

CSE 101 11-6-25

L1

- pas: ext. 2 days → Monday 11/10
- holiday: Tue. 11/11

Dictionary Object

Element (contents of data array)

typedef struct {

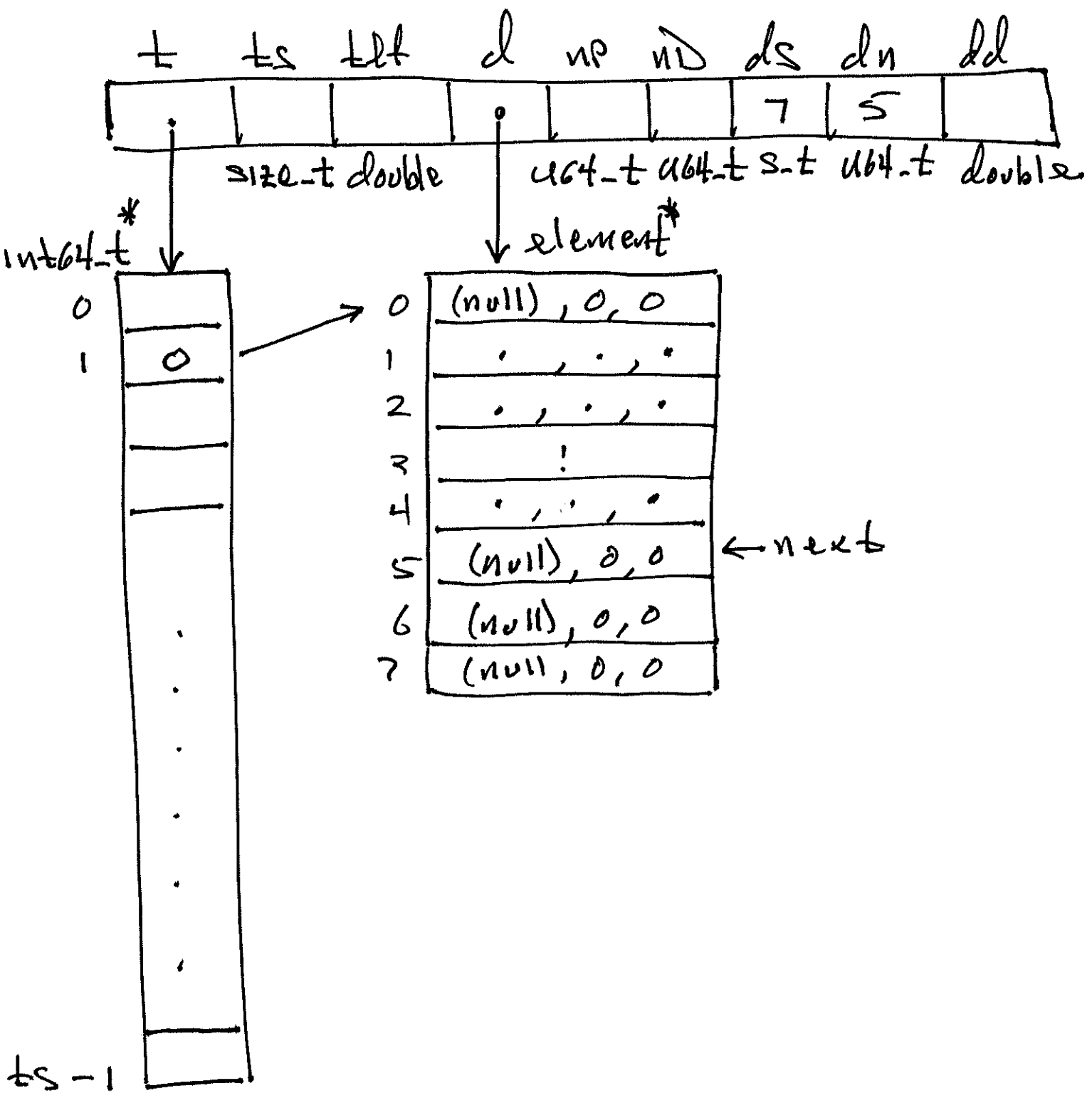
(.h) const char* keyType key;

