Online 1 Set B

Q1. Write a recursive program to find the GCD of x and y where x, y are positive integers using the following technique. Write a main function to take the input from the user.

Sample Input	Sample Output
48 18	6

For example, to compute gcd(48,18), the computation is as follows:

$$\begin{aligned} \gcd(48, 18) &\rightarrow \gcd(18, 48 \bmod 18) = \gcd(18, 12) \\ &\rightarrow \gcd(12, 18 \bmod 12) = \gcd(12, 6) \\ &\rightarrow \gcd(6, 12 \bmod 6) = \gcd(6, 0). \end{aligned}$$

This again gives $\gcd(48, 18) = 6$.

Q2. Let, P is a prime number. Any number that is 2P+1 is called a good number. Write a divide and conquer function to **print** the good numbers and calculate the **sum** of good numbers in an array of n integers. Write a main function to take the input from the user.

Sample Input	Sample Output
5 **11 0 1 5 22**	11 5 16