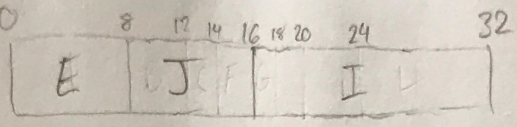

20 POINTS

1. Using the buddy system of memory allocation, fill in the **starting addresses** for each of the following **memory allocation requests** as they enter an initially empty memory allocation region which has a memory size of 2^{15} (32K) bytes. (Addresses run from 0 to 32k -1, and can be given in K form, i.e. location 4096 = 4K.) Assume that when memory is allocated from a list, the available block of memory closest to address 0 (shallow end of memory) is always given for the request. Give the **address** of each allocation in the space provided below **if the allocation can be made**, or write in **"NO SPACE" if the allocation cannot be made** at the time requested. (Power of 2 values found on the references pages may be helpful here, since request sizes are given in actual bytes, not KBs.)

TIME	JOB REQUESTING	JOB RETURNED	REQUEST SIZE (bytes)
1	A		6,000 8K
2	B		3,300 4K
3	C		1,500 2K
4		A	
5	D		12,000 16K
6	E		8,100 8K
7	F		2,000 2K
8		D	
9	G		1,300 2K
10	H		13,500 16K
11		F	
12		G	
13	I		14,700 16K
14		C	
15		B	
16	J		7,600 8K

ANSWERS

Request A at 0 Request F at 14K

Request B at 8K Request G at 16K

Request C at 12K Request H at NO SPACE

Request D at 16K Request I at 16K

Request E at 0 Request J at 8K