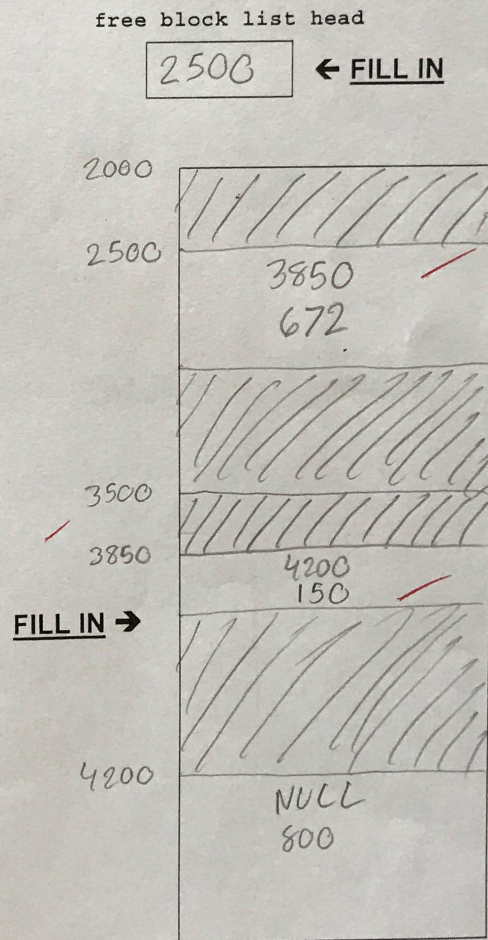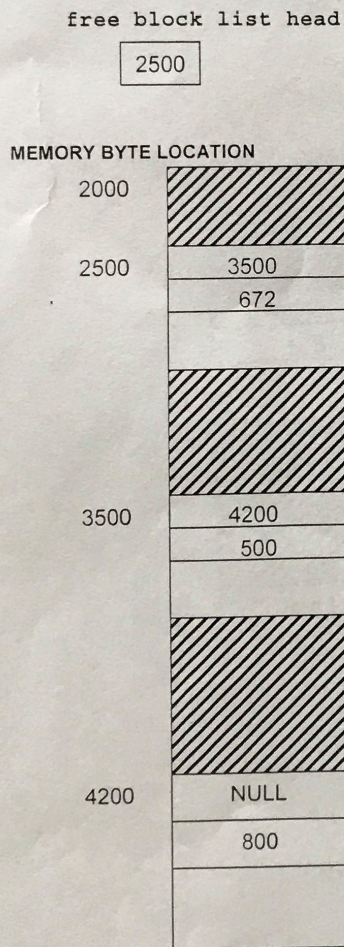**15. POINTS**

6. This problem depicts a **memory allocation mechanism** that uses an embedded linked-list to manage an available heap space, just as you must implement for part of assignment #5. The **free block list head** contains the **byte location** (address) of the first available free block in the heap. Free block elements include an **embedded header** that consists of a **next** pointer field to point to the next free block, and a **byte size** field that defines the entire size of this free block (including the header fields). **Part A** and **Part B** both assume the **same initial state** of this space and are independent of each other (i.e., however you modify the list after completing Part A, you must assume that the list is back to the initial state shown before you do Part B).

A. Given the initial state of the heap space shown, **fill in** the appropriate **free block list head** value, and **redraw** the organization of this space in the box provided, **after** an **allocation** of **350 bytes** has been made using the **BEST FIT** allocation algorithm.

free block list head

```
2500
```

free block list head

```
2500
```   ← FILL IN

MEMORY BYTE LOCATION

```
2000  [////////]
2500    3500
        672
      [////////]
3500    4200
        500
      [////////]
4200    NULL
        800
```

2000 [////////]
2500   3850
        672
      [////////]
3500
3850 [////////]
        4200
        150

FILL IN →

4200 [////////]
        NULL
        800

Problem 6 continued next page: