

Result: free memory

```
1  ENTRANCE: call memFree(struct MEMMAN *man, unsigned int
    addr, unsigned int size);
2  Procedure memFree(struct MEMMAN *man, unsigned int addr,
    unsigned int size)
3      Finding the starting address of the first entry i is greater than the
        released address addr;
4      if i > 0 then
5          if i'th entry can be merged with the previous one then
6              man->free[i - 1].size  $\leftarrow$  man->free[i - 1].size + size;
7              if i entry is less than the number of free entries then
8                  if i'th can be merged with the latter then
9                      man->free[i - 1].size  $\leftarrow$  man->free[i-1].size +
                        man->free[i].size;
10                     man->frees  $\leftarrow$  man->frees - 1;
11                     move all free entries after i by one;
12                 else
13                     | nothing to do here;
14                 end
15             else
16                 | nothing to do here;
17             end
18         else
19             | Successfully released, return 0, FINISHED;
20         end
21     else
22         | nothing to do here;
23     end
24     if i < the number of free entries then
25         if i'th entry can be merged with the latter then
26             man->free[i].addr  $\leftarrow$  addr;
27             man->free[i].size  $\leftarrow$  man->free[i].size + size;
28             Successfully released, return 0, FINISHED;
29         else
30             | nothing to do here;
31         end
32     else
33         | nothing to do here;
34     end
35     if the number of free items used < the maximum number of free
        items(4090) then
36         move back all free entries after i'th entry by one;
37         man->frees  $\leftarrow$  man->frees + 1;
38         man -> free[i].addr  $\leftarrow$  addr;
39         man -> free[i].size  $\leftarrow$  size;
40         Successfully released, return 0, FINISHED;
41     else
42         | nothing to do here;
43     end
44     the number of release failures plus one;
45     increase the size to release the failed space;
46     Release failed, return -1, FINISHED;
```