

$L = \{a^n b^n : n \geq 0\}$ Regular Pumping Lemma

Objective: Find a valid partition that can be pumped.

Clear All

Explain

My Attempts:

1: $X = aaa, Y = a, Z = bbbb, i = 2$; Failed

1. Please select a value for m in Box 1 and press "Enter".

4

2. I have selected w such that $|w| \geq m$. It is displayed in Box 2.

aaaabbbb

3. Select decomposition of w into xyz.

x: aaa

|x|: 3

y: a

|y|: 1

z: bbbb

|z|: 4

Set xyz

4. I have selected i to give a contradiction. It is displayed in Box 4.

i: 2

pumped string: aaaaabbbb

5. Animation

$w = \overset{x}{aaa} \overset{y}{a} \overset{z}{bbbb}$

$xy^2z = a^5b^4 = aaaaabbbb$ is NOT in the language. Please try again.

Step

Restart

$L = \{a^n b^k c^{n+k} : n \geq 0, k \geq 0\}$ Regular Pumping Lemma

Objective: Find a valid partition that can be pumped.

Clear All

Explain

My Attempts:

1: $X = a, Y = a, Z = bbcccc, i = 2$; Failed

1. Please select a value for m in Box 1 and press "Enter".

2

2. I have selected w such that $|w| \geq m$. It is displayed in Box 2.

aabbcccc

3. Select decomposition of w into xyz.

x: a

|x|: 1

y: a

|y|: 1

z: bbcccc

|z|: 6

Set xyz

4. I have selected i to give a contradiction. It is displayed in Box 4.

i: 2

pumped string: aaabbcccc

5. Animation

$w = \overset{x}{a} \overset{y}{a} \overset{z}{bbcccc}$

$xy^2z = a^3b^2c^4 = aaabbcccc$ is NOT in the language. Please try again.

Step

Restart