Aerobus

v1.2

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Chapter 1

Introduction

Aerobus is a C++-20 pure header library for general algebra on polynomials, discrete rings and associated structures.

Everything in Aerobus is expressed as types.

We say that again as it is the most fundamental characteristic of Aerobus :

Everything is expressed as types

The library serves two main purposes :

- Express algebra structures and associated operations in type arithmetic, compile-time;
- Provide portable and fast evaluation functions for polynomials.

It is designed to be 'quite easily' extensible.

Given these functions are "generated" at compile time and do not rely on inline assembly, they are actually platform independent, yielding exact same results if processors have same capabilities (such as Fused-Multiply-Add instructions).

1.1 HOW TO

- Clone or download the repository somewhere, or just download the aerobus.h
- In your code, add : `#include "aerobus.h"`
- Compile with -std=c++20 (at least) -I<install_location>

Aerobus provides a definition for low-degree (up to 997) Conway polynomials. To use them, define AEROBUS↩_CONWAY_IMPORTS before including aerobus.h.

1.1.1 Unit Test

Install Cmake Install a recent compiler (supporting c++20), such as MSVC, G++ or Clang++

Move to the top directory then :

```
cmake -S . -B build
cmake --build build
cd build && ctest
```

Terminal should write :

```
100% tests passed, 0 tests failed out of 48
```

Alternate way :

```
make tests
```

From top directory.

1.1.2 Benchmarks

Benchmarks are written for Intel CPUs having AVX512f and AVX512vl flags, they work only on Linux operating system using g++.

In addition of Cmake and compiler, install OpenMP. Then move to top directory :

```
rm -rf build
mkdir build
cd build
cmake ..
make aerobus_benchmarks
./aerobus_benchmarks
```

results on my laptop :

```
./benchmarks_avx512.exe
[std math] 5.358e-01 Gsin/s
[std fast math] 3.389e+00 Gsin/s
[aerobus deg 1] 1.871e+01 Gsin/s
average error (vs std) : 4.36e-02
max error (vs std) : 1.50e-01
[aerobus deg 3] 1.943e+01 Gsin/s
average error (vs std) : 1.85e-04
max error (vs std) : 8.17e-04
[aerobus deg 5] 1.335e+01 Gsin/s
average error (vs std) : 6.07e-07
max error (vs std) : 3.63e-06
[aerobus deg 7] 8.634e+00 Gsin/s
average error (vs std) : 1.27e-09
max error (vs std) : 9.75e-09
[aerobus deg 9] 6.171e+00 Gsin/s
average error (vs std) : 1.89e-12
max error (vs std) : 1.78e-11
[aerobus deg 11] 4.731e+00 Gsin/s
average error (vs std) : 2.12e-15
max error (vs std) : 2.40e-14
[aerobus deg 13] 3.862e+00 Gsin/s
average error (vs std) : 3.16e-17
max error (vs std) : 3.33e-16
[aerobus deg 15] 3.359e+00 Gsin/s
average error (vs std) : 3.13e-17
max error (vs std) : 3.33e-16
[aerobus deg 17] 2.947e+00 Gsin/s
average error (vs std) : 3.13e-17
max error (vs std) : 3.33e-16
average error (vs std) : 3.13e-17
max error (vs std) : 3.33e-16
```

1.2 Structures

1.2.1 Predefined discrete euclidean domains

Aerobus predefines several simple euclidean domains, such as :

- aerobus::i32 : integers (32 bits)
- aerobus::i64 : integers (64 bits)
- aerobus::zpz<p> : integers modulo p (prime number) on 32 bits

All these types represent the Ring, meaning the algebraic structure. They have a nested type val<i> where i is a scalar native value (int32_t or int64_t) to represent actual values in the ring. They have the following "operations", required by the IsEuclideanDomain concept :

- add_t : a type (specialization of val), representing addition between two values
- sub_t : a type (specialization of val), representing subtraction between two values
- mul_t : a type (specialization of val), representing multiplication between two values
- div_t : a type (specialization of val), representing division between two values
- mod_t : a type (specialization of val), representing modulus between two values

and the following "elements" :

- one : the neutral element for multiplication, val<1>
- zero : the neutral element for addition, val<0>

1.2.2 Polynomials

Aerobus defines polynomials as a variadic template structure, with coefficient in an arbitrary discrete euclidean domain. As i32 or i64, they are given same operations and elements, which make them a euclidean domain by themselves. Similarly, aerobus::polynomial represents the algebraic structure, actual values are in aerobus::polynomial::val.

In addition, values have an evaluation function :

```
template<typename valueRing> static constexpr valueRing eval(const valueRing& x) {...}
```

Which can be used at compile time (constexpr evaluation) or runtime.

1.2.3 Known polynomials

Aerobus predefines some well known families of polynomials, such as Hermite or Bernstein :
```
using B23 = aerobus::known_polynomials::bernstein<2, 3>; // 3X^2(1-X)
constexpr float x = B32::eval(2.0F); // -12
```

They have their coefficients either in aerobus::i64 or aerobus::q64. Complete list is (but is meant to be extended):

- chebyshev_T
- chebyshev_U
- laguerre
- hermite_prob
- hermite_phys
- bernstein
- legendre
- bernoulli

1.2.4 Conway polynomials

When the tag AEROBUS_CONWAY_IMPORTS is defined at compile time (-DAEROBUS_CONWAY_IMPORTS), aerobus provides definition for all Conway polynomials CP(p, n) for p up to 997 and low values for n (usually less than 10).

They can be used to construct finite fields of order p^n ($\mathbb{F}_{p^n}$):
```
using F2 = zpz<2>;
using PF2 = polynomial<F2>;
using F4 = Quotient<PF2, ConwayPolynomial<2, 2>::type>;
```

1.2.5 Taylor series

Aerobus provides definition for Taylor expansion of known functions. They are all templates in two parameters, degree of expansion (size_t) and Integers (typename). Coefficients then live in Fraction↩ Field<Integers>.

They can be used and evaluated:
```
using namespace aerobus;
using aero_atanh = atanh<i64, 6>;
constexpr float val = aero_atanh::eval(0.1F); // approximation of arctanh(0.1) using taylor expansion of
      degree 6
```

Exposed functions are:

- exp
- expm1 $e^x - 1$
- lnp1 $\ln(x+1)$
- geom $\frac{1}{1-x}$
- sin

- cos
- tan
- sh
- cosh
- tanh
- asin
- acos
- acosh
- asinh
- atanh

Having the capacity of specifying the degree is very important, as users may use other formats than float64 or float32 which require higher or lower degree to achieve correct or acceptable precision.

It's possible to define Taylor expansion by implementing a coeff_at structure which must meet the following requirement :

- Being template in Integers (typename) and index (size_t);
- Exposing a type alias type, some specialization of FractionField<Integers>::val.

For example, to define the serie $1 + x + x^2 + x^3 + \ldots$, users may write:

```
template<typename Integers, size_t i>
struct my_coeff_at {
    using type = typename FractionField<Integers>::one;
};

template<typename Integers, size_t degree>
using my_serie = taylor<Integers, my_coeff_at, degree>;

static constexpr double x = my_serie<i64, 3>::eval(3.0);
```

On x86-64 and CUDA platforms at least, using proper compiler directives, these functions yield very performant assembly, similar or better than standard library implementation in fast math. For example, this code:

```
double compute_expm1(const size_t N, double* in, double* out) {
    using V = aerobus::expm1<aerobus::i64, 13>;
    for (size_t i = 0; i < N; ++i) {
        out[i] = V::eval(in[i]);
    }
}
```

Yields this assembly (clang 17, -mavx2 -O3) where we can see a pile of Fused-Multiply-Add vector instructions, generated because we unrolled completely the Horner evaluation loop:

```
compute_expm1(unsigned long, double const*, double*):
  lea     rax, [rdi-1]
  cmp     rax, 2
  jbe     .L5
  mov     rcx, rdi
  xor     eax, eax
  vxorpd  xmm1, xmm1, xmm1
  vbroadcastsd    ymm14, QWORD PTR .LC1[rip]
  vbroadcastsd    ymm13, QWORD PTR .LC3[rip]
  shr     rcx, 2
  vbroadcastsd    ymm12, QWORD PTR .LC5[rip]
  vbroadcastsd    ymm11, QWORD PTR .LC7[rip]
  sal     rcx, 5
  vbroadcastsd    ymm10, QWORD PTR .LC9[rip]
  vbroadcastsd    ymm9, QWORD PTR .LC11[rip]
  vbroadcastsd    ymm8, QWORD PTR .LC13[rip]
  vbroadcastsd    ymm7, QWORD PTR .LC15[rip]
  vbroadcastsd    ymm6, QWORD PTR .LC17[rip]
  vbroadcastsd    ymm5, QWORD PTR .LC19[rip]
  vbroadcastsd    ymm4, QWORD PTR .LC21[rip]
```

```
  vbroadcastsd    ymm3, QWORD PTR .LC23[rip]
  vbroadcastsd    ymm2, QWORD PTR .LC25[rip]
.L3:
  vmovupd ymm15, YMMWORD PTR [rsi+rax]
  vmovapd ymm0, ymm15
  vfmadd132pd     ymm0, ymm14, ymm1
  vfmadd132pd     ymm0, ymm13, ymm15
  vfmadd132pd     ymm0, ymm12, ymm15
  vfmadd132pd     ymm0, ymm11, ymm15
  vfmadd132pd     ymm0, ymm10, ymm15
  vfmadd132pd     ymm0, ymm9, ymm15
  vfmadd132pd     ymm0, ymm8, ymm15
  vfmadd132pd     ymm0, ymm7, ymm15
  vfmadd132pd     ymm0, ymm6, ymm15
  vfmadd132pd     ymm0, ymm5, ymm15
  vfmadd132pd     ymm0, ymm4, ymm15
  vfmadd132pd     ymm0, ymm3, ymm15
  vfmadd132pd     ymm0, ymm2, ymm15
  vfmadd132pd     ymm0, ymm1, ymm15
  vmovupd YMMWORD PTR [rdx+rax], ymm0
  add     rax, 32
  cmp     rcx, rax
  jne     .L3
  mov     rax, rdi
  and     rax, -4
  vzeroupper
```

1.3 Operations

1.3.1 Field of fractions

Given a set (type) satisfies the `IsEuclideanDomain` concept, `Aerobus` allows to define its `field of fractions`.

This new type is again a euclidean domain, especially a field, and therefore we can define polynomials over it.

For example, integers modulo `p` is not a field when `p` is not prime. We then can define its field of fraction and polynomials over it this way:

```
using namespace aerobus;
using ZmZ = zpz<8>;
using Fzmz = FractionField<ZmZ>;
using Pfzmz = polynomial<Fzmz>;
```

The same operation would stand for any set that users would have implemented in place of `ZmZ`.

For example, we can easily define `rational functions` by taking the ring of fractions of polynomials:

```
using namespace aerobus;
using RF64 = FractionField<polynomial<q64>>;
```

Which also have an evaluation function, as polynomial do.

1.3.2 Quotient

Given a ring `R`, `Aerobus` provides automatic implementation for `quotient ring` R/X where X is a principal ideal generated by some element, as we know this kind of ideal is two-sided as long as `R` is commutative (and we assume it is).

For example, if we want `R` to be $\mathbb{Z}$ represented as `aerobus::i64`, we can express arithmetic modulo 17 using:

```
using namespace aerobus;
using ZpZ = Quotient<i64, i64::val<17>>;
```

As we could have using `zpz<17>`.

This is mainly used to define finite fields of order p^n using Conway polynomials but may have other applications.

