

6:
 $\begin{pmatrix} 1 \\ \end{pmatrix}$
PC : $x - 1$
ValP : 1
VectP de 1 : 1

8:
 $\begin{pmatrix} 0 \\ \end{pmatrix}$
PC : x
ValP : 0
VectP de 0 : 1

10:
 $\begin{pmatrix} 0 & 0 \\ 0 & 1 \end{pmatrix}$
PC : $x^2 - x$
ValP : 0,1
VectP de 0 : 1,0
VectP de 1 : 0,1

12:
 $\begin{pmatrix} 1 & 0 \\ 0 & 0 \end{pmatrix}$
PC : $x^2 - x$
ValP : 0,1
VectP de 0 : 0,1
VectP de 1 : 1,0

14:
 $\begin{pmatrix} 0 & 0 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{pmatrix}$
PC : $x^3 - x^2$
ValP : 0,0,1
VectP de 0 : 0,1,0
VectP de 0 : 0,1,0
VectP de 1 : 0,0,1

16:
 $\begin{pmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 1 & 0 & 0 \end{pmatrix}$
PC : x^3
ValP : 0,0,0
VectP de 0 : 0,1,0
VectP de 0 : 0,0,1

VectP de 0 : 0,0,0

18:

$$\begin{pmatrix} 1 & 1 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix}$$

PC : $x^3 - x^2$

ValP : 0,0,1

VectP de 0 : -1,1,0

VectP de 0 : 0,0,1

VectP de 1 : 1,0,0

20:

$$\begin{pmatrix} 0 & 0 & 0 \\ 1 & 1 & 0 \\ 0 & 0 & 0 \end{pmatrix}$$

PC : $x^3 - x^2$

ValP : 0,0,1

VectP de 0 : -1,1,0

VectP de 0 : 0,0,1

VectP de 1 : 0,1,0

22:

$$\begin{pmatrix} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix}$$

PC : $x^4 - x^3$

ValP : 0,0,0,1

VectP de 0 : -1,1,0,0

VectP de 0 : 0,0,1,0

VectP de 0 : 0,0,0,0

VectP de 1 : 0,0,0,1

24:

$$\begin{pmatrix} 1 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{pmatrix}$$

PC : $x^4 - x^3$

ValP : 0,0,0,1

VectP de 0 : 0,1,0,0

VectP de 0 : -1,0,1,0

VectP de 0 : 0,0,0,1

VectP de 1 : 1,0,0,0

26:

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

$$\text{PC} : x^5 - x^4$$

$$\text{ValP} : 0,0,0,0,1$$

$$\text{VectP de } 0 : -1,1,1,0,0,0$$

$$\text{VectP de } 0 : 0,0,0,1,0$$

$$\text{VectP de } 0 : 0,0,0,0,0$$

$$\text{VectP de } 0 : 0,0,0,0,0$$

$$\text{VectP de } 1 : 0,0,0,0,1$$

28:

$$\begin{pmatrix} 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 & 0 \end{pmatrix}$$

$$\text{PC} : x^5 - x^4$$

$$\text{ValP} : 0,0,0,0,1$$

$$\text{VectP de } 0 : 0,0,0,1,0$$

$$\text{VectP de } 0 : 0,0,0,0,1$$

$$\text{VectP de } 0 : 0,0,0,0,0$$

$$\text{VectP de } 0 : 0,0,0,0,0$$

$$\text{VectP de } 1 : 0,0,1,0,0$$

30:

$$\begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

$$\text{PC} : x^5 - 2x^4 + x^3$$

$$\text{ValP} : 0,0,0,1,1$$

Berechne Eigenvektoren...

Je ne parle pas allemand mais il doit les calculer lentement...

