

# Comparing First Fit and Best Fit

## **First Fit**

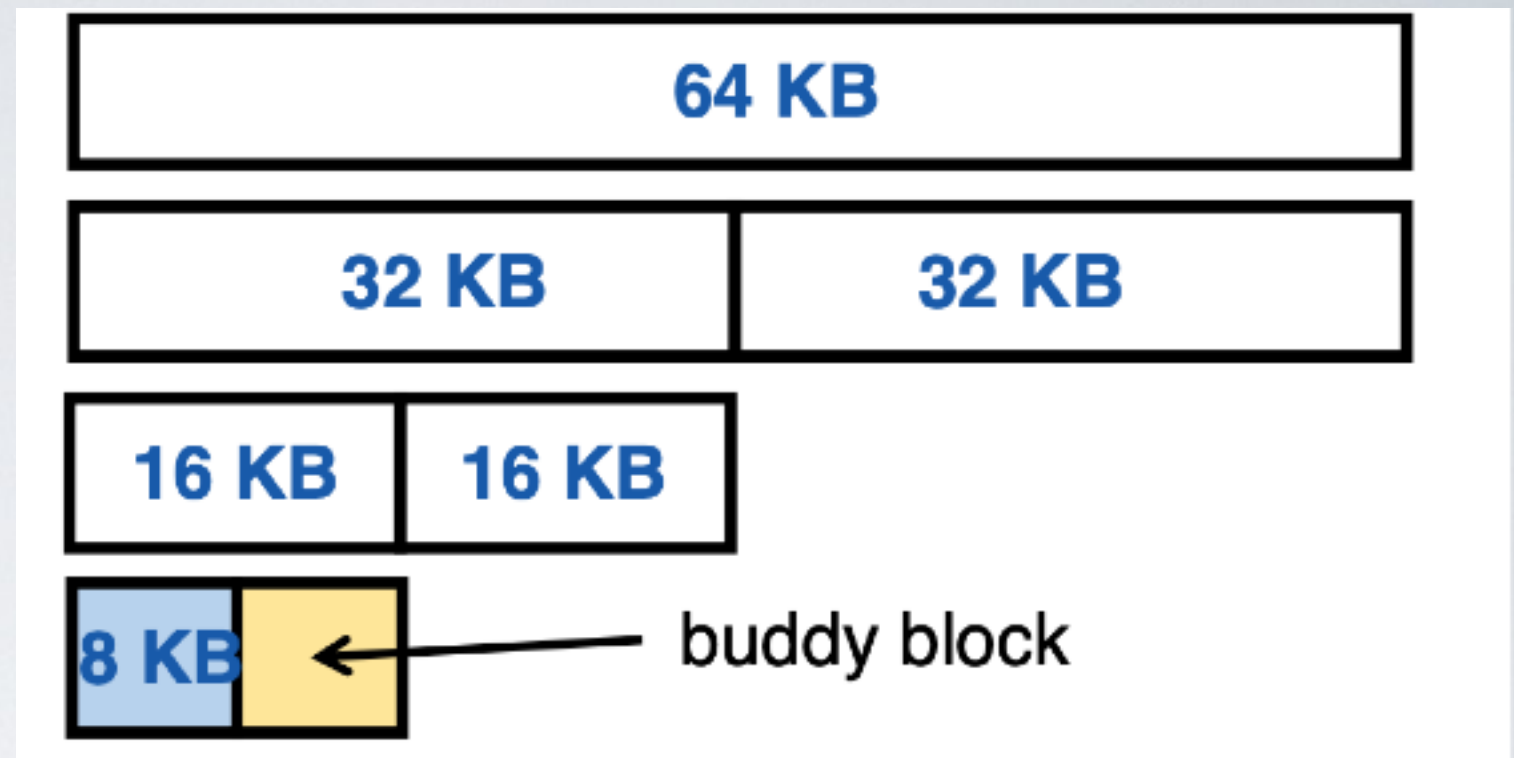
- ✓ Simplest, and often fastest and most efficient
- ⦿ May leave many small fragments near start of memory that must be searched repeatedly

## **Best Fit**

- ✓ In practice, similar storage utilization to first-fit
- ⦿ Left-over fragments tend to be small (unusable)

# Buddy Allocation

➡ Allocate blocks in  $2^k$



## Data structure

Maintain  $n$  free lists of blocks of size  $2^0, 2^1, \dots, 2^n$

## Code

- recursively divide larger blocks until reach suitable block
  - insert buddy blocks into free lists
  - upon free, recursively coalesce block with buddy if buddy free
- ➡ the addresses of the buddy pair only differ by one bit