1.4 Misc

1.4.1 Continued Fractions

Aerobus gives an implementation for continued fractions. It can be used this way:

```
using namespace aerobus;
using T = ContinuedFraction<1,2,3,4>;
constexpr double x = T::val;
```

As practical examples, aerobus gives continued fractions of π, e, $\sqrt{2}$ and $\sqrt{3}$:

```
constexpr double A_SQRT3 = aerobus::SQRT3_fraction::val; // 1.7320508075688772935
```

Chapter 2

Namespace Index

2.1 Namespace List

Here is a list of all namespaces with brief descriptions:

Chapter 3

Concept Index

3.1 Concepts

Here is a list of all concepts with brief descriptions:

Chapter 4

Class Index

4.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 5

File Index

5.1 File List

Here is a list of all files with brief descriptions:

Chapter 6

Namespace Documentation

6.1 aerobus Namespace Reference

main namespace for all publicly exposed types or functions

Namespaces

- namespace internal

  internal implementations, subject to breaking changes without notice
- namespace known_polynomials

  families of well known polynomials such as Hermite or Bernstein

Classes

- struct ContinuedFraction
- struct ContinuedFraction< a0 >

  Specialization for only one coefficient, technically just 'a0'.
- struct ContinuedFraction< a0, rest... >

  specialization for multiple coefficients (strictly more than one)
- struct ConwayPolynomial
- struct i32

  32 bits signed integers, seen as a algebraic ring with related operations
- struct i64

  64 bits signed integers, seen as a algebraic ring with related operations
- struct is_prime

  checks if n is prime
- struct polynomial
- struct Quotient

  Quotient ring by the principal ideal generated by 'X' With i32 as Ring and i32::val<2> as X, Quotient is Z/2Z.
- struct type_list

  Empty pure template struct to handle type list.
- struct type_list<>

  specialization for empty type list
- struct zpz

Concepts

- concept IsRing

  Concept to express R is a Ring.
- concept IsEuclideanDomain

  Concept to express R is an euclidean domain.
- concept IsField

  Concept to express R is a field.

Typedefs

- template<typename T , typename A , typename B >
  using gcd_t = typename internal::gcd< T >::template type< A, B >

  computes the greatest common divisor or A and B
- template<typename... vals>
  using vadd_t = typename internal::vadd< vals... >::type

  adds multiple values (v1 + v2 + ... + vn) vals must have same "enclosing_type" and "enclosing_type" must have an add_t binary operator
- template<typename... vals>
  using vmul_t = typename internal::vmul< vals... >::type

  multiplies multiple values (v1 + v2 + ... + vn) vals must have same "enclosing_type" and "enclosing_type" must have an mul_t binary operator
- template<typename val >
  using abs_t = std::conditional_t< val::enclosing_type::template pos_v< val >, val, typename val::enclosing↩
  _type::template sub_t< typename val::enclosing_type::zero, val > >

  computes absolute value of 'val' val must be a 'value' in a Ring satisfying 'IsEuclideanDomain' concept
- template<typename Ring >
  using FractionField = typename internal::FractionFieldImpl< Ring >::type
- using q32 = FractionField< i32 >

  32 bits rationals rationals with 32 bits numerator and denominator
- using fpq32 = FractionField< polynomial< q32 > >

  rational fractions with 32 bits rational coefficients rational fractions with rationals coefficients (32 bits numerator and denominator)
- using q64 = FractionField< i64 >

  64 bits rationals rationals with 64 bits numerator and denominator
- using pi64 = polynomial< i64 >

  polynomial with 64 bits integers coefficients
- using pq64 = polynomial< q64 >

  polynomial with 64 bits rationals coefficients
- using fpq64 = FractionField< polynomial< q64 > >

  polynomial with 64 bits rational coefficients
- template<typename Ring , typename v1 , typename v2 >
  using makefraction_t = typename FractionField< Ring >::template val< v1, v2 >

  helper type : the rational V1/V2 in the field of fractions of Ring
- template<int64_t p, int64_t q>
  using make_q64_t = typename q64::template simplify_t< typename q64::val< i64::inject_constant_t< p >, i64::inject_constant_t< q > > >

  helper type : make a fraction from numerator and denominator
- template<int32_t p, int32_t q>
  using make_q32_t = typename q32::template simplify_t< typename q32::val< i32::inject_constant_t< p >, i32::inject_constant_t< q > > >

  helper type : make a fraction from numerator and denominator

- template<typename Ring , typename v1 , typename v2 >
  using addfractions_t = typename FractionField< Ring >::template add_t< v1, v2 >

  helper type : adds two fractions
- template<typename Ring , typename v1 , typename v2 >
  using mulfractions_t = typename FractionField< Ring >::template mul_t< v1, v2 >

  helper type : multiplies two fractions
- template<typename T , size_t i>
  using factorial_t = typename internal::factorial< T, i >::type

  computes factorial(i), as type
- template<typename T , size_t k, size_t n>
  using combination_t = typename internal::combination< T, k, n >::type

  computes binomial coefficient (k among n) as type
- template<typename T , size_t n>
  using bernoulli_t = typename internal::bernoulli< T, n >::type

  nth bernoulli number as type in T
- template<typename T , size_t n>
  using bell_t = typename internal::bell_helper< T, n >::type

  Bell numbers.
- template<typename T , int k>
  using alternate_t = typename internal::alternate< T, k >::type

  (-1)^k as type in T
- template<typename T , int n, int k>
  using stirling_signed_t = typename internal::stirling_helper< T, n, k >::type

  Stirling number of first king (signed) – as types.
- template<typename T , int n, int k>
  using stirling_unsigned_t = abs_t< typename internal::stirling_helper< T, n, k >::type >

  Stirling number of first king (unsigned) – as types.
- template<typename T , typename p , size_t n>
  using pow_t = typename internal::pow< T, p, n >::type

  p^n (as 'val' type in T)
- template<typename T , template< typename, size_t index > typename coeff_at, size_t deg>
  using taylor = typename internal::make_taylor_impl< T, coeff_at, internal::make_index_sequence_reverse< deg+1 > >::type
- template<typename Integers , size_t deg>
  using exp = taylor< Integers, internal::exp_coeff, deg >

  e^x
- template<typename Integers , size_t deg>
  using expm1 = typename polynomial< FractionField< Integers > >::template sub_t< exp< Integers, deg >, typename polynomial< FractionField< Integers > >::one >

  $e^x - 1$
- template<typename Integers , size_t deg>
  using lnp1 = taylor< Integers, internal::lnp1_coeff, deg >

  $\ln(1+x)$
- template<typename Integers , size_t deg>
  using atan = taylor< Integers, internal::atan_coeff, deg >

  $\arctan(x)$
- template<typename Integers , size_t deg>
  using sin = taylor< Integers, internal::sin_coeff, deg >

  $\sin(x)$
- template<typename Integers , size_t deg>
  using sinh = taylor< Integers, internal::sh_coeff, deg >

  $\sinh(x)$
- template<typename Integers , size_t deg>
  using cosh = taylor< Integers, internal::cosh_coeff, deg >

$\cosh(x)$ *hyperbolic cosine*

- template<typename Integers , size_t deg>
  using cos = taylor< Integers, internal::cos_coeff, deg >

  $\cos(x)$ *cosinus*
- template<typename Integers , size_t deg>
  using geometric_sum = taylor< Integers, internal::geom_coeff, deg >

  $\frac{1}{1-x}$ *zero development of* $\frac{1}{1-x}$
- template<typename Integers , size_t deg>
  using asin = taylor< Integers, internal::asin_coeff, deg >

  $\arcsin(x)$ *arc sinus*
- template<typename Integers , size_t deg>
  using asinh = taylor< Integers, internal::asinh_coeff, deg >

  $\operatorname{arcsinh}(x)$ *arc hyperbolic sinus*
- template<typename Integers , size_t deg>
  using atanh = taylor< Integers, internal::atanh_coeff, deg >

  $\operatorname{arctanh}(x)$ *arc hyperbolic tangent*
- template<typename Integers , size_t deg>
  using tan = taylor< Integers, internal::tan_coeff, deg >

  $\tan(x)$ *tangent*
- template<typename Integers , size_t deg>
  using tanh = taylor< Integers, internal::tanh_coeff, deg >

  $\tanh(x)$ *hyperbolic tangent*
- using PI_fraction = ContinuedFraction< 3, 7, 15, 1, 292, 1, 1, 1, 2, 1, 3, 1, 14, 2, 1, 1, 2, 2, 2, 2, 1 >
- using E_fraction = ContinuedFraction< 2, 1, 2, 1, 1, 4, 1, 1, 6, 1, 1, 8, 1, 1, 10, 1, 1, 12, 1, 1, 14, 1, 1 >
- using SQRT2_fraction = ContinuedFraction< 1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2 >

  approximation of $\sqrt{2}$
- using SQRT3_fraction = ContinuedFraction< 1, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2 >

  approximation of

Functions

- template<typename T >
  T * aligned_malloc (size_t count, size_t alignment)
- brief Conway polynomials tparam p characteristic of the field (prime number) @tparam n degree of extension template< int p

Variables

- template<typename T , size_t i>
  constexpr T::inner_type factorial_v = internal::factorial<T, i>::value

  computes factorial(i) as value in T
- template<typename T , size_t k, size_t n>
  constexpr T::inner_type combination_v = internal::combination<T, k, n>::value

  computes binomial coefficients (k among n) as value
- template<typename FloatType , typename T , size_t n>
  constexpr FloatType bernoulli_v = internal::bernoulli<T, n>::template value<FloatType>

  nth bernoulli number as value in FloatType
- template<typename T , size_t k>
  constexpr T::inner_type alternate_v = internal::alternate<T, k>::value

  (-1)^k as value from T

6.1.1 Detailed Description

main namespace for all publicly exposed types or functions

6.1.2 Typedef Documentation

6.1.2.1 abs_t

```
template<typename val >
using aerobus::abs_t = typedef std::conditional_t< val::enclosing_type::template pos_v<val>,
val, typename val::enclosing_type::template sub_t<typename val::enclosing_type::zero, val> >
```

computes absolute value of 'val' val must be a 'value' in a Ring satisfying 'IsEuclideanDomain' concept

Template Parameters

val	a value in a RIng, such as i64::val<-2>

6.1.2.2 addfractions_t

```
template<typename Ring , typename v1 , typename v2 >
using aerobus::addfractions_t = typedef typename FractionField<Ring>::template add_t<v1, v2>
```

helper type : adds two fractions

Template Parameters

Ring	
v1	belongs to FractionField<Ring>
v2	belongs to FranctionField<Ring>

6.1.2.3 alternate_t

```
template<typename T , int k>
using aerobus::alternate_t = typedef typename internal::alternate<T, k>::type
```

(-1)^k as type in T

Template Parameters

T	Ring type, aerobus::i64 for example

6.1.2.4 asin

```
template<typename Integers , size_t deg>
```

```
using aerobus::asin = typedef taylor<Integers, internal::asin_coeff, deg>
```

$\arcsin(x)$ arc sinus

Template Parameters

Integers	Ring type (for example i64)
deg	taylor approximation degree

6.1.2.5 asinh

```
template<typename Integers , size_t deg>
using aerobus::asinh = typedef taylor<Integers, internal::asinh_coeff, deg>
```

$\operatorname{arcsinh}(x)$ arc hyperbolic sinus

Template Parameters

Integers	Ring type (for example i64)
deg	taylor approximation degree

6.1.2.6 atan

```
template<typename Integers , size_t deg>
using aerobus::atan = typedef taylor<Integers, internal::atan_coeff, deg>
```

$\arctan(x)$

Template Parameters

Integers	Ring type (for example i64)
deg	taylor approximation degree

6.1.2.7 atanh

```
template<typename Integers , size_t deg>
using aerobus::atanh = typedef taylor<Integers, internal::atanh_coeff, deg>
```

$\operatorname{arctanh}(x)$ arc hyperbolic tangent

Template Parameters

Integers	Ring type (for example i64)
deg	taylor approximation degree

6.1.2.8 bell_t

```
template<typename T , size_t n>
using aerobus::bell_t = typedef typename internal::bell_helper<T, n>::type
```

Bell numbers.

