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PL-2020-C-Boxes through a Tunnel

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Problem	Submissions	Leaderboard	Discussions

You are transporting some boxes through a tunnel, where each box is a parallelepiped, and is characterized by its length, width and height.

The height of the tunnel 41 feet and the width can be assumed to be infinite. A box can be carried through the tunnel only if its height is strictly less than the tunnel's height. Find the volume of each box that can be successfully transported to the other end of the tunnel. Note: Boxes cannot be rotated.

Input Format

The first line contains a single integer n, denoting the number of boxes. n lines follow with three integers on each separated by single spaces - lengthi, widthi and heighti which are length, width and height in feet of the i-th box.

Constraints

1 ≤ n ≤ 100 1 ≤ lengthi, widthi, heighti ≤ 100

Output Format

For every box from the input which has a height lesser than 41 feet, print its volume in a separate line.

Sample Input 0

4 5 5 5 1 2 40 10 5 41 7 2 42

Sample Output 0

125 80

Explanation 0

The first box is really low, only 5 feet tall, so it can pass through the tunnel and its volume is 5 x 5 x 5 = 125.

The second box is sufficiently low, its volume is 1 x 2 x 4= = 80.

The third box is exactly 41 feet tall, so it cannot pass. The same can be said about the fourth box.

Input Format

-

Constraints

-

Output Format

-

Sample Input 0

```
4
5 5 5
1 2 40
10 5 41
7 2 42
```

Sample Output 0

```
125
80
```

Submissions: 1101
Max Score: 100
Difficulty: Medium

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More

```c
#include<stdio.h>
#include <stdlib.h>
#define MAX_HEIGHT 41

struct box
{
  int length;
  int width;
  int height;
}b;

typedef struct box box;

int volume(box b)
{
  return (b.length*b.width*b.height);
}

int is_lower_than_max_height(box b) {
    if(b.height > 40)
  {
    return 0;
  }
  else
  {
    return 1;
  }
}
int main()
{
  int n;
  scanf("%d", &n);
  box *boxes = malloc(n * sizeof(box));
  for (int i = 0; i < n; i++) {
   scanf("%d%d%d", &boxes[i].length, &boxes[i].width, &boxes[i].height);
  }
  for (int i = 0; i < n; i++) {
   if (is_lower_than_max_height(boxes[i])) {
    printf("%d\n", volume(boxes[i]));
   }
  }
  return 0;
```

```
43 }
```

Line: 1 Col: 1

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