



level  
3

CLOUDFLIGHT  
CODING  
CONTEST

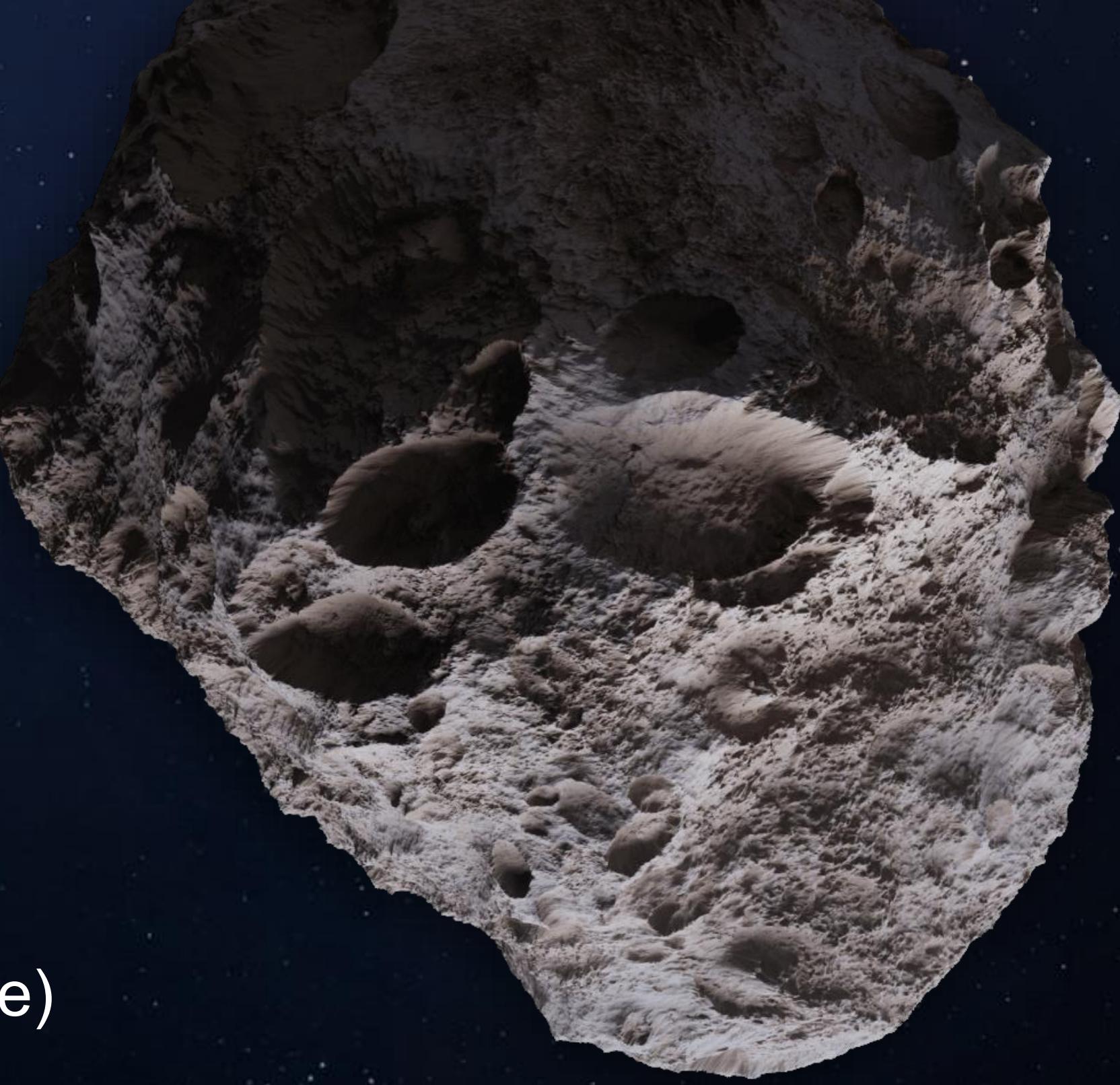
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LEVEL 3



# Asteroids might be rotated

- For each asteroid, dig tunnels that discover every cell
  - "discover every cell" is explained on the next slide
- Either the **width or the height** of the minable rectangle is guaranteed to be 3
- The other dimension is any integer between 3 and 199 (inclusive)
- The outpost is now **anywhere in the first row** of the asteroid
- A dig limit is given
- Your tunnels must not have more dug cells than the dig limit
- The given dig limit requires an **optimal solution**



There is a **visualizer.html** in the input folder.  
You can use it to visualize your solutions.



# Valid Tunnel Layout Checklist

- Discover every cell:** Each cell inside the minable rectangle must either be a tunnel, or be adjacent to a tunnel
- Your tunnels may branch at any point, but must be connected to the outpost as well as to each other
- Diagonals do not count as adjacent or connected
- Bedrock cannot be dug
- Your tunnels must not have more cells than the dig limit



## Input

Name	Description	Example
N	Number of asteroids	
repeated N times	<p>Minalbe rectangle size and <b>dig limit</b></p> <p>The width and height of the minable rectangle followed by the dig limit, separated by a spaces</p>	<pre>2 3 5 6 #S###</pre>
Character representation	<p>A paragraph of characters</p> <p>'#' represents bedrock</p> <p>:: represents a minable cell</p> <p>'S' represents the outpost</p>	<pre>#:::::#</pre>
	Empty line between asteroids	<pre>#:::::#</pre> <pre>5 3 6 #####S## #:::::#</pre>

## Output

Name	Description	Example
Character representation (repeated N times)	<p>A paragraph of characters</p> <p>'#' represents bedrock</p> <p>:: represents a minable cell</p> <p>'S' represents the outpost</p> <p>'X' represents a tunnel cell</p>	<pre>#S###</pre>
<i>Empty lines between asteroids are recommended but optional</i>		<pre>#XX:#</pre>

# Happy Mining!



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