Template Parameters

T	ring type, such as aerobus::i64
n	index

6.1.2.9 bernoulli_t

```
template<typename T , size_t n>
using aerobus::bernoulli_t = typedef typename internal::bernoulli<T, n>::type
```

nth bernoulli number as type in T

Template Parameters

T	Ring type (i64)
n	

6.1.2.10 combination_t

```
template<typename T , size_t k, size_t n>
using aerobus::combination_t = typedef typename internal::combination<T, k, n>::type
```

computes binomial coefficient (k among n) as type

Template Parameters

T	Ring type (i32 for example)

6.1.2.11 cos

```
template<typename Integers , size_t deg>
using aerobus::cos = typedef taylor<Integers, internal::cos_coeff, deg>
```

$\cos(x)$ cosinus

Template Parameters

Integers	Ring type (for example i64)
deg	taylor approximation degree

6.1.2.12 cosh

```
template<typename Integers , size_t deg>
using aerobus::cosh = typedef taylor<Integers, internal::cosh_coeff, deg>
```

$\cosh(x)$ hyperbolic cosine

Template Parameters

Integers	Ring type (for example i64)
deg	taylor approximation degree

6.1.2.13 E_fraction

```
using aerobus::E_fraction = typedef ContinuedFraction<2, 1, 2, 1, 1, 4, 1, 1, 6, 1, 1, 8, 1,
1, 10, 1, 1, 12, 1, 1, 14, 1, 1>
```

6.1.2.14 exp

```
template<typename Integers , size_t deg>
using aerobus::exp = typedef taylor<Integers, internal::exp_coeff, deg>
```

e^x

Template Parameters

Integers	Ring type (for example i64)
deg	taylor approximation degree

6.1.2.15 expm1

```
template<typename Integers , size_t deg>
using aerobus::expm1 = typedef typename polynomial<FractionField<Integers> >::template sub_↩
t< exp<Integers, deg>, typename polynomial<FractionField<Integers> >::one>
```

$e^x - 1$

Template Parameters

T	Ring type (for example i64)
deg	taylor approximation degree

6.1.2.16 factorial_t

```
template<typename T , size_t i>
using aerobus::factorial_t = typedef typename internal::factorial<T, i>::type
```

computes factorial(i), as type

Template Parameters

T	Ring type (e.g. i32)
i	

6.1.2.17 fpq32

```
using aerobus::fpq32 = typedef FractionField<polynomial<q32> >
```

rational fractions with 32 bits rational coefficients rational fractions with rationals coefficients (32 bits numerator and denominator)

6.1.2.18 fpq64

```
using aerobus::fpq64 = typedef FractionField<polynomial<q64> >
```

polynomial with 64 bits rational coefficients

6.1.2.19 FractionField

```
template<typename Ring >
using aerobus::FractionField = typedef typename internal::FractionFieldImpl<Ring>::type
```

6.1.2.20 gcd_t

```
template<typename T , typename A , typename B >
using aerobus::gcd_t = typedef typename internal::gcd<T>::template type<A, B>
```

computes the greatest common divisor or A and B

Template Parameters

T	Ring type (must be euclidean domain)

6.1.2.21 geometric_sum

```
template<typename Integers , size_t deg>
using aerobus::geometric_sum = typedef taylor<Integers, internal::geom_coeff, deg>
```

$\frac{1}{1-x}$ zero development of $\frac{1}{1-x}$

Template Parameters

Integers	Ring type (for example i64)
deg	taylor approximation degree

6.1.2.22 lnp1

```
template<typename Integers , size_t deg>
using aerobus::lnp1 = typedef taylor<Integers, internal::lnp1_coeff, deg>
```

$\ln(1+x)$

Template Parameters

T	Ring type (for example i64)
deg	taylor approximation degree

6.1.2.23 make_q32_t

```
template<int32_t p, int32_t q>
using aerobus::make_q32_t = typedef typename q32::template simplify_t< typename q32::val<i32::inject_constant
i32::inject_constant_t<q> >>
```

helper type : make a fraction from numerator and denominator

Template Parameters

p	numerator
q	denominator

6.1.2.24 make_q64_t

```
template<int64_t p, int64_t q>
using aerobus::make_q64_t = typedef typename q64::template simplify_t< typename q64::val<i64::inject_constant
i64::inject_constant_t<q> >>
```

helper type : make a fraction from numerator and denominator

Template Parameters

p	numerator
q	denominator

6.1.2.25 makefraction_t

```
template<typename Ring , typename v1 , typename v2 >
using aerobus::makefraction_t = typedef typename FractionField<Ring>::template val<v1, v2>
```

helper type : the rational V1/V2 in the field of fractions of Ring

Template Parameters

Ring	the base ring
v1	value 1 in Ring
v2	value 2 in Ring

6.1.2.26 mulfractions_t

```
template<typename Ring , typename v1 , typename v2 >
using aerobus::mulfractions_t = typedef typename FractionField<Ring>::template mul_t<v1, v2>
```

helper type : multiplies two fractions

Template Parameters

Ring	
v1	belongs to FractionField<Ring>
v2	belongs to FranctionField<Ring>

6.1.2.27 pi64

```
using aerobus::pi64 = typedef polynomial<i64>
```

polynomial with 64 bits integers coefficients

6.1.2.28 PI_fraction

```
using aerobus::PI_fraction = typedef ContinuedFraction<3, 7, 15, 1, 292, 1, 1, 1, 2, 1, 3, 1,
14, 2, 1, 1, 2, 2, 2, 2, 1>
```

6.1.2.29 pow_t

```
template<typename T , typename p , size_t n>
using aerobus::pow_t = typedef typename internal::pow<T, p, n>::type
```

p^n (as 'val' type in T)

Template Parameters

T	(some ring type, such as aerobus::i64)
p	must be an instantiation of T::val
n	power

6.1.2.30 pq64

```
using aerobus::pq64 = typedef polynomial<q64>
```

polynomial with 64 bits rationals coefficients

6.1.2.31 q32

```
using aerobus::q32 = typedef FractionField<i32>
```

32 bits rationals rationals with 32 bits numerator and denominator

6.1.2.32 q64

```
using aerobus::q64 = typedef FractionField<i64>
```

64 bits rationals rationals with 64 bits numerator and denominator

6.1.2.33 sin

```
template<typename Integers , size_t deg>
using aerobus::sin = typedef taylor<Integers, internal::sin_coeff, deg>
```

$\sin(x)$

Template Parameters

Integers	Ring type (for example i64)
deg	taylor approximation degree

6.1.2.34 sinh

```
template<typename Integers , size_t deg>
using aerobus::sinh = typedef taylor<Integers, internal::sh_coeff, deg>
```

$\sinh(x)$

Template Parameters

Integers	Ring type (for example i64)
deg	taylor approximation degree

6.1.2.35 SQRT2_fraction

```
using aerobus::SQRT2_fraction = typedef ContinuedFraction<1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,
```

```
2, 2, 2, 2, 2, 2, 2, 2, 2, 2>
```

approximation of $\sqrt{2}$

6.1.2.36 SQRT3_fraction

```
using aerobus::SQRT3_fraction = typedef ContinuedFraction<1, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1,
2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2>
```

approximation of

6.1.2.37 stirling_signed_t

```
template<typename T , int n, int k>
using aerobus::stirling_signed_t = typedef typename internal::stirling_helper<T, n, k>::type
```

Stirling number of first king (signed) – as types.

Template Parameters

T	(ring type, such as aerobus::i64)
n	(integer)
k	(integer)

6.1.2.38 stirling_unsigned_t

```
template<typename T , int n, int k>
using aerobus::stirling_unsigned_t = typedef abs_t<typename internal::stirling_helper<T, n,
k>::type>
```

Stirling number of first king (unsigned) – as types.

Template Parameters

T	(ring type, such as aerobus::i64)
n	(integer)
k	(integer)

6.1.2.39 tan

```
template<typename Integers , size_t deg>
using aerobus::tan = typedef taylor<Integers, internal::tan_coeff, deg>
```

$\tan(x)$ tangent

Template Parameters

Integers	Ring type (for example i64)
deg	taylor approximation degree

6.1.2.40 tanh

```
template<typename Integers , size_t deg>
using aerobus::tanh = typedef taylor<Integers, internal::tanh_coeff, deg>
```

$\tanh(x)$ hyperbolic tangent

Template Parameters

Integers	Ring type (for example i64)
deg	taylor approximation degree

6.1.2.41 taylor

```
template<typename T , template< typename, size_t index > typename coeff_at, size_t deg>
using aerobus::taylor = typedef typename internal::make_taylor_impl< T, coeff_at, internal::make_index_sequenc
+ 1> >::type
```

Template Parameters

T	Used Ring type (aerobus::i64 for example)
coeff↩ _at	- implementation giving the 'value' (seen as type in FractionField<T>
deg	

6.1.2.42 vadd_t

```
template<typename...  vals>
using aerobus::vadd_t = typedef typename internal::vadd<vals...>::type
```

adds multiple values (v1 + v2 + ... + vn) vals must have same "enclosing_type" and "enclosing_type" must have an add_t binary operator

Template Parameters

...vals	

6.1.2.43 vmul_t

```
template<typename...  vals>
```

```
using aerobus::vmul_t = typedef typename internal::vmul<vals...>::type
```

multiplies multiple values (v1 + v2 + ... + vn) vals must have same "enclosing_type" and "enclosing_type" must have an mul_t binary operator

Template Parameters

...vals	

6.1.3 Function Documentation

6.1.3.1 aligned_malloc()

```
template<typename T >
T * aerobus::aligned_malloc (
            size_t count,
            size_t alignment )
```

'portable' aligned allocation of count elements of type T

Template Parameters

T	the type of elements to store

Parameters

count	the number of elements
alignment	boundary

6.1.3.2 field()

```
brief Conway polynomials tparam p characteristic of the aerobus::field (
            prime number )
```

6.1.4 Variable Documentation

6.1.4.1 alternate_v

```
template<typename T , size_t k>
constexpr T::inner_type aerobus::alternate_v = internal::alternate<T, k>::value  [inline],
[constexpr]
```

(-1)^k as value from T

Template Parameters

T	Ring type, aerobus::i64 for example, then result will be an int64_t

6.1.4.2 bernoulli_v

```
template<typename FloatType , typename T , size_t n>
constexpr FloatType aerobus::bernoulli_v = internal::bernoulli<T, n>::template value<Float↩
Type>  [inline], [constexpr]
```

nth bernoulli number as value in FloatType

Template Parameters

FloatType	(double or float for example)
T	(aerobus::i64 for example)
n	

6.1.4.3 combination_v

```
template<typename T , size_t k, size_t n>
constexpr T::inner_type aerobus::combination_v = internal::combination<T, k, n>::value  [inline],
[constexpr]
```

computes binomial coefficients (k among n) as value

Template Parameters

T	(aerobus::i32 for example)
k	
n	

6.1.4.4 factorial_v

```
template<typename T , size_t i>
constexpr T::inner_type aerobus::factorial_v = internal::factorial<T, i>::value  [inline],
[constexpr]
```

