and is now $\frac{1}{2^{n-1}}$ feet

from the wall

so $s_n = 2 - \frac{1}{2^{n-1}}$

If he keeps jumping forever, how far does he go?

He moves $\sum_{j=1}^{\infty} \frac{1}{2^{j-1}}$ feet

This number is at most 2 and yet it exceeds $2 - \frac{1}{2^n}$ for all $n \geq 1$.