

# What is fragmentation really?

➡ Inability to use memory that is free

Two factors required for fragmentation

1. Different lifetimes

If all objects die at the same time, then no fragmentation

2. Different sizes

if all requests the same size, then no fragmentation

# Important decisions

## **Placement choice : where in free memory to put a requested block?**

- Freedom : can select any memory in the heap
- Ideal : put block where it won't cause fragmentation later (impossible in general, requires future knowledge)

## **Split free blocks to satisfy smaller requests?**

- Freedom : can choose any larger block to split
- Ideal : choose block to minimize fragmentation

## **Coalescing free blocks to yield larger blocks**

