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Q3.

1. For every monster, store its  $g_i$  and  $a_i$  of monster  $i$  of the form  $(a_i, g_i)$  in position  $i$  of array  $A$ .

2. The ordering of the monstering will be stored in array  $O$ .

3. put the initial strength point of the champion in a variable called  $S$ .

4. put the number of monsters in a variable called  $l$ .

5. Assume  $A[1]$  is the first element of the array.

6. Have  $n$  iterations where  $n$  is the number of monsters( $l$ ).

6.1. go through array  $A$ , find the position of a monster which satisfies

$$\text{pos} = \text{Pos} \max\{g_i / a_i : a_i \leq S\} \quad \text{---> find the position of the monster which the champion would be able to kill and provides relatively highest reward}$$

6.2 If there exists such monster, then update the  $S$ , using  $S = S + g_i - a_i$ , append the  $\text{pos}$  to array  $O$ , and remove monster  $i$  from array  $A$ .

6.3 Else(if there is no such monster), then terminates the loop, and give the feedback of "no such ordering"

7. If the "no such ordering" feedback is not received, return array  $O$