



15th CSL Student Conference

February 26-28, 2020

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THE WEEKLY RIDDLE

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Imagine a game where you try to throw a single bag of k empty aluminum cans into a recycling bin (for positive integer k). The rules are as follows:

- A trial is a single attempt to throw a bag with a fixed number of cans into the recycling bin
- A trial is successful if the bag goes into the recycling bin, else it's failed
- The maximum number of cans that can fit into a bag is 100
- You may assume (i) an unlimited supply of recycling bins, cans, and bags and (ii) identical throwing/environmental conditions between trials (i.e. every trial with k cans always yields the same result)

There exists a positive integer $n \leq 100$ such that you can successfully throw a bag with 1 to n cans in it, but cannot throw a bag with $n+1$ or more cans in it. Your friend challenges you to find n with only up to 2 failed trials. With this condition, what is the minimum number of total trials (successful and failed) needed to guarantee that you can find n ?

Graduate Students - Submit your answer online at <https://tinyurl.com/r9pl2wq> (QR code below) before February 1st at 11:59 PM for a chance to win a \$10 Amazon gift card!



Congratulations to our Week 2 Riddle winner – Ahmed Abdelrahman! Both 22 and 65 minutes were considered correct.



Register for the conference at <https://studentconference.csl.illinois.edu/>

