Ameya has two lists, List 1 and List 2, which each have six entries that are consecutive positive integers. The smallest entry in List 1 is $a$ and the smallest entry in List 2 is $b$, and $a < b$.

Ameya creates a third list, List 3. The thirty-six entries in List 3 come from the product of each number in List 1 with each number of List 2. (There could be repeated numbers in List 3.)

Suppose that List 3 has 49 as an entry, has no entry that is multiple of 64, and has an entry larger than 75. Determine all possible pairs $(a, b)$.

$$1 \times 2 = 3 ?$$