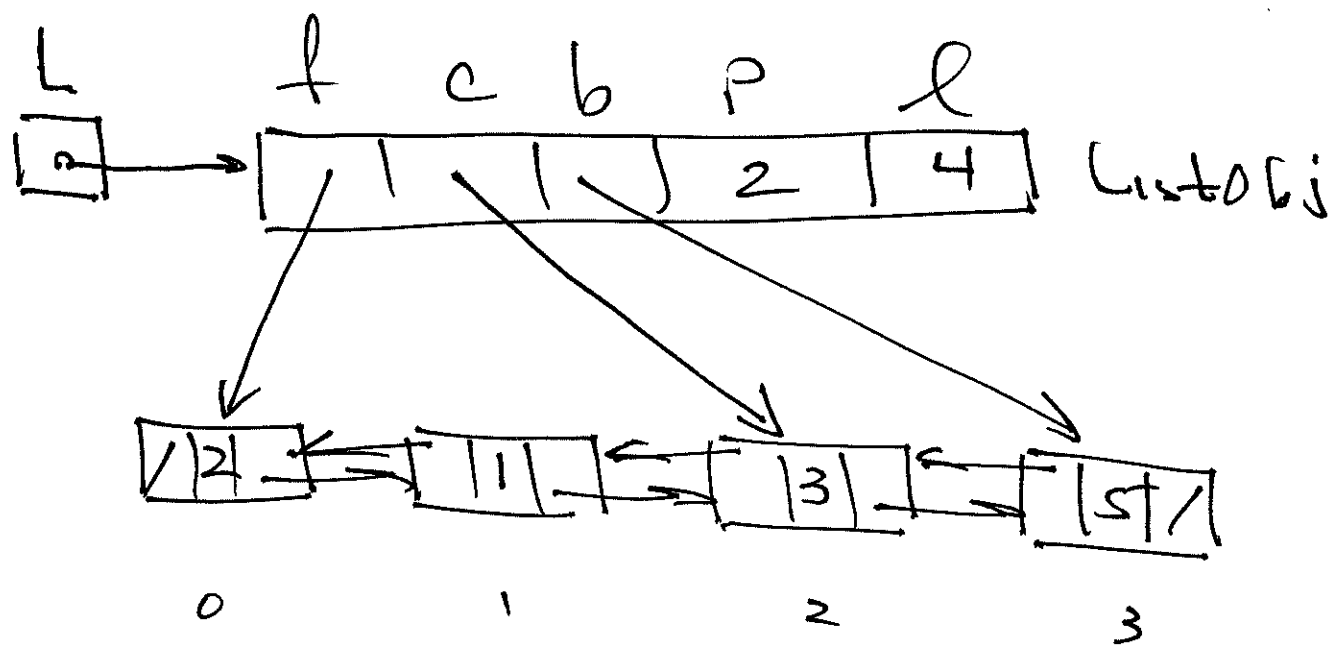
CSE 101 4-7-26

Pa1: List ADT

Ex

client: $L = (2, 1, \underline{3}, 5)$

inside:



Pa1: client vWords.c

Ex how to insert array indices into a list.

A = ["c", "a", "b", "d"]
0 ✓ 1 ✓ 2 ✓ 3 ✓

want: L = (1, 2, 0, 3)

start: L = ()

insert 0: L = (0)

insert 1: L = (0)

L = (1, 0)

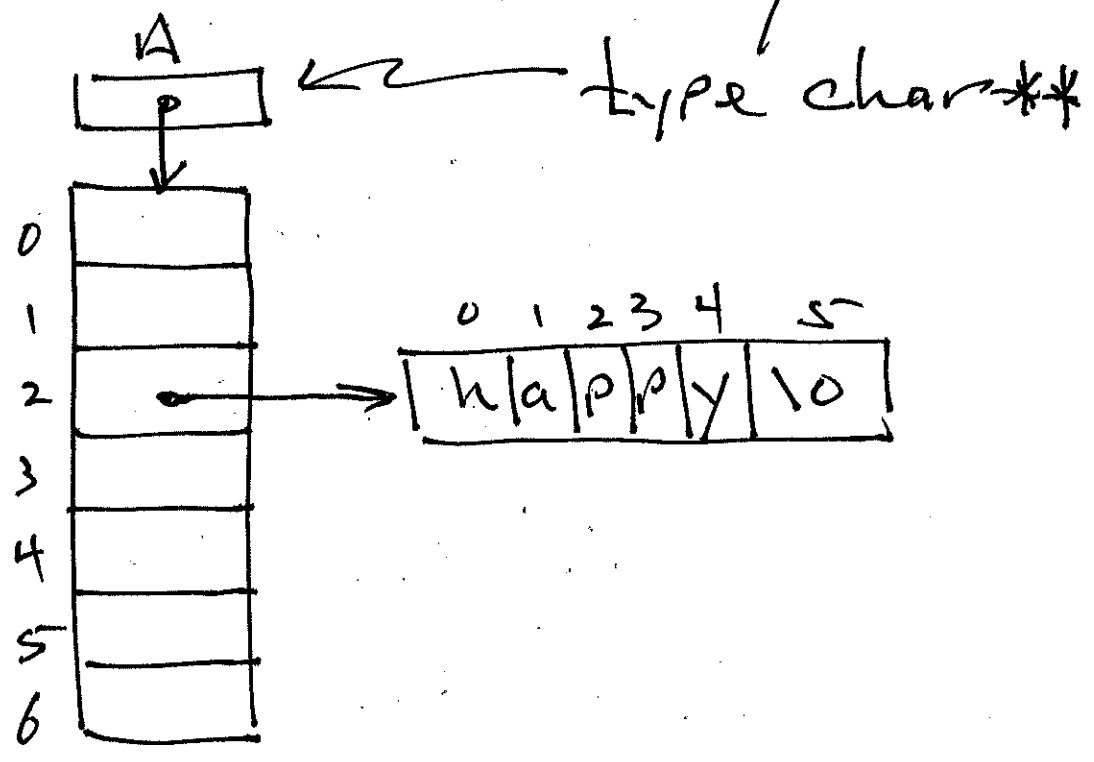
insert 2: L = (1, 0)

