Problem Description:

Farmer Bob Johnson owns a section of land that is 1 x N square miles in size. The quality of land is pretty much the same throughout the area. He wants to break the land into pieces and sell it and he wants to maximize the revenue. Market prices for selling land 1 x k square miles (k = 1, 2, …, N) depends on the market and are provided. A farmer is allowed to sell pieces of integer area (i.e. a side of each rectangle must be an integer, not a decimal number). Write a program that returns the maximum revenue that the farmer could obtain, given the market prices for different sizes of land.

Input:

Line 1: N, integer describes the length of 1 x N square miles of land.

Line 2: total of N space-separated integers: p_1, p_2, p_3, …, p_N, the current market prices for 1x1, 1x2, 1x3, …, 1xN square miles of land.

Output:

S Integer, the total maximum revenue that Bob Johnson could obtain.