(.h) int valType val;

(.h) uint64_t codeType code;

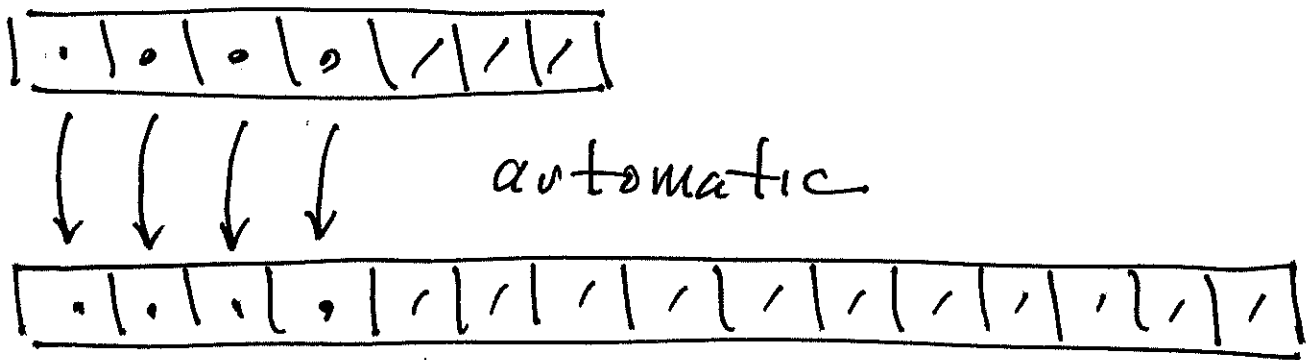
} element;

Dictionary Obj



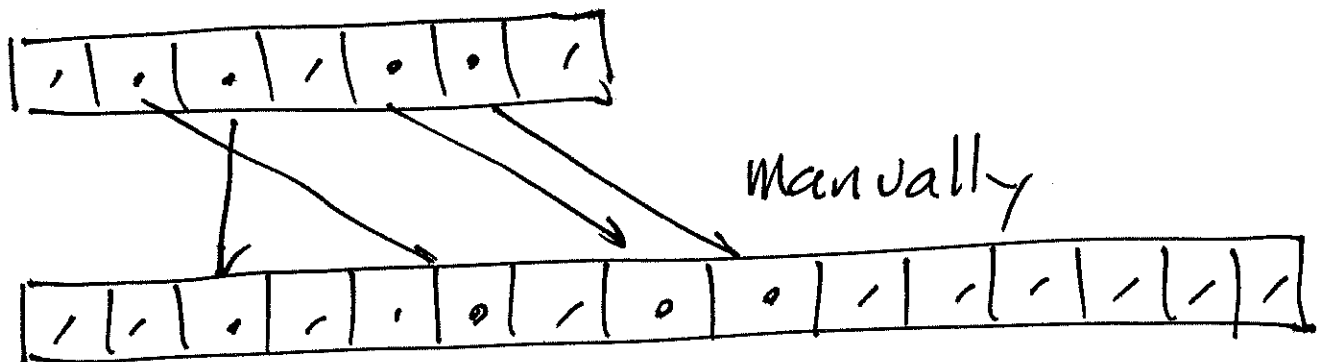
Expanding an array (in heap)

11) using `realloc()` : data array



same contents, same order

12) using `calloc()` : table array



same contents, different order

Helper functions

o required

hash()] do not alter
Probe()]

o optional

build order

- findSlot()
- insertIndex()
- expandTable()
- expandData()
- ** CompactData()



ADT operations

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** SetValue(D, k, v)

- compute hash code for k
- find table slot where k exists, or where to insert
- find current idx in slot
- if key^k exists, overwrite v else // doesn't exist

do insertion:

- expand data if necessary
- Put $(k, v, code)$ in data
- expand table if necessary, compact data if eligible

Compacting data