computes factorial(i) as value in T

Template Parameters

T	(aerobus::i64 for example)
i	

6.2 aerobus::internal Namespace Reference

internal implementations, subject to breaking changes without notice

Classes

- struct **_FractionField**
- struct **_FractionField**< **Ring, std::enable_if_t**< **Ring::is_euclidean_domain** > >
- struct **_is_prime**
- struct **_is_prime**< **0, i** >
- struct **_is_prime**< **1, i** >
- struct **_is_prime**< **2, i** >
- struct **_is_prime**< **3, i** >
- struct **_is_prime**< **5, i** >
- struct **_is_prime**< **7, i** >
- struct **_is_prime**< **n, i, std::enable_if_t**<**(n !=2 &&n !=3 &&n % 2 !=0 &&n % 3==0)**> >
- struct **_is_prime**< **n, i, std::enable_if_t**<**(n !=2 &&n % 2==0)**> >
- struct **_is_prime**< **n, i, std::enable_if_t**<**(n % i==0 &&n** >**=9 &&n % 3 !=0 &&n % 2 !=0 &&i** ∗**i** > **n)**> >
- struct **_is_prime**< **n, i, std::enable_if_t**<**(n %(i+2) !=0 &&n % i !=0 &&n** >**=9 &&n % 3 !=0 &&n % 2 !=0 &&(i** ∗**i**<**=n))**> >
- struct **_is_prime**< **n, i, std::enable_if_t**<**(n %(i+2)==0 &&n** >**=9 &&n % 3 !=0 &&n % 2 !=0 &&i** ∗**i**<**=n)**> >
- struct **_is_prime**< **n, i, std::enable_if_t**<**(n** >**=9 &&i** ∗**i** > **n)**> >
- struct **alternate**
- struct **alternate**< **T, k, std::enable_if_t**< **k % 2 !=0** > >
- struct **alternate**< **T, k, std::enable_if_t**< **k % 2==0** > >
- struct **asin_coeff**
- struct **asin_coeff_helper**
- struct **asin_coeff_helper**< **T, i, std::enable_if_t**<**(i &1)==0** > >
- struct **asin_coeff_helper**< **T, i, std::enable_if_t**<**(i &1)==1** > >
- struct **asinh_coeff**
- struct **asinh_coeff_helper**
- struct **asinh_coeff_helper**< **T, i, std::enable_if_t**<**(i &1)==0** > >
- struct **asinh_coeff_helper**< **T, i, std::enable_if_t**<**(i &1)==1** > >
- struct **atan_coeff**
- struct **atan_coeff_helper**
- struct **atan_coeff_helper**< **T, i, std::enable_if_t**<**(i &1)==0** > >
- struct **atan_coeff_helper**< **T, i, std::enable_if_t**<**(i &1)==1** > >
- struct **atanh_coeff**
- struct **atanh_coeff_helper**
- struct **atanh_coeff_helper**< **T, i, std::enable_if_t**<**(i &1)==0** > >
- struct **atanh_coeff_helper**< **T, i, std::enable_if_t**<**(i &1)==1** > >
- struct **bell_helper**
- struct **bell_helper**< **T, 0** >
- struct **bell_helper**< **T, 1** >
- struct **bell_helper**< **T, n, std::enable_if_t**<**(n** > **1)**> >
- struct **bernoulli**
- struct **bernoulli**< **T, 0** >
- struct **bernoulli_coeff**
- struct **bernoulli_helper**
- struct **bernoulli_helper**< **T, accum, m, m** >
- struct **bernstein_helper**
- struct **bernstein_helper**< **0, 0** >

- struct **bernstein_helper< i, m, std::enable_if_t<(m > 0) &&(i > 0) &&(i< m)> >**
- struct **bernstein_helper< i, m, std::enable_if_t<(m > 0) &&(i==0)> >**
- struct **bernstein_helper< i, m, std::enable_if_t<(m > 0) &&(i==m)> >**
- struct **chebyshev_helper**
- struct **chebyshev_helper< 1, 0 >**
- struct **chebyshev_helper< 1, 1 >**
- struct **chebyshev_helper< 2, 0 >**
- struct **chebyshev_helper< 2, 1 >**
- struct **combination**
- struct **combination_helper**
- struct **combination_helper< T, 0, n >**
- struct **combination_helper< T, k, n, std::enable_if_t<(n >=0 &&k >(n/2) &&k > 0)> >**
- struct **combination_helper< T, k, n, std::enable_if_t<(n >=0 &&k<=(n/2) &&k > 0)> >**
- struct **cos_coeff**
- struct **cos_coeff_helper**
- struct **cos_coeff_helper< T, i, std::enable_if_t<(i &1)==0 > >**
- struct **cos_coeff_helper< T, i, std::enable_if_t<(i &1)==1 > >**
- struct **cosh_coeff**
- struct **cosh_coeff_helper**
- struct **cosh_coeff_helper< T, i, std::enable_if_t<(i &1)==0 > >**
- struct **cosh_coeff_helper< T, i, std::enable_if_t<(i &1)==1 > >**
- struct **exp_coeff**
- struct **factorial**
- struct **factorial< T, 0 >**
- struct **factorial< T, x, std::enable_if_t<(x > 0)> >**
- struct **FractionFieldImpl**
- struct **FractionFieldImpl< Field, std::enable_if_t< Field::is_field > >**
- struct **FractionFieldImpl< Ring, std::enable_if_t<!Ring::is_field > >**
- struct **gcd**

  greatest common divisor computes the greatest common divisor exposes it in gcd<A, B>::type as long as Ring type is an integral domain
- struct **gcd< Ring, std::enable_if_t< Ring::is_euclidean_domain > >**
- struct **geom_coeff**
- struct **hermite_helper**
- struct **hermite_helper< 0, known_polynomials::hermite_kind::physicist >**
- struct **hermite_helper< 0, known_polynomials::hermite_kind::probabilist >**
- struct **hermite_helper< 1, known_polynomials::hermite_kind::physicist >**
- struct **hermite_helper< 1, known_polynomials::hermite_kind::probabilist >**
- struct **hermite_helper< deg, known_polynomials::hermite_kind::physicist >**
- struct **hermite_helper< deg, known_polynomials::hermite_kind::probabilist >**
- struct **insert_h**
- struct **is_instantiation_of**
- struct **is_instantiation_of< TT, TT< Ts... > >**
- struct **laguerre_helper**
- struct **laguerre_helper< 0 >**
- struct **laguerre_helper< 1 >**
- struct **legendre_helper**
- struct **legendre_helper< 0 >**
- struct **legendre_helper< 1 >**
- struct **lnp1_coeff**
- struct **lnp1_coeff< T, 0 >**
- struct **make_taylor_impl**
- struct **make_taylor_impl< T, coeff_at, std::integer_sequence< size_t, Is... > >**
- struct **pop_front_h**

- struct **pow**
- struct **pow**< **T, p, n, std::enable_if_t**< **n==0** > >
- struct **pow**< **T, p, n, std::enable_if_t**<**(n % 2==1)**> >
- struct **pow**< **T, p, n, std::enable_if_t**<**(n** > **0 &&n % 2==0)**> >
- struct **pow_scalar**
- struct **remove_h**
- struct **sh_coeff**
- struct **sh_coeff_helper**
- struct **sh_coeff_helper**< **T, i, std::enable_if_t**<**(i &1)==0** > >
- struct **sh_coeff_helper**< **T, i, std::enable_if_t**<**(i &1)==1** > >
- struct **sin_coeff**
- struct **sin_coeff_helper**
- struct **sin_coeff_helper**< **T, i, std::enable_if_t**<**(i &1)==0** > >
- struct **sin_coeff_helper**< **T, i, std::enable_if_t**<**(i &1)==1** > >
- struct **split_h**
- struct **split_h**< **0, L1, L2** >
- struct **stirling_helper**
- struct **stirling_helper**< **T, 0, 0** >
- struct **stirling_helper**< **T, 0, n, std::enable_if_t**<**(n** > **0)**> >
- struct **stirling_helper**< **T, n, 0, std::enable_if_t**<**(n** > **0)**> >
- struct **stirling_helper**< **T, n, k, std::enable_if_t**<**(k** > **0) &&(n** > **0)**> >
- struct **tan_coeff**
- struct **tan_coeff_helper**
- struct **tan_coeff_helper**< **T, i, std::enable_if_t**<**(i % 2) !=0** > >
- struct **tan_coeff_helper**< **T, i, std::enable_if_t**<**(i % 2)==0** > >
- struct **tanh_coeff**
- struct **tanh_coeff_helper**
- struct **tanh_coeff_helper**< **T, i, std::enable_if_t**<**(i % 2) !=0** > >
- struct **tanh_coeff_helper**< **T, i, std::enable_if_t**<**(i % 2)==0** > >
- struct **type_at**
- struct **type_at**< **0, T, Ts...** >
- struct **vadd**
- struct **vadd**< **v1** >
- struct **vadd**< **v1, vals...** >
- struct **vmul**
- struct **vmul**< **v1** >
- struct **vmul**< **v1, vals...** >

Typedefs

- template<size_t i, typename... Ts>
  using type_at_t = typename type_at< i, Ts... >::type
- template<std::size_t N>
  using make_index_sequence_reverse = decltype(index_sequence_reverse(std::make_index_sequence< N >{}))

Functions

- template<std::size_t... Is>
  constexpr auto index_sequence_reverse (std::index_sequence< Is... > const &) -> decltype(std::index_↩ sequence< sizeof...(Is) - 1U - Is... >{})

Variables

- template<template< typename... > typename TT, typename T >
  constexpr bool is_instantiation_of_v = is_instantiation_of<TT, T>::value

6.2.1 Detailed Description

internal implementations, subject to breaking changes without notice

6.2.2 Typedef Documentation

6.2.2.1 make_index_sequence_reverse

```
template<std::size_t N>
using aerobus::internal::make_index_sequence_reverse = typedef decltype(index_sequence_reverse(std↩
::make_index_sequence<N>{}))
```

6.2.2.2 type_at_t

```
template<size_t i, typename...  Ts>
using aerobus::internal::type_at_t = typedef typename type_at<i, Ts...>::type
```

6.2.3 Function Documentation

6.2.3.1 index_sequence_reverse()

```
template<std::size_t...  Is>
constexpr auto aerobus::internal::index_sequence_reverse (
            std::index_sequence< Is...  > const &  ) -> decltype(std::index_sequence< sizeof...(Is)
- 1U - Is...  >{})  [constexpr]
```

6.2.4 Variable Documentation

6.2.4.1 is_instantiation_of_v

```
template<template< typename...  > typename TT, typename T >
constexpr bool aerobus::internal::is_instantiation_of_v = is_instantiation_of<TT, T>::value
[inline], [constexpr]
```

6.3 aerobus::known_polynomials Namespace Reference

families of well known polynomials such as Hermite or Bernstein

Typedefs

- template<size_t deg>
  using chebyshev_T = typename internal::chebyshev_helper< 1, deg >::type

  Chebyshev polynomials of first kind.
- template<size_t deg>
  using chebyshev_U = typename internal::chebyshev_helper< 2, deg >::type

  Chebyshev polynomials of second kind.
- template<size_t deg>
  using laguerre = typename internal::laguerre_helper< deg >::type

  Laguerre polynomials.
- template<size_t deg>
  using hermite_prob = typename internal::hermite_helper< deg, hermite_kind::probabilist >::type

  Hermite polynomials - probabilist form.
- template<size_t deg>
  using hermite_phys = typename internal::hermite_helper< deg, hermite_kind::physicist >::type

  Hermite polynomials - physicist form.
- template<size_t i, size_t m>
  using bernstein = typename internal::bernstein_helper< i, m >::type

  Bernstein polynomials.
- template<size_t deg>
  using legendre = typename internal::legendre_helper< deg >::type

  Legendre polynomials.
- template<size_t deg>
  using bernoulli = taylor< i64, internal::bernoulli_coeff< deg >::template inner, deg >

  Bernoulli polynomials.

Enumerations

- enum hermite_kind { probabilist , physicist }

6.3.1 Detailed Description

families of well known polynomials such as Hermite or Bernstein

6.3.2 Typedef Documentation

6.3.2.1 bernoulli

```
template<size_t deg>
using aerobus::known_polynomials::bernoulli = typedef taylor<i64, internal::bernoulli_coeff<deg>↩
::template inner, deg>
```

Bernoulli polynomials.

See also

See in Wikipedia

Template Parameters

deg	degree of polynomial

6.3.2.2 bernstein

```
template<size_t i, size_t m>
using aerobus::known_polynomials::bernstein = typedef typename internal::bernstein_helper<i,
m>::type
```

Bernstein polynomials.

