

Can Build a Data Structure to Find Info about Blocks

When a **block is freed**, we must know its size.

One **option**:

- build a data structure
- to **translate block address**
- **into other information**
- (look up information based on address).

Some memory managers must take such an approach.

But **we don't need to do so**.

What's in Memory Around a Block?

Let's say that you call **malloc**.

Back comes a block.

What is stored in the addresses before the block?

What about the addresses after the block?



What's in Memory Around a Block?

Now you are writing **malloc**.

You need to return a block.

What is stored in the addresses before the block?

What about the addresses after the block?

Anything you want!



Anything you want!

Use a Header Above the Block to Store Information

We **store the block size** in a header **above the block**:

```
struct mem_block_t {
    size_t size;
    mem_block_t* next;
};
```

The **next** field is for our linked lists.

On 64-bit machines, **sizeof (mem_block_t)** is 16.