L = (1, 0)

L = (1, 2, 0)

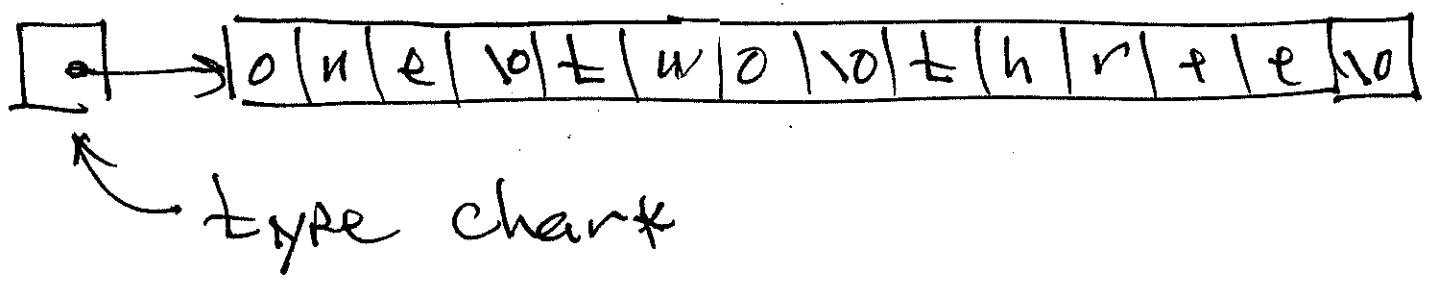
insert 3: $L = (1, 2, 0)$
 $L = (1, \underline{2}, 0)$
 $L = (1, 2, \underline{0})$
 $L = (1, 2, 0)$
 $L = (1, 2, 0, 3)$

How to build Array of strings?

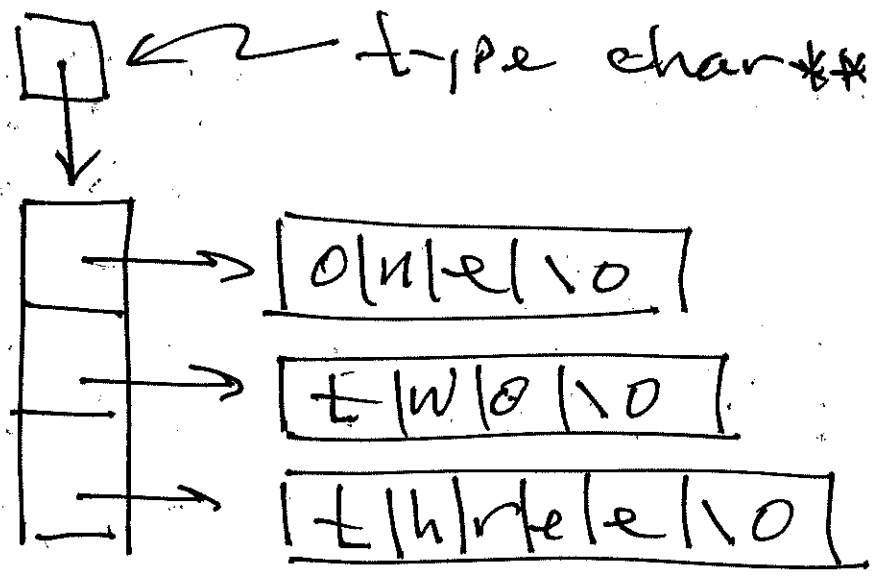


See FileIO.c

Builds:



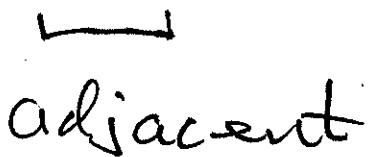
Pal should build



• Graph Theory handout

• Walk from u to v :

$$u = x_0, x_1, x_2, \dots, x_k = v$$



adjacent

if $u = v$, this is a closed walk.

We call k the length of walk.

if $k = 0$, walk is called trivial

• Trail from u to v :

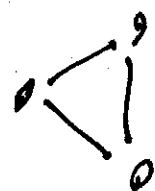
no repeated edge traversals

◦ Path from u to v :

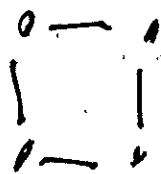
no vertex is visited more than once, except possibly if $u = v$.

◦ cycle: a non-trivial closed path.

trivial
not a
cycle



cycle



cycle

...

□

Defn $G = (V, E)$ is
connected iff for all
 $u, v \in V$: u is reachable
from v and v from u .

Defn $G = (V, E)$ is
acyclic (forest) if it
contains no cycles.