

Goals

- Identify when multiple base cases are needed in strong induction
- Describe graphs and explain why they are useful

Let $P(n)$ be the predicate that $\text{Funk}(n)$ returns $3^n - 2^n$. We will prove $P(n)$ is true for all $n \geq \underline{\hspace{1cm}}$.

Base case: .

Inductive step: Let $k \geq \underline{\hspace{1cm}}$. Assume for strong induction that $P(j)$ is true for all j such that .

$\text{Funk}(s)$

Input : Integer m

Output: $3^m - 2^m$

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1 if  $m \leq 1$  then  
2   | return  $m$ ;  
3 end  
4 return  $5 \times \text{Funk}(m - 1) - 6 \times \text{Funk}(m - 2)$ ;
```