Induction Proof

MATH 189: Discrete Mathematics

Section 2

Rob Peterson

# Problem Description

The problem under consideration for this proof consists of a series of steps, described as follows:

1. A stack of 7 disks sits on a surface.
2. One disk is added to the top of the existing stack(s), and a set of disks is added to form a perimeter around the existing stack(s).
3. Step 2 is repeated ad Infinium.

Diagrams showing the steps involved are shown below:

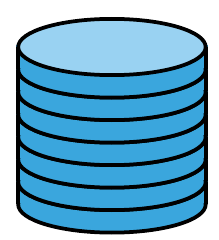


Figure : Stage 0

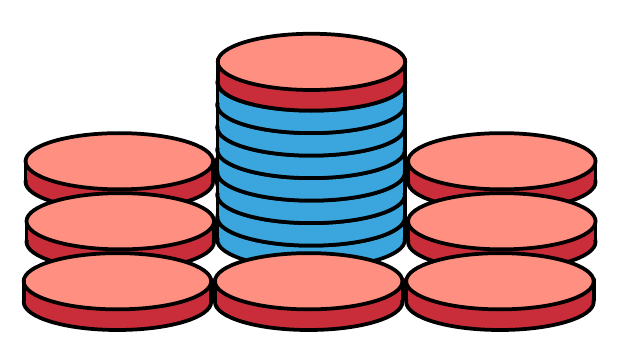


Figure : Stage 1

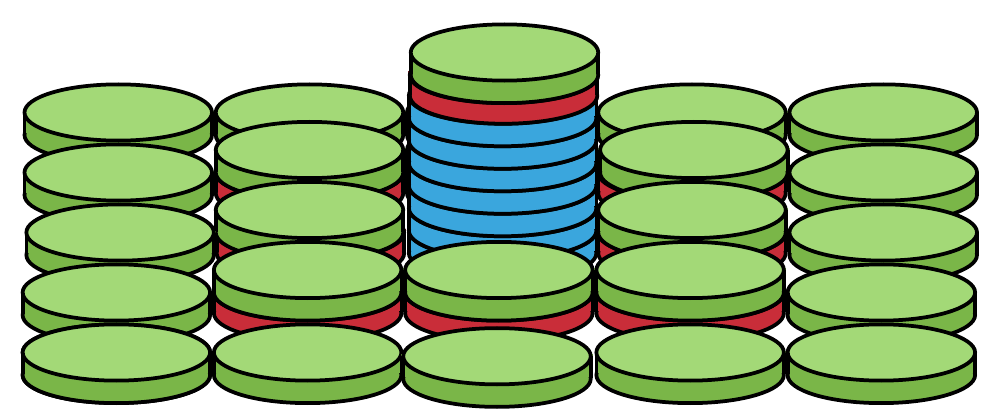


Figure : Stage 3

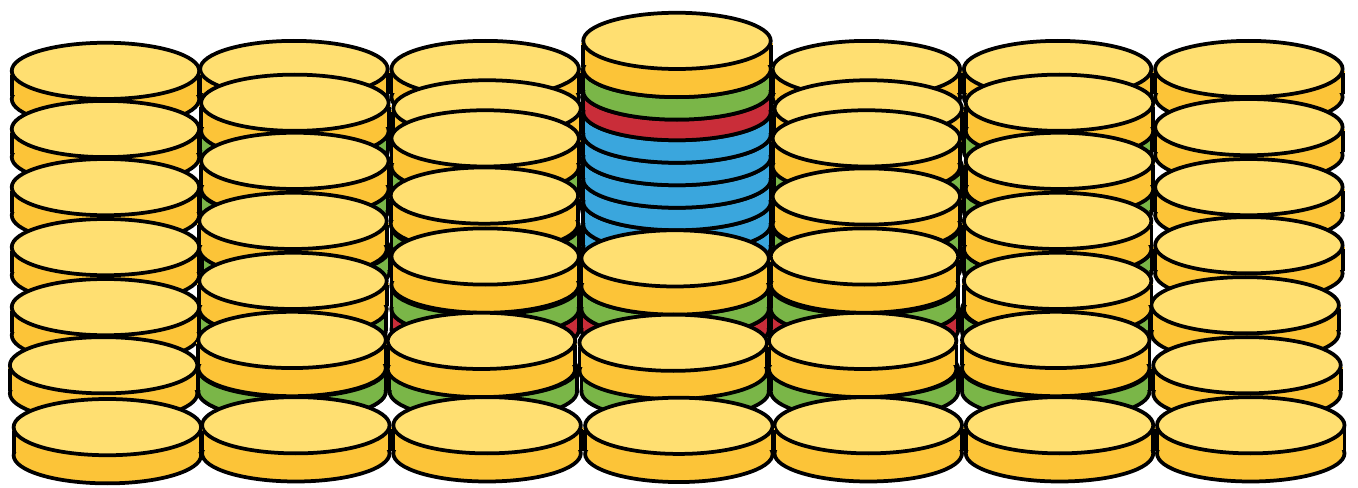


Figure : Stage 4

Latex:

\frac{1}{2\pi}\int\_{0}^{2\pi}\frac{d\theta}{a+b\sin{\theta}}=\frac{1}{\sqrt{a^2-b^2}}