우림 10-1

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For the first trial, obviously the toy is new.

for the next trial, the chance of new toy is $\frac{10}{11}$.

The interpretation of $\frac{10}{11}$ is that (for 10 times among 11, the event occurs.).

Inversely, for the event to occur once, we need $\frac{11}{10}$ times.

Applying this logic repeatedly. the expectation is

$$\left(\frac{11}{11}+\frac{11}{10}+\frac{11}{9}+\cdots+\frac{11}{1}\right) = 11 \cdot H_{11}$$