BURST BALLOONS

Ip: [2, 3, 4, 5]

	0	1	2	3
0	6			
1		24		
2			60	
3				20

1) Let's say we can only burst one balloon

[2] → 0 + (1 × 2 × 3) + 0 = 6

0 ↓ coin by bursting balloons to left

0 ↓ coin by bursting balloons to right

[3] → 0 + (2 × 3 × 4) + 0 = 24

[4] → 0 + (3 × 4 × 5) + 0 = 60

[5] → 0 + (4 × 5 × 1) + 0 = 20

BURST BALLOONS

Ip: [3, 3, 4, 5]

	0	1	2	3
0	6	32		
1		24	90	
2			60	78
3				20

** Since we're considering [2,3], cost of bursting balloons to left of 2 = 0 & right of 3 = 0 because only available balloons to burst are 2 & 3

2) Let's say we can burst 2 balloons at a time:

[2,3]:

- we burst 2 in the end

$0 + [1 \times 2 \times 4] + 24 = \boxed{32}$

↓ cost by burst balloons to the left

| cost by bursting balloon to the right of 2 = 3

cost to burst balloon 2

[2, ~~3~~, 4, 5] = 1 × 2 × 4

↳ already burst

- we burst 3 in the end

$6 + [1 \times 3 \times 4] + 0 = \boxed{18}$

↓ cost by bursting balloons to left of 3 = 2.

↳ cost by bursting balloons to the right.

Cost of bursting balloon 3

[~~3~~, 3, 4, 5] = 1 × 3 × 4

↳ already burst

Finally max (32, 18) = 32

BURST BALLOONS

Ip: $\overset{0}{[}\overset{1}{3},\overset{2}{4},\overset{3}{5}]$

	0	1	2	3
0	6	32	100	
1		24	90	100
2			60	75
3				20

3) Let's say we can burst 3 balloons at a time:

[2, 3, 4]:

- We burst 2 in the end:

$0 + [1 \times 2 \times 5] + 90 = \boxed{100}$

↳ matrix[1][2]

index of 3 | index of 4.

- We burst 3 in the end:

$6 + [1 \times 3 \times 5] + 60 = \boxed{81}$

matrix[0][0] → index of 2

matrix[2][2] → index of 4

- We burst 4 in the end:

$32 + [1 \times 4 \times 5] + 0 = \boxed{52}$

matrix[0][1]

index of 2 | index of 3

Finally, max (100, 81, 52) = 100

BURST BALLOONS

Ip: $\overset{0}{[}\overset{1}{2},\overset{2}{3},\overset{3}{4},5]$

	0	1	2	3
0	6	32	100	
1		24	90	100
2			60	75
3				20

4) Let's say we can burst 4 balloons at a time:

[2, 3, 4, 5]

- We burst 2 in the end:

$0 + [1 \times 2 \times 1] + 100 = \boxed{102}$

- We burst 3 in the end:

$6 + [1 \times 3 \times 1] + 75 = \boxed{84}$

matrix[0][0] → index of 2

matrix[2][3] → index of 4, index of 5

- We burst 4 in the end:

$32 + [1 \times 4 \times 1] + 20 : \boxed{56}$

- We burst 5 in the end:

$100 + [1 \times 5 \times 1] + 0 = \boxed{105}$

Finally, max (102, 84, 56, 105) = 105