32:

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 1 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

$$\text{PC} : x^5$$

$$\text{ValP} : 0,0,0,0,0$$

$$\text{VectP de } 0 : 0,0,0,1,0$$

VectP de 0 : 0,0,0,0,1
VectP de 0 : 0,0,0,0,0
VectP de 0 : 0,0,0,0,0
VectP de 0 : 0,0,0,0,0

34:

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Integer overflow : the determinant could not be calculated exactly. The coefficients of the characteristic polynomial are perhaps incorrect.

PC : $x^6 - x^5$

ValP : 0,0,0,0,0,1

VectP de 0 : 0,1,0,0,0,0

VectP de 0 : 0,0,0,1,0,0

VectP de 0 : 0,0,0,0,1,0

VectP de 0 : 0,0,0,0,0,0

VectP de 0 : 0,0,0,0,0,0

VectP de 1 : 0,0,0,0,0,1

36:

$$\begin{pmatrix} 1 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Integer overflow : the determinant could not be calculated exactly. The coefficients of the characteristic polynomial are perhaps incorrect.

PC : $x^6 - x^5$

ValP : 0,0,0,0,0,1

Berechne eigenvektoren...

38:

$$\begin{pmatrix} 0 & 1 & 1 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Characteristic polynomial:

$x^7 - x^6 - x^5 + x^3$

Real eigenvalues:

0, 0, 0, 1, 1.3247179572447458

Complex eigenvalues:

$-0.6623589786223729 + 0.562279512062301 \cdot i$,

$-0.6623589786223729 - 0.562279512062301 \cdot i$

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 1, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 1, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 1:

(0, 0, 0, 0, 0, 0, 1)

Eigenvector of eigenvalue 1.3247179572447458:

(0.4520050108764515, 0.598779154672642, 0, 0.34120848774222645, 0.4520050108764515, 0.34120848774222673, 0)

Eigenvector of eigenvalue $-0.6623589786223729 + 0.562279512062301 \cdot i$:

(0.4301597090019468, $-0.28492014549902667 + 0.24186999128647602 \cdot i$, 0, $-0.37743883312334636 - 0.320409520775825 \cdot i$, 0.4301597090019468, $-0.3774388331233466 - 0.320409520775825 \cdot i$, 0)

Eigenvector of eigenvalue $-0.6623589786223729 - 0.562279512062301 \cdot i$:

(0.4301597090019468, $-0.28492014549902667 - 0.24186999128647602 \cdot i$, 0, $-0.37743883312334636 + 0.320409520775825 \cdot i$, 0.4301597090019468, $-0.3774388331233466 + 0.320409520775825 \cdot i$, 0)

All tests OK!

40:

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 1 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Characteristic polynomial:

$$x^7 - x^6$$

Real eigenvalues:

0, 0, 0, 0, 0, 0, 1

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 1, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 1, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 1)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 1:

(0, 1, 0, 0, 0, 0, 0)

All tests OK!

42:

$$\begin{pmatrix} 1 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Characteristic polynomial:

$$x^7 - 2x^6 + x^5$$

reelle Eigenwerte:

0; 0; 0; 0; 0; 1; 1

Berechne Eigenvektoren...

44:

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Characteristic polynomial:

$$x^7 - x^6$$

reelle Eigenwerte:

0; 0; 0; 0; 0; 0; 1

Berechne Eigenvektoren...

46:

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Integer overflow: The determinant could not be calculated exactly.

The coefficients of the characteristic polynomial are perhaps incorrect. See the tests below.

Characteristic polynomial:

$$x^8 - x^7 - x^5 + x^4$$

Real eigenvalues:

0, 0, 0, 0, 1, 1

Complex eigenvalues:

