

Header Questions

- ❖ How many “flags” can we fit in our header if our allocator uses 16-byte alignment?
- ❖ If we placed a new “flag” in the second least significant bit, write out a C expression that will extract this new flag from `header`.

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Polling Question

- ❖ Which allocation strategy and requests remove *external* fragmentation in this Heap? B3 was the last fulfilled request.

■ Vote in Ed Lessons

(A) Best-fit:

`malloc(50), malloc(50)`

(B) First-fit:

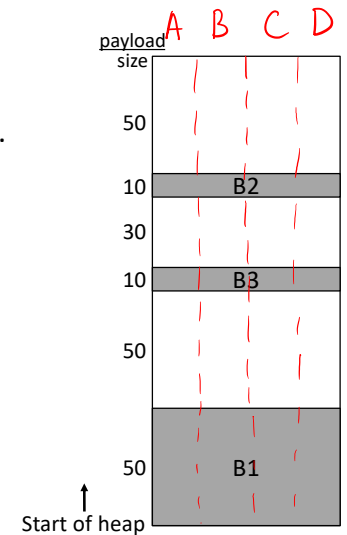
`malloc(50), malloc(30)`

(C) Next-fit:

`malloc(30), malloc(50)`

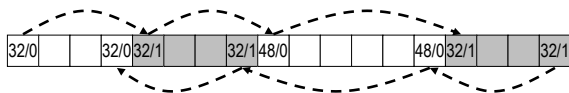
(D) Next-fit:

`malloc(50), malloc(30)`



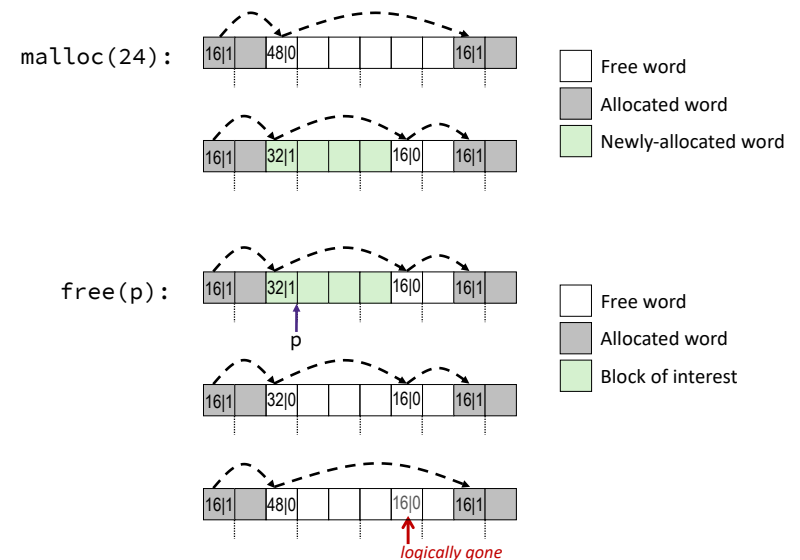
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Implicit Free List Review Questions



- ❖ What is the block header? What do we store and how?
- ❖ What are boundary tags and why do we need them?
- ❖ When we coalesce free blocks, how many neighboring blocks do we need to check on either side? Why is this?
- ❖ If I want to check the size of the n -th block forward from the current block, how many memory accesses do I make?

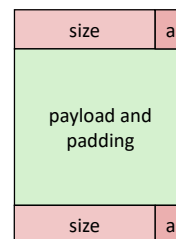
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Freeing with LIFO Policy (Explicit Free List)

	Predecessor Block	Successor Block	Change in Nodes in Free List	Number of Pointers Updated
Case 1	Allocated	Allocated		
Case 2	Allocated	Free		
Case 3	Free	Allocated		
Case 4	Free	Free		

Allocated block:



(same as implicit free list)

Free block:

