

Iteration # 0

Next State(s):  $T^4 + (X^3 + X^2 + X + 1) * T^2 + (X^2 + 1) * T$

Newly reached states:  $T^3 + (X^2) * T^2 + (X^3 + X^2) * T$

Currently reached states:

$T^4 + (X^3 + X^2 + X + 1) * T^2 + (X^2 + 1) * T$

Iteration # 1

Next State(s):

$T^5 + (X^3 + X^2 + X) * T^4 + (X^3 + X^2 + X + 1) * T^3 + (X + 1) * T$

Newly reached states:  $T + (X^3 + X^2 + X)$

Currently reached states:

$T^5 + (X^3 + X^2 + X) * T^4 + (X^3 + X^2 + X + 1) * T^3 + (X + 1) * T$

Iteration # 2

Next State(s):

$T^4 + (X^3 + X^2 + X) * T^3 + (X^2 + X) * T^2 + (X^2) * T + (X)$

Newly reached states:  $T^2 + (X^2 + X) * T + 1$

Currently reached states:

$T^7 + (X^3) * T^6 + (X^3 + X^2) * T^5 + (X^3 + X) * T^4 + (X^3 + X^2) * T^3 + (X^3 + X) * T^2 + (X + 1) * T$

Iteration # 3

Next State(s):

$T^6 + (X^3 + X + 1) * T^5 + (X^2 + X + 1) * T^4 + (X^2 + X) * T^3 + (X^3 + 1) * T^2 + (X) * T + (X^2)$

Newly reached states:  $T^3 + T^2 + (X^2 + 1) * T + (X^3)$

Currently reached states:

$T^9 + (X^3 + X^2 + 1) * T^8 + (X + 1) * T^5 + (X^2) * T^4 + (X^3 + X^2) * T^3 + (X^3) * T^2 + (X^2 + X) * T$

Iteration # 4

Next State(s):

$T^8 + (X + 1) * T^7 + T^6 + (X^3 + X^2 + X) * T^5 + (X^3) * T^4 + (X^3 + X^2 + 1) * T^3 + (X^2 + X) * T^2 + (X^3 + X) * T$

Newly reached states: 1

\*\*\*\*\* TERMINATE! \*\*\*\*\*

**BFS depth: 4**

**Final reachable states:**

**$T^9 + (X^3 + X^2 + 1) * T^8 + (X + 1) * T^5 + (X^2) * T^4 + (X^3 + X^2) * T^3 + (X^3) * T^2 + (X^2 + X) * T$**