

1. Let  $f[i]$  denote the number of integers that  $\&i = 0$ , which can be computed in  $O(U \log U)$  time using Möbius transformation. Enumerate two numbers, then count the number of valid third integers using  $f$ .  $O(n^2 + U \log U)$ .
2. Use fast Walsh-Hadamard transform.  $O(n + U \log U)$ .

## References