$-0.5 - 0.8660254037844386 \cdot i$,
 $-0.5 + 0.8660254037844386 \cdot i$
 Eigenvector of eigenvalue 0:
 (0, -1, 1, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue 0:
 (0, 0, 0, 0, 0, 1, 0, 0)
 Eigenvector of eigenvalue 0:
 (0, 0, 0, 0, 0, 0, 1, 0)
 Eigenvector of eigenvalue 0:
 (0, 0, 0, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue 1:
 (0, 0, 1, 1, 1, 0, 0, 0)
 Eigenvector of eigenvalue 1:
 (0, 0, 0, 0, 0, 0, 0, 1)
 Eigenvector of eigenvalue $-0.5 - 0.8660254037844386 \cdot i$:
 (0, 0, 2, $-1 + 1.7320508075688774 \cdot i$, $-1 - 1.732050807568877 \cdot i$, 0, 0, 0)
 Eigenvector of eigenvalue $-0.5 + 0.8660254037844386 \cdot i$:
 (0, 0, 2, $-1 - 1.7320508075688774 \cdot i$, $-1 + 1.732050807568877 \cdot i$, 0, 0, 0)
 All tests OK!

48:

$$\begin{pmatrix} 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Integer overflow: The determinant could not be calculated exactly.
 The coefficients of the characteristic polynomial are perhaps incorrect. See the tests below.
 Characteristic polynomial:
 $NaNx^8 + NaNx^7 + NaNx^6 + NaNx^5 + NaNx^4 + NaNx^3 + NaNx^2 + NaNx + NaN$
 8 zeros of polynomial couldn't be found.

50:

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Integer overflow: The determinant could not be calculated exactly.
 The coefficients of the characteristic polynomial are perhaps incorrect. See the

tests below.

Characteristic polynomial:

$$x^8 - x^7$$

Real eigenvalues:

0, 0, 0, 0, 0, 0, 0, 1

Eigenvector of eigenvalue 0:

(0, 0, 1, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 1, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 1, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 1)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 1:

(0, 1, 0, 0, 0, 0, 0, 0)

All tests OK!

52:

$$\begin{pmatrix} 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Integer overflow: The determinant could not be calculated exactly.

The coefficients of the characteristic polynomial are perhaps incorrect. See the tests below.

Characteristic polynomial:

$$x^8 - x^7 - x^6 + x^5 + 22$$

Complex eigenvalues:

-1.3524561876156316 - 0.4990791375764204*i*,

-1.3524561876156316 + 0.4990791375764204*i*,

-0.47385156066001266 - 1.2535662739194702*i*,

-0.47385156066001266 + 1.2535662739194702*i*,

0.7255973665664062 - 1.2498963079073775*i*,

0.7255973665664062 + 1.2498963079073775*i*,

1.6007103817092383 - 0.5095970332004647*i*,

1.6007103817092383 + 0.5095970332004647*i*

Eigenvector of eigenvalue -1.3524561876156316 - 0.4990791375764204*i*:

(0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue -1.3524561876156316 + 0.4990791375764204*i*:

(0, 0, 0, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue $-0.47385156066001266 - 1.2535662739194702 \cdot i$:
 (0, 0, 0, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue $-0.47385156066001266 + 1.2535662739194702 \cdot i$:
 (0, 0, 0, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue $0.7255973665664062 - 1.2498963079073775 \cdot i$:
 (0, 0, 0, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue $0.7255973665664062 + 1.2498963079073775 \cdot i$:
 (0, 0, 0, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue $1.6007103817092383 - 0.5095970332004647 \cdot i$:
 (0, 0, 0, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue $1.6007103817092383 + 0.5095970332004647 \cdot i$:
 (0, 0, 0, 0, 0, 0, 0, 0)
 All tests OK!

54:

$$\begin{pmatrix} 1 & 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Integer overflow: The determinant could not be calculated exactly.
 The coefficients of the characteristic polynomial are perhaps incorrect.
 See the tests below.

Characteristic polynomial:

$$x^8 - x^7$$

Real eigenvalues:

0, 0, 0, 0, 0, 0, 0, 1

Eigenvector of eigenvalue 0:

(0, 0, 0, 1, 0, 0, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 1, 0, 0, 0)

Eigenvector of eigenvalue 0:

(-1, 0, 0, 0, 0, 1, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 1, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 1)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 1:

(1, 0, 0, 0, 0, 0, 0, 0)

All tests OK!

$$56: \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Integer overflow: The determinant could not be calculated exactly.
 The coefficients of the characteristic polynomial are perhaps incorrect.
 See the tests below.

