OpenGeoProver Output for conjecture "geothm_zadatak"

Wu's method used

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1 Invoking the theorem prover

The used proving method is Wu's method.

The input system is:

$$\begin{aligned} p_1 &= 2x_1 - 2 \\ p_2 &= 2x_2 - \\ p_3 &= x_3 - x_2 \\ p_4 &= x_4 - x_1 \\ p_5 &= x_5 + x_1 \\ p_6 &= 2x_6 - 2 \\ p_7 &= 2x_7 - \\ p_8 &= 2x_8 - 2 \end{aligned}$$

1.1 Triangulation, step 1

Choosing variable: Trying the variable with index 8.

Variable x_8 selected: The number of polynomials with this variable, with indexes from 1 to 8, is 1.

Single polynomial with chosen variable: Chosen polynomial is p_8. No reduction needed.

The triangular system has not been changed.

1.2 Triangulation, step 2

Choosing variable: Trying the variable with index 7.

Variable x_7 selected: The number of polynomials with this variable, with indexes from 1 to 7, is 1.

Single polynomial with chosen variable: Chosen polynomial is p_7. No reduction needed.

The triangular system has not been changed.

1.3 Triangulation, step 3

Choosing variable: Trying the variable with index 6.

Variable x_6 selected: The number of polynomials with this variable, with indexes from 1 to 6, is 1.

Single polynomial with chosen variable: Chosen polynomial is p_6. No reduction needed.

The triangular system has not been changed.

1.4 Triangulation, step 4

Choosing variable: Trying the variable with index 5.

Variable x_5 selected: The number of polynomials with this variable, with indexes from 1 to 5, is 1.

Single polynomial with chosen variable: Chosen polynomial is p_5. No reduction needed.

The triangular system has not been changed.

1.5 Triangulation, step 5

Choosing variable: Trying the variable with index 4.

Variable x_4 selected: The number of polynomials with this variable, with indexes from 1 to 4, is 1.

Single polynomial with chosen variable: Chosen polynomial is p_4. No reduction needed.

The triangular system has not been changed.

1.6 Triangulation, step 6

Choosing variable: Trying the variable with index 3.

Variable x_3 selected: The number of polynomials with this variable, with indexes from 1 to 3, is 1.

Single polynomial with chosen variable: Chosen polynomial is p_3. No reduction needed.

The triangular system has not been changed.

1.7 Triangulation, step 7

Choosing variable: Trying the variable with index 2.

Variable x_2 selected: The number of polynomials with this variable, with indexes from 1 to 2, is 1.

Single polynomial with chosen variable: Chosen polynomial is p_2. No reduction needed.

The triangular system has not been changed.

1.8 Triangulation, step 8

Choosing variable: Trying the variable with index 1.

Variable x_1 selected: The number of polynomials with this variable, with indexes from 1 to 1, is 1.

Single polynomial with chosen variable: Chosen polynomial is p_1. No reduction needed.

The triangular system has not been changed.

The triangular system is:

$$\begin{aligned} p_1 &= 2x_1 - 2 \\ p_2 &= 2x_2 - \\ p_3 &= x_3 - x_2 \\ p_4 &= x_4 - x_1 \\ p_5 &= x_5 + x_1 \\ p_6 &= 2x_6 - 2 \\ p_7 &= 2x_7 - \\ p_8 &= 2x_8 - 2 \end{aligned}$$

2 Final Remainder

2.1 Final remainder for conjecture geothm_zadatak

Calculating final remainder of the conclusion:

$$g = x_8x_5 + x_7x_4 + x_6x_3$$

with respect to the triangular system.

1. Pseudo remainder with p_8 over variable x_8:

$$g = 2x_7x_4 + 2x_6x_3 + 2x_5$$

2. Pseudo remainder with p_7 over variable x_7:

$$g = 4x_6x_3 + 4x_5 + 2x_4$$

3. Pseudo remainder with p_6 over variable x_6:

$$g = 8x_5 + 4x_4 + 8x_3$$

4. Pseudo remainder with p_5 over variable x_5:

$$g = 4x_4 + 8x_3 - 8x_1$$

5. Pseudo remainder with p_4 over variable x_4:

$$g = 8x_3 - 4x_1$$

6. Pseudo remainder with p_3 over variable x_3:

$$g = 8x_2 - 4x_1$$

7. Pseudo remainder with p_2 over variable x_2:

$$g = -8x_1 + 8$$

8. Pseudo remainder with p_1 over variable x_1:

$$g = 0$$

3 Prover results

Status: Theorem has been proved.

Space Complexity: The biggest polynomial obtained during prover execution contains 3 terms.

Time Complexity: Time spent by the prover is 0.033 seconds.

4 NDG Conditions

NDG Conditions in readable form

- There are no NDG conditions for this theorem