

05 Hr **55** Min
24 Sec**Guidelines**

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A B C D E F G H**ONLINE EDITOR (H)**

Home Lighting

+ Problem Description

You are moving to a new apartment and want to plan your total lighting cost for the next 2 years which includes the cost of bulb procurement and cost of electricity consumption. Three types of bulbs are available in the market.

1. Regular bulbs which cost C_1 , have a warranty of M_1 hours, and have a running cost of R_1 per hour

2. CFL bulbs which cost C_2 , warranty M_2 hours, running cost R_2 per hour

3. LED bulbs which cost C_3 , warranty M_3 hours, running cost R_3 per hour
 $C_1 < C_2 < C_3$ and $R_1 > R_2 > R_3$, nothing can be said about M_1 , M_2 , and M_3 .

You have a plan for 1 bulb in the kitchen at H_1 hours per month, 2 bulbs per room across 3 rooms at H_2 , H_3 , H_4 hours per month per room, 1 bulb for bathroom at H_5 hours per month. When you prepare your budget you assume that it will last only till the warranty period. Given the above requirements come up with a bulb procurement plan that incurs least cost over 2 years - where cost includes procurement and running cost. In case warranty expires, in your model assume that the bulb will need to be replaced. Also assume that you will move out after 2 years, and so you are not concerned about stretching the life of bulbs beyond that time.

+ Constraints

 $C_1 < C_2 < C_3$ $R_1 > R_2 > R_3$

+ Input Format

The first three lines contains three integers denoting Fixed cost, Warranty and running cost of regular bulb, CFL and LED respectively.

The next five lines contain one integer each denoting usage hours of rooms (H_1 , H_2 , H_3 , H_4 , H_5) delimited by space.

+ Output

Minimum cost to light the house.

+ Test Case

+ Explanation

Example 1

Input

50 1500 16

100 8000 14

400 25000 1

1

2

8

14

2

Output

147080

Explanation

Minimum cost for meeting all the lighting requirement of house is 147080.

Example 2

Input

50 10000 16

100 8000 14

800 25000 1

2

6

10

8

1

Output

154000

Explanation

Minimum cost for meeting all the lighting requirement of house is 154000.

Upload Solution [Question : H]

☐ I, **vipul kumar** confirm that the answer submitted is my own. ☐ Took help from online sources (attributions)

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