Sum of Natural Numbers

Day 1: 1
Day 2: 2
Day 3: 3
Day 4: 4
.
.
.
Day 10: 10

Find total money saved after 10 days.

$1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10$

Sum = $\frac{n \times (n+1)}{2}$

⇨ n = 10

⇨ sum = $\frac{10 \times 11}{2}$

⇨ sum = 55

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n = int(input("Enter n:"))

sum = n * (n + 1)/2

print("Sum is" + sum)
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How does the formula n * (n + 1) / 2 work?
$S_n = 1 + 2 + 3 + 4 + \ldots + n$
$S_n = n + (n - 1) + (n - 2) + (n - 3) + \ldots + 1$
$2S_n = (n + 1) + (n + 1) + (n + 1) + \ldots + (n + 1)$
⇨ $2S_n = n * (n + 1)$
⇨ $S_n = n * (n + 1) / 2$