Characteristic polynomial:

$$x^8 - x^7 + 3$$

Complex eigenvalues:

- 0.967418607559813 - 0.42978965314679085*i*,
- 0.967418607559813 + 0.42978965314679085*i*,
- 0.3394852788896008 - 1.030954288678306*i*,
- 0.3394852788896008 + 1.030954288678306*i*,
- 0.5608429960431246 - 1.0086550666976517*i*,
- 0.5608429960431246 + 1.0086550666976517*i*,
- 1.246060890406289 - 0.3916512361468867*i*,
- 1.246060890406289 + 0.3916512361468867*i*

Eigenvector of eigenvalue -0.967418607559813 - 0.42978965314679085*i*:
 (0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue -0.967418607559813 + 0.42978965314679085*i*:
 (0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue -0.3394852788896008 - 1.030954288678306*i*:
 (0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue -0.3394852788896008 + 1.030954288678306*i*:
 (0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0.5608429960431246 - 1.0086550666976517*i*:
 (0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0.5608429960431246 + 1.0086550666976517*i*:
 (0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 1.246060890406289 - 0.3916512361468867*i*:
 (0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 1.246060890406289 + 0.3916512361468867*i*:
 (0, 0, 0, 0, 0, 0, 0, 0)

All tests OK!

58:

$$\begin{pmatrix} 0 & 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Integer overflow: The determinant could not be calculated exactly.
The coefficients of the characteristic polynomial are perhaps incorrect.
See the tests below.

Characteristic polynomial:

$$x^9 - x^8 + 1$$

Real eigenvalue:

-0.921599319633983

Complex eigenvalues:

-0.6856764898564794 - 0.6271833761843324*i*,
-0.6856764898564794 + 0.6271833761843324*i*,
-0.08578419020553357 + 0.9512876127882228*i*,
-0.08578419020553357 - 0.9512876127882228*i*,
0.6094429002763191 - 0.8096728324266278*i*,
0.6094429002763191 + 0.8096728324266278*i*,
1.1228174396026853 + 0.2836305258661736*i*,
1.1228174396026853 - 0.2836305258661736*i*

Eigenvector of eigenvalue -0.921599319633983:

(0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue -0.6856764898564794 - 0.6271833761843324*i*:

(0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue -0.6856764898564794 + 0.6271833761843324*i*:

(0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue -0.08578419020553357 + 0.9512876127882228*i*:

(0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue -0.08578419020553357 - 0.9512876127882228*i*:

(0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0.6094429002763191 - 0.8096728324266278*i*:

(0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0.6094429002763191 + 0.8096728324266278*i*:

(0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 1.1228174396026853 + 0.2836305258661736*i*:

(0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 1.1228174396026853 - 0.2836305258661736*i*:

(0, 0, 0, 0, 0, 0, 0, 0, 0)

All tests OK!

60:

$$\begin{pmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Integer overflow: The determinant could not be calculated exactly.
 The coefficients of the characteristic polynomial are perhaps incorrect.
 See the tests below.

Characteristic polynomial:

$$x^9 - 2x^8 + x^7$$

reelle Eigenwerte:

0; 0; 0; 0; 0; 0; 0; 1; 1

Berechne Eigenvektoren...

62:

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Integer overflow: The determinant could not be calculated exactly.
 The coefficients of the characteristic polynomial are perhaps incorrect.
 See the tests below.