See also

See in Wikipedia

Template Parameters

i	index of polynomial (between 0 and m)
m	degree of polynomial

6.3.2.3 chebyshev_T

```
template<size_t deg>
using aerobus::known_polynomials::chebyshev_T = typedef typename internal::chebyshev_helper<1,
deg>::type
```

Chebyshev polynomials of first kind.

See also

See in Wikipedia

Template Parameters

deg	degree of polynomial

6.3.2.4 chebyshev_U

```
template<size_t deg>
using aerobus::known_polynomials::chebyshev_U = typedef typename internal::chebyshev_helper<2,
deg>::type
```

Chebyshev polynomials of second kind.

See also

See in Wikipedia

Template Parameters

deg	degree of polynomial

6.3.2.5 hermite_phys

```
template<size_t deg>
using aerobus::known_polynomials::hermite_phys = typedef typename internal::hermite_helper<deg,
hermite_kind::physicist>::type
```

Hermite polynomials - physicist form.

See also

See in Wikipedia

Template Parameters

deg	degree of polynomial

6.3.2.6 hermite_prob

```
template<size_t deg>
using aerobus::known_polynomials::hermite_prob = typedef typename internal::hermite_helper<deg,
hermite_kind::probabilist>::type
```

Hermite polynomials - probabilist form.

See also

See in Wikipedia

Template Parameters

deg	degree of polynomial

6.3.2.7 laguerre

```
template<size_t deg>
using aerobus::known_polynomials::laguerre = typedef typename internal::laguerre_helper<deg>↩
::type
```

Laguerre polynomials.

See also

See in Wikipedia

Template Parameters

deg	degree of polynomial

6.3.2.8 legendre

```
template<size_t deg>
using aerobus::known_polynomials::legendre = typedef typename internal::legendre_helper<deg>↩
::type
```

Legendre polynomials.

See also

See in Wikipedia

Template Parameters

deg	degree of polynomial

6.3.3 Enumeration Type Documentation

6.3.3.1 hermite_kind

```
enum aerobus::known_polynomials::hermite_kind
```

Enumerator

probabilist	
physicist	

Chapter 7

Concept Documentation

7.1 aerobus::IsEuclideanDomain Concept Reference

Concept to express R is an euclidean domain.

`#include <aerobus.h>`

7.1.1 Concept definition

```
template<typename R>
concept aerobus::IsEuclideanDomain =  IsRing<R> && requires {
        typename R::template div_t<typename R::one, typename R::one>;
        typename R::template mod_t<typename R::one, typename R::one>;
        typename R::template gcd_t<typename R::one, typename R::one>;
        typename R::template eq_t<typename R::one, typename R::one>;
        typename R::template pos_t<typename R::one>;

        R::template pos_v<typename R::one> == true;

        R::is_euclidean_domain == true;
    }
```

7.1.2 Detailed Description

Concept to express R is an euclidean domain.

7.2 aerobus::IsField Concept Reference

Concept to express R is a field.

`#include <aerobus.h>`

7.2.1 Concept definition

```
template<typename R>
concept aerobus::IsField =  IsEuclideanDomain<R> && requires {
        R::is_field == true;
    }
```

7.2.2 Detailed Description

Concept to express R is a field.

7.3 aerobus::IsRing Concept Reference

Concept to express R is a Ring.

`#include <aerobus.h>`

7.3.1 Concept definition

```
template<typename R>
concept aerobus::IsRing =  requires {
        typename R::one;
        typename R::zero;
        typename R::template add_t<typename R::one, typename R::one>;
        typename R::template sub_t<typename R::one, typename R::one>;
        typename R::template mul_t<typename R::one, typename R::one>;
    }
```

7.3.2 Detailed Description

Concept to express R is a Ring.

Chapter 8

Class Documentation

8.1 aerobus::polynomial< Ring >::val< coeffN >::coeff_at< index, E > Struct Template Reference

`#include <aerobus.h>`

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.2 aerobus::polynomial< Ring >::val< coeffN >::coeff_at< index, std::enable_if_t<(index< 0||index > 0)> > Struct Template Reference

`#include <aerobus.h>`

Public Types

- using type = typename Ring::zero

8.2.1 Member Typedef Documentation

8.2.1.1 type

```
template<typename Ring >
template<typename coeffN >
template<size_t index>
using aerobus::polynomial< Ring >::val< coeffN >::coeff_at< index, std::enable_if_t<(index<
0||index > 0)> >::type = typename Ring::zero
```

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.3 aerobus::polynomial< Ring >::val< coeffN >::coeff_at< index, std::enable_if_t<(index==0)> > Struct Template Reference

`#include <aerobus.h>`

Public Types

- using type = aN

8.3.1 Member Typedef Documentation

8.3.1.1 type

```
template<typename Ring >
template<typename coeffN >
template<size_t index>
using aerobus::polynomial< Ring >::val< coeffN >::coeff_at< index, std::enable_if_t<(index==0)>
>::type = aN
```

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.4 aerobus::ContinuedFraction< values > Struct Template Reference

`#include <aerobus.h>`

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.5 aerobus::ContinuedFraction< a0 > Struct Template Reference

Specialization for only one coefficient, technically just 'a0'.

`#include <aerobus.h>`

Public Types

- using type = typename q64::template inject_constant_t< a0 >
  represented value as aerobus::q64

Static Public Attributes

- static constexpr double val = static_cast<double>(a0)
  represented value as double

8.5.1 Detailed Description

template<int64_t a0>
struct aerobus::ContinuedFraction< a0 >

Specialization for only one coefficient, technically just 'a0'.

Template Parameters

a0	an integer int64_t

8.5.2 Member Typedef Documentation

8.5.2.1 type

```
template<int64_t a0>
using aerobus::ContinuedFraction< a0 >::type = typename q64::template inject_constant_t<a0>
```

represented value as aerobus::q64

8.5.3 Member Data Documentation

8.5.3.1 val

```
template<int64_t a0>
constexpr double aerobus::ContinuedFraction< a0 >::val = static_cast<double>(a0)  [static],
[constexpr]
```

represented value as double

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.6 aerobus::ContinuedFraction< a0, rest... > Struct Template Reference

specialization for multiple coefficients (strictly more than one)

`#include <aerobus.h>`

Public Types

- using type = q64::template add_t< typename q64::template inject_constant_t< a0 >, typename q64::template div_t< typename q64::one, typename ContinuedFraction< rest... >::type > >
  represented value as aerobus::q64

Static Public Attributes

- static constexpr double val = type::template get<double>()
  represented value as double

8.6.1 Detailed Description

template<int64_t a0, int64_t... rest>
struct aerobus::ContinuedFraction< a0, rest... >

specialization for multiple coefficients (strictly more than one)

Template Parameters

a0	integer (int64_t)
...rest	integers (int64_t)

8.6.2 Member Typedef Documentation

8.6.2.1 type

```
template<int64_t a0, int64_t...  rest>
using aerobus::ContinuedFraction< a0, rest...  >::type = q64::template add_t< typename q64↩
::template inject_constant_t<a0>, typename q64::template div_t< typename q64::one, typename
ContinuedFraction<rest...>::type > >
```

represented value as aerobus::q64

8.6.3 Member Data Documentation

8.6.3.1 val

```
template<int64_t a0, int64_t...  rest>
constexpr double aerobus::ContinuedFraction< a0, rest...  >::val = type::template get<double>()
[static], [constexpr]
```

represented value as double

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.7 aerobus::ConwayPolynomial Struct Reference

```
#include <aerobus.h>
```

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.8 aerobus::i32 Struct Reference

32 bits signed integers, seen as a algebraic ring with related operations

```
#include <aerobus.h>
```

Classes

- struct val

  values in i32, again represented as types

Public Types

- using inner_type = int32_t
- using zero = val< 0 >

  constant zero
- using one = val< 1 >

  constant one
- template<auto x>
  using inject_constant_t = val< static_cast< int32_t >(x)>
- template<typename v >
  using inject_ring_t = v
- template<typename v1 , typename v2 >
  using add_t = typename add< v1, v2 >::type
- template<typename v1 , typename v2 >
  using sub_t = typename sub< v1, v2 >::type
- template<typename v1 , typename v2 >
  using mul_t = typename mul< v1, v2 >::type
- template<typename v1 , typename v2 >
  using div_t = typename div< v1, v2 >::type
- template<typename v1 , typename v2 >
  using mod_t = typename remainder< v1, v2 >::type

  modulus operator yields v1 % v2 for example : i32::mod_t<i32::val<7>, i32::val<2>>
- template<typename v1 , typename v2 >
  using gt_t = typename gt< v1, v2 >::type
- template<typename v1 , typename v2 >
  using lt_t = typename lt< v1, v2 >::type
- template<typename v1 , typename v2 >
  using eq_t = typename eq< v1, v2 >::type
- template<typename v1 , typename v2 >
  using gcd_t = gcd_t< i32, v1, v2 >
- template<typename v >
  using pos_t = typename pos< v >::type

Static Public Attributes

- static constexpr bool is_field = false

  integers are not a field
- static constexpr bool is_euclidean_domain = true

  integers are an euclidean domain
- template<typename v1 , typename v2 >
  static constexpr bool eq_v = eq_t<v1, v2>::value
- template<typename v >
  static constexpr bool pos_v = pos_t<v>::value

8.8.1 Detailed Description

32 bits signed integers, seen as a algebraic ring with related operations

8.8.2 Member Typedef Documentation

8.8.2.1 add_t

```
template<typename v1 , typename v2 >
using aerobus::i32::add_t = typename add<v1, v2>::type
```

8.8.2.2 div_t

```
template<typename v1 , typename v2 >
using aerobus::i32::div_t = typename div<v1, v2>::type
```

8.8.2.3 eq_t

```
template<typename v1 , typename v2 >
using aerobus::i32::eq_t = typename eq<v1, v2>::type
```

8.8.2.4 gcd_t

```
template<typename v1 , typename v2 >
using aerobus::i32::gcd_t = gcd_t<i32, v1, v2>
```

8.8.2.5 gt_t

```
template<typename v1 , typename v2 >
using aerobus::i32::gt_t = typename gt<v1, v2>::type
```

8.8.2.6 inject_constant_t

```
template<auto x>
using aerobus::i32::inject_constant_t = val<static_cast<int32_t>(x)>
```

8.8.2.7 inject_ring_t

```
template<typename v >
using aerobus::i32::inject_ring_t = v
```

8.8.2.8 inner_type

```
using aerobus::i32::inner_type = int32_t
```

8.8.2.9 lt_t

```
template<typename v1 , typename v2 >
using aerobus::i32::lt_t = typename lt<v1, v2>::type
```

8.8.2.10 mod_t

```
template<typename v1 , typename v2 >
using aerobus::i32::mod_t = typename remainder<v1, v2>::type
```

modulus operator yields v1 % v2 for example : i32::mod_t<i32::val<7>, i32::val<2>>

Template Parameters

v1	a value in i32
v2	a value in i32

8.8.2.11 mul_t

```
template<typename v1 , typename v2 >
using aerobus::i32::mul_t = typename mul<v1, v2>::type
```

8.8.2.12 one

```
using aerobus::i32::one = val<1>
```

constant one

8.8.2.13 pos_t

```
template<typename v >
using aerobus::i32::pos_t = typename pos<v>::type
```

8.8.2.14 sub_t

```
template<typename v1 , typename v2 >
using aerobus::i32::sub_t = typename sub<v1, v2>::type
```

8.8.2.15 zero

```
using aerobus::i32::zero = val<0>
```

constant zero

8.8.3 Member Data Documentation

8.8.3.1 eq_v

```
template<typename v1 , typename v2 >
constexpr bool aerobus::i32::eq_v = eq_t<v1, v2>::value  [static], [constexpr]
```

8.8.3.2 is_euclidean_domain

```
constexpr bool aerobus::i32::is_euclidean_domain = true  [static], [constexpr]
```

integers are an euclidean domain

8.8.3.3 is_field

```
constexpr bool aerobus::i32::is_field = false  [static], [constexpr]
```

integers are not a field

8.8.3.4 pos_v

```
template<typename v >
constexpr bool aerobus::i32::pos_v = pos_t<v>::value  [static], [constexpr]
```

