Test Cases 1: (these cases, and test cases 2, are in erica\_test.sim)

10 20 30

10 30 30

20 30 30

30 30 30

10 30 30

20 30 30

30 30 30

10 30 30

20 30 30

30 30 30

10 30 30

20 30 30

30 30 30

10 30 30

20 30 30

30 30 30

10 90 90

20 90 90

30 90 90

-1 -1 -1

0 0 0

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| A-10 | Box# | 1 | 4 | 7 | 10 | 13 | 16 |
|  | box dim | 30" | 30" | 30" | 30" | 30" | 90" |
|  | Space used | 30" | 30" | 30" | 30" | 30" | 0" |
| B-20 | Box# | 2 | 5 | 8 | 11 | 14 | 17 |
|  | box dim | 30" | 30" | 30" | 30" | 30" | 90' |
|  | Space used | 30" | 30" | 30" | 30" | 30" | 0" |
| C-30 | Box# | 3 | 6 | 9 | 12 | 15 | 18 |
|  | box dim | 30" | 30" | 30" | 30" | 30" | 90" |
|  | Space used | 30" | 30" | 30" | 30" | 30" | 0" |

Puts boxes on belt a, then b, then c, then a, then b, then c, etc. Boxes 1-18 should all fall off. The last 3 boxes are so big that they clear the belt and fall off themselves.

Test Cases 2:

10 20 30

8 10 30

15 20 30

25 30 30

8 10 30

15 20 30

25 30 30

8 10 30

15 20 30

25 30 30

8 10 30

15 20 30

25 30 30

8 10 30

15 20 30

25 30 30

10 51 51

20 51 51

30 51 51

-1 -1 -1

0 0 0

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| A-10 | Box# | 1 | 4 | 7 | 10 | 13 | 16 |
|  | box dim | 8" | 8" | 8" | 8" | 8" | 51" |
|  | Space used | 8" | 16" | 24" | 24" | 24" | 0" |
| B-20 | Box# | 2 | 5 | 8 | 11 | 14 | 17 |
|  | box dim | 15" | 15" | 15" | 15" | 15" | 51" |
|  | Space used | 15" | 30" | 30" | 30" | 30" | 0" |
| C-30 | Box# | 3 | 6 | 9 | 12 | 15 | 18 |
|  | box dim | 25" | 25" | 25" | 25" | 25" | 51" |
|  | Space used | 25" | 25" | 25" | 25" | 25" | 0" |

Adds 15 boxes in the order A, B, C, A, B, C, etc . Each box is optimizable – that is, it’s smallest dimension fits on a belt, and also the second smallest dimension also fits on that belt. The box should rotate so that dim1 is added to space rather than dim2.