Characteristic polynomial: $x^{10} - x^9 + x^4 + 54x^3 - 1991x^2 + 45965x - 871723$

Real eigenvalues:

-3.923867499253799, 3.964481333032074

Complex eigenvalues:

-3.106455220174663 + 2.386152814873943*i*,

-3.106455220174663 - 2.386152814873943*i*,

-1.0454414195885864 - 3.765355485364544*i*,

-1.0454414195885864 + 3.765355485364544*i*,

1.3736820695890617 + 3.669031025510049*i*,

1.3736820695890617 - 3.669031025510049*i*,

3.2579076532850495 + 2.228785508963254*i*,

3.2579076532850495 - 2.228785508963254*i*

Eigenvector of eigenvalue -3.923867499253799:

(0, 0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 3.964481333032074:

(0, 0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue -3.106455220174663 + 2.386152814873943*i*:

(0, 0, 0, 0, 0, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue $-3.106455220174663 - 2.386152814873943 \cdot i$:
 (0, 0, 0, 0, 0, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue $-1.0454414195885864 - 3.765355485364544 \cdot i$:
 (0, 0, 0, 0, 0, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue $-1.0454414195885864 + 3.765355485364544 \cdot i$:
 (0, 0, 0, 0, 0, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue $1.3736820695890617 + 3.669031025510049 \cdot i$:
 (0, 0, 0, 0, 0, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue $1.3736820695890617 - 3.669031025510049 \cdot i$:
 (0, 0, 0, 0, 0, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue $3.2579076532850495 + 2.228785508963254 \cdot i$:
 (0, 0, 0, 0, 0, 0, 0, 0, 0, 0)
 Eigenvector of eigenvalue $3.2579076532850495 - 2.228785508963254 \cdot i$:
 (0, 0, 0, 0, 0, 0, 0, 0, 0, 0)
 All tests OK!

64:

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Characteristic polynomial:

$$x^{10}$$

reelle Eigenwerte:

0; 0; 0; 0; 0; 0; 0; 0; 0; 0

Berechne Eigenvektoren...

66:

$$\begin{pmatrix} 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Erstelle Matrix und wandle sie in eine untere Dreiecksmatrix um.

Multipliziere Diagonalelemente

Polynomdivision mit Produktterm.

Integer overflow: The determinant could not be calculated exactly.

The coefficients of the characteristic polynomial are perhaps incorrect.

See the tests below.

Characteristic polynomial:

$$NaNx^{10} + NaNx^9 + NaNx^8 + NaNx^7 + NaNx^6 + NaNx^5 + NaNx^4 + NaNx^3 + NaNx^2 + NaNx + NaN$$

Suche Nullstellen...

68:

$$\begin{pmatrix} 0 & 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Integer overflow: The determinant could not be calculated exactly.

The coefficients of the characteristic polynomial are perhaps incorrect.

See the tests below.

Characteristic polynomial:

$$x^{10} - x^9 - x^8 - x^7 + 2x^6$$

Real eigenvalues:

0, 0, 0, 0, 0, 0, 1, 1.5213797068045676

Complex eigenvalues:

-0.7606898534022838 - 0.8578736265951786*i*,
-0.7606898534022838 + 0.8578736265951786*i*

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 1, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0, 1, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0, 0, 1)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 1:

(0, 0, 0, 0, 0, 1, 0, 0, 0, 0)

Eigenvector of eigenvalue 1.5213797068045676:

(0.3337542934111144, 0.21937606497467735, 0, 0.21937606497467735, 0.2883909440798894,
0.6401367162075179, 0, 0.3635715370146221, 0.408934886345847, 0)

Eigenvector of eigenvalue -0.7606898534022838 - 0.8578736265951786*i*:

(0.3580554567117827, -0.20718845097252866 + 0.23365831295036818*i*, 0, -0.20718845097252858
+ 0.23365831295036818*i*, -0.065180701903445 - 0.5408246461218981*i*, -0.16434529905462417
+ 0.08007514636460317*i*, 0, -0.2397788019242512 - 0.036754010110580854*i*,

$0.18345735669097638 + 0.5040706360113172 \cdot i, 0)$
 Eigenvector of eigenvalue $-0.7606898534022838 + 0.8578736265951786 \cdot i$:
 $(0.3580554567117827, -0.20718845097252866 - 0.23365831295036818 \cdot i, 0, -0.20718845097252858$
 $- 0.23365831295036818 \cdot i, -0.065180701903445 + 0.5408246461218981 \cdot i, -0.16434529905462417$
 $- 0.08007514636460317 \cdot i, 0, -0.2397788019242512 + 0.036754010110580854 \cdot i,$
 $0.18345735669097638 - 0.5040706360113172 \cdot i, 0)$
 All tests OK!