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.9 aerobus::i64 Struct Reference

64 bits signed integers, seen as a algebraic ring with related operations

```
#include <aerobus.h>
```

Classes

- struct val
  values in i64

Public Types

- using inner_type = int64_t
  type of represented values
- template<auto x>
  using inject_constant_t = val< static_cast< int64_t >(x)>
- template<typename v >
  using inject_ring_t = v
  injects a value used for internal consistency and quotient rings implementations for example i64::inject_ring_t<i64::val<1>> -> i64::val<1>
- using zero = val< 0 >
  constant zero
- using one = val< 1 >
  constant one
- template<typename v1 , typename v2 >
  using add_t = typename add< v1, v2 >::type
- template<typename v1 , typename v2 >
  using sub_t = typename sub< v1, v2 >::type
- template<typename v1 , typename v2 >
  using mul_t = typename mul< v1, v2 >::type
- template<typename v1 , typename v2 >
  using div_t = typename div< v1, v2 >::type

- template<typename v1 , typename v2 >
  using mod_t = typename remainder< v1, v2 >::type
- template<typename v1 , typename v2 >
  using gt_t = typename gt< v1, v2 >::type
- template<typename v1 , typename v2 >
  using lt_t = typename lt< v1, v2 >::type
- template<typename v1 , typename v2 >
  using eq_t = typename eq< v1, v2 >::type
- template<typename v1 , typename v2 >
  using gcd_t = gcd_t< i64, v1, v2 >
- template<typename v >
  using pos_t = typename pos< v >::type

Static Public Attributes

- static constexpr bool is_field = false

  integers are not a field
- static constexpr bool is_euclidean_domain = true

  integers are an euclidean domain
- template<typename v1 , typename v2 >
  static constexpr bool gt_v = gt_t<v1, v2>::value

  strictly greater operator yields v1 > v2 as boolean value
- template<typename v1 , typename v2 >
  static constexpr bool lt_v = lt_t<v1, v2>::value
- template<typename v1 , typename v2 >
  static constexpr bool eq_v = eq_t<v1, v2>::value
- template<typename v >
  static constexpr bool pos_v = pos_t<v>::value

8.9.1 Detailed Description

64 bits signed integers, seen as a algebraic ring with related operations

8.9.2 Member Typedef Documentation

8.9.2.1 add_t

```
template<typename v1 , typename v2 >
using aerobus::i64::add_t = typename add<v1, v2>::type
```

8.9.2.2 div_t

```
template<typename v1 , typename v2 >
using aerobus::i64::div_t = typename div<v1, v2>::type
```

8.9.2.3 eq_t

```
template<typename v1 , typename v2 >
using aerobus::i64::eq_t = typename eq<v1, v2>::type
```

8.9.2.4 gcd_t

```
template<typename v1 , typename v2 >
using aerobus::i64::gcd_t = gcd_t<i64, v1, v2>
```

8.9.2.5 gt_t

```
template<typename v1 , typename v2 >
using aerobus::i64::gt_t = typename gt<v1, v2>::type
```

8.9.2.6 inject_constant_t

```
template<auto x>
using aerobus::i64::inject_constant_t = val<static_cast<int64_t>(x)>
```

8.9.2.7 inject_ring_t

```
template<typename v >
using aerobus::i64::inject_ring_t = v
```

injects a value used for internal consistency and quotient rings implementations for example i64::inject_ring_t<i64::val<1>> -> i64::val<1>

Template Parameters

v	a value in i64

8.9.2.8 inner_type

```
using aerobus::i64::inner_type = int64_t
```

type of represented values

8.9.2.9 lt_t

```
template<typename v1 , typename v2 >
using aerobus::i64::lt_t = typename lt<v1, v2>::type
```

8.9.2.10 mod_t

```
template<typename v1 , typename v2 >
using aerobus::i64::mod_t = typename remainder<v1, v2>::type
```

8.9.2.11 mul_t

```
template<typename v1 , typename v2 >
using aerobus::i64::mul_t = typename mul<v1, v2>::type
```

8.9.2.12 one

```
using aerobus::i64::one = val<1>
```

constant one

8.9.2.13 pos_t

```
template<typename v >
using aerobus::i64::pos_t = typename pos<v>::type
```

8.9.2.14 sub_t

```
template<typename v1 , typename v2 >
using aerobus::i64::sub_t = typename sub<v1, v2>::type
```

8.9.2.15 zero

```
using aerobus::i64::zero = val<0>
```

constant zero

8.9.3 Member Data Documentation

8.9.3.1 eq_v

```
template<typename v1 , typename v2 >
constexpr bool aerobus::i64::eq_v = eq_t<v1, v2>::value  [static], [constexpr]
```

8.9.3.2 gt_v

```
template<typename v1 , typename v2 >
constexpr bool aerobus::i64::gt_v = gt_t<v1, v2>::value  [static], [constexpr]
```

strictly greater operator yields v1 > v2 as boolean value

Template Parameters

v1	: an element of aerobus::i64::val
v2	: an element of aerobus::i64::val

8.9.3.3 is_euclidean_domain

```
constexpr bool aerobus::i64::is_euclidean_domain = true  [static], [constexpr]
```

integers are an euclidean domain

8.9.3.4 is_field

```
constexpr bool aerobus::i64::is_field = false  [static], [constexpr]
```

integers are not a field

8.9.3.5 lt_v

```
template<typename v1 , typename v2 >
constexpr bool aerobus::i64::lt_v = lt_t<v1, v2>::value  [static], [constexpr]
```

8.9.3.6 pos_v

```
template<typename v >
constexpr bool aerobus::i64::pos_v = pos_t<v>::value  [static], [constexpr]
```

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.10 aerobus::is_prime< n > Struct Template Reference

checks if n is prime

`#include <aerobus.h>`

Static Public Attributes

- static constexpr bool value = internal::_is_prime<n, 5>::value
  true iff n is prime

8.10.1 Detailed Description

template<size_t n>
struct aerobus::is_prime< n >

checks if n is prime

Template Parameters

n	

8.10.2 Member Data Documentation

8.10.2.1 value

```
template<size_t n>
constexpr bool aerobus::is_prime< n >::value = internal::_is_prime<n, 5>::value  [static],
[constexpr]
```

true iff n is prime

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.11 aerobus::polynomial< Ring > Struct Template Reference

```
#include <aerobus.h>
```

Classes

- struct val
  values (seen as types) in polynomial ring
- struct val< coeffN >
  specialization for constants

Public Types

- using zero = val< typename Ring::zero >
  constant zero
- using one = val< typename Ring::one >
  constant one
- using X = val< typename Ring::one, typename Ring::zero >
  generator
- template<typename P >
  using simplify_t = typename simplify< P >::type
  simplifies a polynomial (recursively deletes highest degree if zero, do nothing otherwise)
- template<typename v1 , typename v2 >
  using add_t = typename add< v1, v2 >::type
  adds two polynomials
- template<typename v1 , typename v2 >
  using sub_t = typename sub< v1, v2 >::type
  substraction of two polynomials

- template<typename v1 , typename v2 >
  using mul_t = typename mul< v1, v2 >::type

  multiplication of two polynomials
- template<typename v1 , typename v2 >
  using eq_t = typename eq_helper< v1, v2 >::type

  equality operator
- template<typename v1 , typename v2 >
  using lt_t = typename lt_helper< v1, v2 >::type

  strict less operator
- template<typename v1 , typename v2 >
  using gt_t = typename gt_helper< v1, v2 >::type

  strict greater operator
- template<typename v1 , typename v2 >
  using div_t = typename div< v1, v2 >::q_type

  division operator
- template<typename v1 , typename v2 >
  using mod_t = typename div_helper< v1, v2, zero, v1 >::mod_type

  modulo operator
- template<typename coeff , size_t deg>
  using monomial_t = typename monomial< coeff, deg >::type

  monomial : coeff X^ deg
- template<typename v >
  using derive_t = typename derive_helper< v >::type

  derivation operator
- template<typename v >
  using pos_t = typename Ring::template pos_t< typename v::aN >

  checks for positivity (an > 0)
- template<typename v1 , typename v2 >
  using gcd_t = std::conditional_t< Ring::is_euclidean_domain, typename make_unit< gcd_t< polynomial< Ring >, v1, v2 > >::type, void >

  greatest common divisor of two polynomials
- template<auto x>
  using inject_constant_t = val< typename Ring::template inject_constant_t< x > >
- template<typename v >
  using inject_ring_t = val< v >

Static Public Attributes

- static constexpr bool is_field = false
- static constexpr bool is_euclidean_domain = Ring::is_euclidean_domain
- template<typename v >
  static constexpr bool pos_v = pos_t<v>::value

  positivity operator

8.11.1 Detailed Description

template<typename Ring>
requires IsEuclideanDomain<Ring>
struct aerobus::polynomial< Ring >

polynomial with coefficients in Ring Ring must be an integral domain

8.11.2 Member Typedef Documentation

8.11.2.1 add_t

```
template<typename Ring >
template<typename v1 , typename v2 >
using aerobus::polynomial< Ring >::add_t = typename add<v1, v2>::type
```

adds two polynomials

Template Parameters

v1	
v2	

8.11.2.2 derive_t

```
template<typename Ring >
template<typename v >
using aerobus::polynomial< Ring >::derive_t = typename derive_helper<v>::type
```

derivation operator

Template Parameters

v	

8.11.2.3 div_t

```
template<typename Ring >
template<typename v1 , typename v2 >
using aerobus::polynomial< Ring >::div_t = typename div<v1, v2>::q_type
```

division operator

Template Parameters

v1	
v2	

8.11.2.4 eq_t

```
template<typename Ring >
template<typename v1 , typename v2 >
using aerobus::polynomial< Ring >::eq_t = typename eq_helper<v1, v2>::type
```

equality operator

Template Parameters

v1	
v2	

8.11.2.5 gcd_t

```
template<typename Ring >
template<typename v1 , typename v2 >
using aerobus::polynomial< Ring >::gcd_t = std::conditional_t< Ring::is_euclidean_domain,
typename make_unit<gcd_t<polynomial<Ring>, v1, v2> >::type, void>
```

greatest common divisor of two polynomials

Template Parameters

v1	
v2	

8.11.2.6 gt_t

```
template<typename Ring >
template<typename v1 , typename v2 >
using aerobus::polynomial< Ring >::gt_t = typename gt_helper<v1, v2>::type
```

strict greater operator

Template Parameters

v1	
v2	

8.11.2.7 inject_constant_t

```
template<typename Ring >
template<auto x>
using aerobus::polynomial< Ring >::inject_constant_t = val<typename Ring::template inject_constant_t<x>
>
```

8.11.2.8 inject_ring_t

```
template<typename Ring >
template<typename v >
using aerobus::polynomial< Ring >::inject_ring_t = val<v>
```

8.11.2.9 lt_t

```
template<typename Ring >
template<typename v1 , typename v2 >
using aerobus::polynomial< Ring >::lt_t = typename lt_helper<v1, v2>::type
```

strict less operator

Template Parameters

v1	
v2	

8.11.2.10 mod_t

```
template<typename Ring >
template<typename v1 , typename v2 >
using aerobus::polynomial< Ring >::mod_t = typename div_helper<v1, v2, zero, v1>::mod_type
```

modulo operator

Template Parameters

v1	
v2	

8.11.2.11 monomial_t

```
template<typename Ring >
template<typename coeff , size_t deg>
using aerobus::polynomial< Ring >::monomial_t = typename monomial<coeff, deg>::type
```

monomial : coeff X^deg

Template Parameters

coeff	
deg	

8.11.2.12 mul_t

```
template<typename Ring >
template<typename v1 , typename v2 >
using aerobus::polynomial< Ring >::mul_t = typename mul<v1, v2>::type
```

multiplication of two polynomials

Template Parameters

v1	
v2	

8.11.2.13 one

```
template<typename Ring >
using aerobus::polynomial< Ring >::one = val<typename Ring::one>
```

constant one

8.11.2.14 pos_t

```
template<typename Ring >
template<typename v >
using aerobus::polynomial< Ring >::pos_t = typename Ring::template pos_t<typename v::aN>
```

checks for positivity (an > 0)

