

## 1 Disney Deals

The Ellinghams living in Florida, love going to DisneyWorld every so often. Based on their availability they pre-pick a few days in an year (in advance) to visit the theme park. The days in the year that they visit the park are given in an array. They can visit any day in 365 days.

The price of the passes are in 3 ways –

Cost of one-day pass is price[0] dollars

Cost of week-long pass is price[1] dollars

Cost of thirty-day pass is price[2] dollars

The passes are for that many days of continuous entry. For example, if they get a seven-day pass on day 3, then they can visit the park for seven days: 3,4,5,6,7,8 and 9

Find the least number of dollars the Ellinghams need to pay, for the list of days given.

### INPUT FORMAT:

First line contains day numbers (should be in ascending order)

Second line contains price of the passes (price[0],price[1],price[2])

### OUTPUT FORMAT:

Minimum Cost of the overall Entry passes.(All Days)

### Input/Output

Input	Output	Comments
<b>1 2 3 4 6 7 8 9 10 31</b> <b>2 10 25</b>	<b>18</b>	<b>Explanation:</b> <b>Case-1:</b> “one day pass” for all the days total cost is <b>20</b> <b>Case-2:</b> “one week pass” on day1 valid up to day 7, and “one day pass” for rest of the days, total cost is <b>18</b> <b>Case-3:</b> “One month pass” on day 1 valid up to day 30, and 31 <sup>st</sup> day will buy “one day pass”, total cost is <b>27</b> <b>And so on.</b> Finally the minimum cost to be paid for the entry passes is <b>18</b>
<b>1 2 3 4 5 6 7 8 361 362 363 364 365</b> <b>3 14 40</b>	<b>31</b>	<b>Explanation:</b> <b>Case-1:</b> “one day pass” for all the days total cost is <b>39</b>

# KMIT – ARJUNA

## Season-4

KMIT-APA-4005

Programming Assignments

Sunday 25<sup>th</sup> Aug 2019

		<p><b>Case-2:</b> “one week pass” on day1 valid up to day 7, and “one day pass” for rest of the days, total cost is <b>32</b></p> <p><b>Case-3:</b> “one week pass” on day1 valid up to day 7, and “one week pass” on day 361 valid up to 365, and for day 8 , “one day pass”, total cost is <b>31.</b></p>
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## 2 Fruit Plans

At Plainsboro High School's canteen, students are encouraged to eat fresh fruits. And there are quite a few plans on combination of fruits.

The student's are given each fruit's price, a bunch of special offers, and each plan consists of one or more different fruits types, with a price.

Students are given each fruit's cost, a set of plans, and the number of fruits (of each type) that are to be bought. Let us help the student in getting the lowest cost he/she needs to pay for exactly certain items as given, by making the best of the plans.

The plan is represented in an array, the last number represents the cost student needs to pay for the plan, other numbers represent how many items students could get if they go with that plan. The plans can be used as many times as students want.

### INPUT FORMAT:

Line 1: list of prices of different fruits (N fruits)

Line 2: Number of Fruit plans (M)

From Line 3 to M+3-1 lines consist: quantities of different fruits and their price at end.

Last line consists: Quantities of different fruits chosen by student.

### OUTPUT FORMAT:

A number, indicates minimum cost to be paid by applying the plans to get his desired set of fruits.

**NOTE:** We cannot choose the plan, if the quantity of particular fruit type of desired set is smaller than a Fruit-Plan.

### Input/Output

Input	Output	Comments
2 4 6 3 3 2 1 9 1 0 4 6 2 5 0 7 4 3 1	<b>15</b>	<b>EXPLANATION</b> 2, 4, 6 are the prices of fruits X, Y, Z The plans: (3X 2Y 1Z = 9), (1X 0Y 4Z = 6), (2X 5Y 0Z = 7) Out desired set is (4X, 3Y, 1Z = ? ) We cannot choose Plan 2 & 3. So, choose Plan 1 and buy 1X and 1Y separately. Finally, Minimum cost is – 9 + 2 + 4 = <b>15</b>
1 4 2 1 3 8 2 4 12 5 8	<b>25</b>	1, 4 are the prices of fruits X, Y The plans: (1X 3Y = 8), (2X 4Y = 12) Desired set (5X 8Y = ? ) Choose plan1 twice and buy 3X 2Y separately, cost is 27 Choose plan2 twice and buy 1X separately, cost will be 25

### 3 The Ladder Maker

Army Commando Training Center has selected a group of candidates (**T**) to test their quick decision making and analytical skills.

Gopal is a ladder maker, he makes ladders. As we know, all steps in a ladder must be equidistant. And there can be any number of steps, least being 3 steps.

Given a set of possible lengths at which each step can be.

**Find the number of possible ladders that he can make.**

For example, these are possible distances at which the steps of each ladder can be :

2, 4, 6, 8, 10

5, 10, 15, 20, 25

The following lengths CANNOT be used for making a ladder-

1, 1, 2, 5, 7

A zero-indexed array R consisting of P numbers is given. A part of that array is any pair of integers (m, n) such that  $0 \leq m < n < P$ .

A part (m,n) of array R is fit to be part of ladder.

Input	Output	Comments
1 3 5 7	3	<b>Explanation:</b> <b>NOTE:</b> each ladder should contain minimum 3 steps. Every two consecutive steps should have same difference. Possible Ladders are: (1 3 5), (3 5 7), (1 3 5 7) Total of 3 Sets.
1 2 3 4 5	6	Possible Ladders are: (1 2 3), (2 3 4), (3 4 5), (1 2 3 4), (2 3 4 5), (1 2 3 4 5)