70:

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Integer overflow: The determinant could not be calculated exactly.
 The coefficients of the characteristic polynomial are perhaps incorrect.
 See the tests below.
 Characteristic polynomial:
 $x^{10} - 2x^9 + x^8$
 reelle Eigenwerte:
 0; 0; 0; 0; 0; 0; 0; 0; 1; 1
 Berechne Eigenvektoren...

72:

$$\begin{pmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Erstelle Matrix und wandle sie in eine untere Dreiecksmatrix um.

74:

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Erstelle Matrix und wandle sie in eine untere Dreiecksmatrix um.

76:

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Integer overflow: The determinant could not be calculated exactly.

The coefficients of the characteristic polynomial are perhaps incorrect.

See the tests below.

Characteristic polynomial:

$$x^{11} - x^{10}$$

Real eigenvalues:

0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1

Eigenvector of eigenvalue 0:

(0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0:

(0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)

Eigenvector of eigenvalue 0:

Erstelle Matrix und wandle sie in eine untere Dreiecksmatrix um.

84:

$$\begin{pmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Erstelle Matrix und wandle sie in eine untere Dreiecksmatrix um.

86:

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Integer overflow: The determinant could not be calculated exactly.
 The coefficients of the characteristic polynomial are perhaps incorrect.
 See the tests below.

Characteristic polynomial:
 $NaNx^{13} + NaNx^{12} + NaNx^{11} + NaNx^{10} + NaNx^9 + NaNx^8 + NaNx^7 +$
 $NaNx^6 + NaNx^5 + NaNx^4 + NaNx^3 + NaNx^2 + NaNx + NaN$
 13 zeros of polynomial couldn't be found.

Quelques constats :

- on remarque que pour les 4 puissances de 2 que sont $2k = 8, 16, 32$ et 64 , les polynomes caractéristiques des matrices booléennes sont x, x^3, x^5 et x^{10} . C'est à dire $x^{Pi(k)}$ (exemple : pour $64, Pi(k) = 10 =$ le nombre de premiers impairs inférieurs ou égaux à 32 , la moitié de 64).
- pour les autres pairs, on a souvent comme polynôme caractéristique $x^i - x^{i-1}$) avec i qui est la taille de la matrice c'est à dire $Pi(k)$ (pour les pairs $2k = 6, 10, 12, 14, 18, 20, 22, 24, 26, 28, 34, 36, 40, 44, 50, 54, 76$).
- pour $30, 38, 42, 46, 48, 52, 56, 58, 60, 62, 66$ on a des trucs bizarres : je trouve seulement que $30, 42$ et 70 se ressemblent parce qu'on a les polynômes

respectifs : $x^5 - 2x^4 + x^3$ pour 30, $x^7 - 2x^6 + x^5$ pour 42 et enfin $x^{10} - 2x^9 + x^8$ pour 70, le degré le plus élevé étant à chaque fois le nombre de premiers impairs inférieur à la moitié du pair considéré. Mais je ne vois pas ce que 30, 42 et 70 auraient en commun par rapport à d'autres pairs. Même si je sais que c'est assez idiot, j'ai travaillé totalement "à l'aveugle", suivant l'avis d'un professeur de mathématiques qui m'a conseillé d'étudier les caractéristiques des matrices de congruence à $2x$.

J'aimerais vraiment qu'on m'explique tout cela...