Template Parameters

v	

8.11.2.15 simplify_t

```
template<typename Ring >
template<typename P >
using aerobus::polynomial< Ring >::simplify_t = typename simplify<P>::type
```

simplifies a polynomial (recursively deletes highest degree if zero, do nothing otherwise)

Template Parameters

P	

8.11.2.16 sub_t

```
template<typename Ring >
template<typename v1 , typename v2 >
using aerobus::polynomial< Ring >::sub_t = typename sub<v1, v2>::type
```

substraction of two polynomials

Template Parameters

v1	
v2	

8.11.2.17 X

```
template<typename Ring >
using aerobus::polynomial< Ring >::X = val<typename Ring::one, typename Ring::zero>
```

generator

8.11.2.18 zero

```
template<typename Ring >
using aerobus::polynomial< Ring >::zero = val<typename Ring::zero>
```

constant zero

8.11.3 Member Data Documentation

8.11.3.1 is_euclidean_domain

```
template<typename Ring >
constexpr bool aerobus::polynomial< Ring >::is_euclidean_domain = Ring::is_euclidean_domain
[static], [constexpr]
```

8.11.3.2 is_field

```
template<typename Ring >
constexpr bool aerobus::polynomial< Ring >::is_field = false  [static], [constexpr]
```

8.11.3.3 pos_v

```
template<typename Ring >
template<typename v >
constexpr bool aerobus::polynomial< Ring >::pos_v = pos_t<v>::value  [static], [constexpr]
```

positivity operator

Template Parameters

v	a value in polynomial::val

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.12 aerobus::type_list< Ts >::pop_front Struct Reference

removes types from head of the list

`#include <aerobus.h>`

Public Types

- using type = typename internal::pop_front_h< Ts... >::head
  type that was previously head of the list
- using tail = typename internal::pop_front_h< Ts... >::tail
  remaining types in parent list when front is removed

8.12.1 Detailed Description

template<typename... Ts>
struct aerobus::type_list< Ts >::pop_front

removes types from head of the list

8.12.2 Member Typedef Documentation

8.12.2.1 tail

```
template<typename...  Ts>
using aerobus::type_list< Ts >::pop_front::tail = typename internal::pop_front_h<Ts...>::tail
```

remaining types in parent list when front is removed

8.12.2.2 type

```
template<typename...  Ts>
using aerobus::type_list< Ts >::pop_front::type = typename internal::pop_front_h<Ts...>::head
```

type that was previously head of the list

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.13 aerobus::Quotient< Ring, X > Struct Template Reference

Quotient ring by the principal ideal generated by 'X' With i32 as Ring and i32::val<2> as X, Quotient is Z/2Z.

```
#include <aerobus.h>
```

Classes

- struct val
  projection values in the quotient ring

Public Types

- using zero = val< typename Ring::zero >

  zero value
- using one = val< typename Ring::one >

  one
- template<typename v1 , typename v2 >
  using add_t = val< typename Ring::template add_t< typename v1::type, typename v2::type > >

  addition operator
- template<typename v1 , typename v2 >
  using mul_t = val< typename Ring::template mul_t< typename v1::type, typename v2::type > >

  substraction operator
- template<typename v1 , typename v2 >
  using div_t = val< typename Ring::template div_t< typename v1::type, typename v2::type > >

  division operator
- template<typename v1 , typename v2 >
  using mod_t = val< typename Ring::template mod_t< typename v1::type, typename v2::type > >

  modulus operator
- template<typename v1 , typename v2 >
  using eq_t = typename Ring::template eq_t< typename v1::type, typename v2::type >

  equality operator (as type)
- template<typename v1 >
  using pos_t = std::true_type

  positivity operator always true
- template<auto x>
  using inject_constant_t = val< typename Ring::template inject_constant_t< x > >
- template<typename v >
  using inject_ring_t = val< v >

Static Public Attributes

- template<typename v1 , typename v2 >
  static constexpr bool eq_v = Ring::template eq_t<typename v1::type, typename v2::type>::value

  addition operator (as boolean value)
- template<typename v >
  static constexpr bool pos_v = pos_t<v>::value

  positivity operator always true
- static constexpr bool is_euclidean_domain = true

  quotien rings are euclidean domain

8.13.1 Detailed Description

template<typename Ring, typename X>
requires IsRing<Ring>
struct aerobus::Quotient< Ring, X >

Quotient ring by the principal ideal generated by 'X' With i32 as Ring and i32::val<2> as X, Quotient is Z/2Z.

Template Parameters

Ring	A ring type, such as 'i32', must satisfy the IsRing concept
X	a value in Ring, such as i32::val<2>

8.13.2 Member Typedef Documentation

8.13.2.1 add_t

```
template<typename Ring , typename X >
template<typename v1 , typename v2 >
using aerobus::Quotient< Ring, X >::add_t = val<typename Ring::template add_t<typename v1::type,
typename v2::type> >
```

addition operator

Template Parameters

v1	a value in quotient ring
v2	a value in quotient ring

8.13.2.2 div_t

```
template<typename Ring , typename X >
template<typename v1 , typename v2 >
using aerobus::Quotient< Ring, X >::div_t = val<typename Ring::template div_t<typename v1::type,
typename v2::type> >
```

division operator

Template Parameters

v1	a value in quotient ring
v2	a value in quotient ring

8.13.2.3 eq_t

```
template<typename Ring , typename X >
template<typename v1 , typename v2 >
using aerobus::Quotient< Ring, X >::eq_t = typename Ring::template eq_t<typename v1::type,
typename v2::type>
```

equality operator (as type)

Template Parameters

v1	a value in quotient ring
v2	a value in quotient ring

8.13.2.4 inject_constant_t

```
template<typename Ring , typename X >
```

```
template<auto x>
using aerobus::Quotient< Ring, X >::inject_constant_t = val<typename Ring::template inject_constant_t<x>
>
```

8.13.2.5 inject_ring_t

```
template<typename Ring , typename X >
template<typename v >
using aerobus::Quotient< Ring, X >::inject_ring_t = val<v>
```

8.13.2.6 mod_t

```
template<typename Ring , typename X >
template<typename v1 , typename v2 >
using aerobus::Quotient< Ring, X >::mod_t = val<typename Ring::template mod_t<typename v1::type,
typename v2::type> >
```

modulus operator

Template Parameters

v1	a value in quotient ring
v2	a value in quotient ring

8.13.2.7 mul_t

```
template<typename Ring , typename X >
template<typename v1 , typename v2 >
using aerobus::Quotient< Ring, X >::mul_t = val<typename Ring::template mul_t<typename v1::type,
typename v2::type> >
```

substraction operator

Template Parameters

v1	a value in quotient ring
v2	a value in quotient ring

8.13.2.8 one

```
template<typename Ring , typename X >
using aerobus::Quotient< Ring, X >::one = val<typename Ring::one>
```

one

8.13.2.9 pos_t

```
template<typename Ring , typename X >
template<typename v1 >
using aerobus::Quotient< Ring, X >::pos_t = std::true_type
```

positivity operator always true

Template Parameters

v1	a value in quotient ring

8.13.2.10 zero

```
template<typename Ring , typename X >
using aerobus::Quotient< Ring, X >::zero = val<typename Ring::zero>
```

zero value

8.13.3 Member Data Documentation

8.13.3.1 eq_v

```
template<typename Ring , typename X >
template<typename v1 , typename v2 >
constexpr bool aerobus::Quotient< Ring, X >::eq_v = Ring::template eq_t<typename v1::type,
typename v2::type>::value  [static], [constexpr]
```

addition operator (as boolean value)

Template Parameters

v1	a value in quotient ring
v2	a value in quotient ring

8.13.3.2 is_euclidean_domain

```
template<typename Ring , typename X >
constexpr bool aerobus::Quotient< Ring, X >::is_euclidean_domain = true  [static], [constexpr]
```

quotien rings are euclidean domain

8.13.3.3 pos_v

```
template<typename Ring , typename X >
template<typename v >
constexpr bool aerobus::Quotient< Ring, X >::pos_v = pos_t<v>::value  [static], [constexpr]
```

positivity operator always true

Template Parameters

v1	a value in quotient ring

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.14 aerobus::type_list< Ts >::split< index > Struct Template Reference

splits list at index

`#include <aerobus.h>`

Public Types

- using head = typename inner::head
- using tail = typename inner::tail

8.14.1 Detailed Description

template<typename... Ts>
template<size_t index>
struct aerobus::type_list< Ts >::split< index >

splits list at index

Template Parameters

index	

8.14.2 Member Typedef Documentation

8.14.2.1 head

```
template<typename...  Ts>
template<size_t index>
using aerobus::type_list< Ts >::split< index >::head = typename inner::head
```

8.14.2.2 tail

```
template<typename...  Ts>
template<size_t index>
using aerobus::type_list< Ts >::split< index >::tail = typename inner::tail
```

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.15 aerobus::type_list< Ts > Struct Template Reference

Empty pure template struct to handle type list.

`#include <aerobus.h>`

Classes

- struct pop_front
  removes types from head of the list
- struct split
  splits list at index

Public Types

- template<typename T >
  using push_front = type_list< T, Ts... >
  Adds T to front of the list.
- template<size_t index>
  using at = internal::type_at_t< index, Ts... >
  returns type at index
- template<typename T >
  using push_back = type_list< Ts..., T >
  pushes T at the tail of the list
- template<typename U >
  using concat = typename concat_h< U >::type
  concatenates two list into one
- template<typename T , size_t index>
  using insert = typename internal::insert_h< index, type_list< Ts... >, T >::type
  inserts type at index
- template<size_t index>
  using remove = typename internal::remove_h< index, type_list< Ts... > >::type
  removes type at index

Static Public Attributes

- static constexpr size_t length = sizeof...(Ts)
  length of list

8.15.1 Detailed Description

template<typename... Ts>
struct aerobus::type_list< Ts >

Empty pure template struct to handle type list.

8.15.2 Member Typedef Documentation

8.15.2.1 at

```
template<typename...  Ts>
template<size_t index>
using aerobus::type_list< Ts >::at = internal::type_at_t<index, Ts...>
```

returns type at index

Template Parameters

index	

8.15.2.2 concat

```
template<typename...  Ts>
template<typename U >
using aerobus::type_list< Ts >::concat = typename concat_h<U>::type
```

concatenates two list into one

Template Parameters

U	

8.15.2.3 insert

```
template<typename...  Ts>
template<typename T , size_t index>
using aerobus::type_list< Ts >::insert = typename internal::insert_h<index, type_list<Ts...>,
T>::type
```

inserts type at index

Template Parameters

index	
T	

8.15.2.4 push_back

```
template<typename...  Ts>
template<typename T >
using aerobus::type_list< Ts >::push_back = type_list<Ts..., T>
```

pushes T at the tail of the list

Template Parameters

T	

8.15.2.5 push_front

```
template<typename...  Ts>
template<typename T >
using aerobus::type_list< Ts >::push_front = type_list<T, Ts...>
```

Adds T to front of the list.

Template Parameters

T	

8.15.2.6 remove

```
template<typename...  Ts>
template<size_t index>
using aerobus::type_list< Ts >::remove = typename internal::remove_h<index, type_list<Ts...>
>::type
```

removes type at index

Template Parameters

index	

8.15.3 Member Data Documentation

8.15.3.1 length

```
template<typename...  Ts>
constexpr size_t aerobus::type_list< Ts >::length = sizeof...(Ts)  [static], [constexpr]
```

length of list

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.16 aerobus::type_list<> Struct Reference

specialization for empty type list

```
#include <aerobus.h>
```

Public Types

- template<typename T >
  using push_front = type_list< T >
- template<typename T >
  using push_back = type_list< T >
- template<typename U >
  using concat = U
- template<typename T , size_t index>
  using insert = type_list< T >

Static Public Attributes

- static constexpr size_t length = 0

8.16.1 Detailed Description

specialization for empty type list

8.16.2 Member Typedef Documentation

8.16.2.1 concat

```
template<typename U >
using aerobus::type_list<>::concat = U
```

8.16.2.2 insert

```
template<typename T , size_t index>
using aerobus::type_list<>::insert = type_list<T>
```

8.16.2.3 push_back

```
template<typename T >
using aerobus::type_list<>::push_back = type_list<T>
```

8.16.2.4 push_front

```
template<typename T >
using aerobus::type_list<>::push_front = type_list<T>
```

8.16.3 Member Data Documentation

8.16.3.1 length

```
constexpr size_t aerobus::type_list<>::length = 0  [static], [constexpr]
```

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.17 aerobus::i32::val< x > Struct Template Reference

values in i32, again represented as types

`#include <aerobus.h>`

Public Types

- using enclosing_type = i32
  Enclosing ring type.
- using is_zero_t = std::bool_constant< x==0 >
  is value zero

Static Public Member Functions

- template<typename valueType >
  static constexpr INLINED DEVICE valueType get ()
  cast x into valueType
- static std::string to_string ()
  string representation of value
- template<typename valueRing >
  static constexpr DEVICE INLINED valueRing eval (const valueRing &v)
  cast x into valueRing

Static Public Attributes

- static constexpr int32_t v = x
  actual value stored in val type

8.17.1 Detailed Description

template<int32_t x>
struct aerobus::i32::val< x >

values in i32, again represented as types

Template Parameters

x	an actual integer

8.17.2 Member Typedef Documentation

8.17.2.1 enclosing_type

```
template<int32_t x>
using aerobus::i32::val< x >::enclosing_type = i32
```

Enclosing ring type.

8.17.2.2 is_zero_t

```
template<int32_t x>
using aerobus::i32::val< x >::is_zero_t = std::bool_constant<x == 0>
```

is value zero

8.17.3 Member Function Documentation

8.17.3.1 eval()

```
template<int32_t x>
template<typename valueRing >
static constexpr DEVICE INLINED valueRing aerobus::i32::val< x >::eval (
            const valueRing & v )  [inline], [static], [constexpr]
```

cast x into valueRing

Template Parameters

valueRing	double for example

8.17.3.2 get()

```
template<int32_t x>
template<typename valueType >
static constexpr INLINED DEVICE valueType aerobus::i32::val< x >::get ( )  [inline], [static],
[constexpr]
```

cast x into valueType

Template Parameters

valueType	double for example

8.17.3.3 to_string()

```
template<int32_t x>
static std::string aerobus::i32::val< x >::to_string ( )  [inline], [static]
```

string representation of value

8.17.4 Member Data Documentation

8.17.4.1 v

```
template<int32_t x>
constexpr int32_t aerobus::i32::val< x >::v = x  [static], [constexpr]
```

actual value stored in val type

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.18 aerobus::i64::val< x > Struct Template Reference

values in i64

```
#include <aerobus.h>
```

Public Types

- using inner_type = int32_t
  type of represented values
- using enclosing_type = i64
  enclosing ring type
- using is_zero_t = std::bool_constant< x==0 >
  is value zero

Static Public Member Functions

- template<typename valueType >
  static constexpr DEVICE INLINED valueType get ()
  cast value in valueType
- static std::string to_string ()
  string representation
- template<typename valueRing >
  static constexpr DEVICE INLINED valueRing eval (const valueRing &v)
  cast value in valueRing

Static Public Attributes

- static constexpr int64_t v = x

  actual value

8.18.1 Detailed Description

template<int64_t x>
struct aerobus::i64::val< x >

values in i64

Template Parameters

x	an actual integer

8.18.2 Member Typedef Documentation

8.18.2.1 enclosing_type

```
template<int64_t x>
using aerobus::i64::val< x >::enclosing_type = i64
```

enclosing ring type

8.18.2.2 inner_type

```
template<int64_t x>
using aerobus::i64::val< x >::inner_type = int32_t
```

type of represented values

8.18.2.3 is_zero_t

```
template<int64_t x>
using aerobus::i64::val< x >::is_zero_t = std::bool_constant<x == 0>
```

is value zero

8.18.3 Member Function Documentation

8.18.3.1 eval()

```
template<int64_t x>
template<typename valueRing >
static constexpr DEVICE INLINED valueRing aerobus::i64::val< x >::eval (
            const valueRing & v )  [inline], [static], [constexpr]
```

cast value in valueRing

Template Parameters

valueRing	(double for example)

8.18.3.2 get()

```
template<int64_t x>
template<typename valueType >
static constexpr DEVICE INLINED valueType aerobus::i64::val< x >::get ( )  [inline], [static],
[constexpr]
```

cast value in valueType

Template Parameters

valueType	(double for example)

8.18.3.3 to_string()

```
template<int64_t x>
static std::string aerobus::i64::val< x >::to_string ( )  [inline], [static]
```

string representation

8.18.4 Member Data Documentation

8.18.4.1 v

```
template<int64_t x>
constexpr int64_t aerobus::i64::val< x >::v = x  [static], [constexpr]
```

actual value

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.19 aerobus::polynomial< Ring >::val< coeffN, coeffs > Struct Template Reference

values (seen as types) in polynomial ring

```
#include <aerobus.h>
```

Public Types

- using enclosing_type = polynomial< Ring >
  enclosing ring type
- using aN = coeffN
  heavy weight coefficient (non zero)
- using strip = val< coeffs... >
  remove largest coefficient
- using is_zero_t = std::bool_constant<(degree==0) &&(aN::is_zero_t::value)>
  true_type if polynomial is constant zero
- template<size_t index>
  using coeff_at_t = typename coeff_at< index >::type
  type of coefficient at index

Static Public Member Functions

- static std::string to_string ()
  get a string representation of polynomial
- template<typename valueRing >
  static constexpr DEVICE INLINED valueRing eval (const valueRing &x)
  evaluates polynomial seen as a function operating on ValueRing

Static Public Attributes

- static constexpr size_t degree = sizeof...(coeffs)
  degree of the polynomial
- static constexpr bool is_zero_v = is_zero_t::value
  true if polynomial is constant zero

8.19.1 Detailed Description

template<typename Ring>
template<typename coeffN, typename... coeffs>
struct aerobus::polynomial< Ring >::val< coeffN, coeffs >

values (seen as types) in polynomial ring

Template Parameters

coeffN	high degree coefficient
...coeffs	lower degree coefficients

8.19.2 Member Typedef Documentation

8.19.2.1 aN

```
template<typename Ring >
template<typename coeffN , typename...  coeffs>
```

```
using aerobus::polynomial< Ring >::val< coeffN, coeffs >::aN = coeffN
```

heavy weight coefficient (non zero)

8.19.2.2 coeff_at_t

```
template<typename Ring >
template<typename coeffN , typename...  coeffs>
template<size_t index>
using aerobus::polynomial< Ring >::val< coeffN, coeffs >::coeff_at_t = typename coeff_↩
at<index>::type
```

type of coefficient at index

Template Parameters

index	

8.19.2.3 enclosing_type

```
template<typename Ring >
template<typename coeffN , typename...  coeffs>
using aerobus::polynomial< Ring >::val< coeffN, coeffs >::enclosing_type = polynomial<Ring>
```

enclosing ring type

8.19.2.4 is_zero_t

```
template<typename Ring >
template<typename coeffN , typename...  coeffs>
using aerobus::polynomial< Ring >::val< coeffN, coeffs >::is_zero_t = std::bool_constant<(degree
== 0) && (aN::is_zero_t::value)>
```

true_type if polynomial is constant zero

8.19.2.5 strip

```
template<typename Ring >
template<typename coeffN , typename...  coeffs>
using aerobus::polynomial< Ring >::val< coeffN, coeffs >::strip = val<coeffs...>
```

remove largest coefficient

8.19.3 Member Function Documentation

8.19.3.1 eval()

```
template<typename Ring >
template<typename coeffN , typename...  coeffs>
template<typename valueRing >
static constexpr DEVICE INLINED valueRing aerobus::polynomial< Ring >::val< coeffN, coeffs
>::eval (
            const valueRing & x )  [inline], [static], [constexpr]
```

evaluates polynomial seen as a function operating on ValueRing

Template Parameters

valueRing	usually float or double

Parameters

x	value

Returns

P(x)

8.19.3.2 to_string()

```
template<typename Ring >
template<typename coeffN , typename...  coeffs>
static std::string aerobus::polynomial< Ring >::val< coeffN, coeffs >::to_string ( )  [inline],
[static]
```

get a string representation of polynomial

Returns

something like a_n X^n + ... + a_1 X + a_0

8.19.4 Member Data Documentation

8.19.4.1 degree

```
template<typename Ring >
template<typename coeffN , typename...  coeffs>
constexpr size_t aerobus::polynomial< Ring >::val< coeffN, coeffs >::degree = sizeof...(coeffs)
[static], [constexpr]
```

degree of the polynomial

8.19.4.2 is_zero_v

```
template<typename Ring >
template<typename coeffN , typename...  coeffs>
constexpr bool aerobus::polynomial< Ring >::val< coeffN, coeffs >::is_zero_v = is_zero_t↩
::value  [static], [constexpr]
```

true if polynomial is constant zero

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.20 aerobus::Quotient< Ring, X >::val< V > Struct Template Reference

projection values in the quotient ring

`#include <aerobus.h>`

Public Types

- using type = abs_t< typename Ring::template mod_t< V, X > >

8.20.1 Detailed Description

template<typename Ring, typename X>
template<typename V>
struct aerobus::Quotient< Ring, X >::val< V >

projection values in the quotient ring

Template Parameters

V	a value from 'Ring'

8.20.2 Member Typedef Documentation

8.20.2.1 type

```
template<typename Ring , typename X >
template<typename V >
using aerobus::Quotient< Ring, X >::val< V >::type = abs_t<typename Ring::template mod_t<V,
X> >
```

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.21 aerobus::zpz< p >::val< x > Struct Template Reference

`#include <aerobus.h>`

Public Types

- using enclosing_type = zpz< p >
  enclosing ring type
- using is_zero_t = std::bool_constant< x% p==0 >

Static Public Member Functions

- template<typename valueType >
  static constexpr DEVICE INLINED valueType get ()
- static std::string to_string ()
- template<typename valueRing >
  static constexpr DEVICE INLINED valueRing eval (const valueRing &v)

Static Public Attributes

- static constexpr int32_t v = x % p

  actual value

8.21.1 Member Typedef Documentation

8.21.1.1 enclosing_type

```
template<int32_t p>
template<int32_t x>
using aerobus::zpz< p >::val< x >::enclosing_type = zpz<p>
```

enclosing ring type

8.21.1.2 is_zero_t

```
template<int32_t p>
template<int32_t x>
using aerobus::zpz< p >::val< x >::is_zero_t = std::bool_constant<x% p == 0>
```

8.21.2 Member Function Documentation

8.21.2.1 eval()

```
template<int32_t p>
template<int32_t x>
template<typename valueRing >
static constexpr DEVICE INLINED valueRing aerobus::zpz< p >::val< x >::eval (
            const valueRing & v )  [inline], [static], [constexpr]
```

8.21.2.2 get()

```
template<int32_t p>
template<int32_t x>
template<typename valueType >
static constexpr DEVICE INLINED valueType aerobus::zpz< p >::val< x >::get ( )  [inline],
[static], [constexpr]
```

8.21.2.3 to_string()

```
template<int32_t p>
template<int32_t x>
static std::string aerobus::zpz< p >::val< x >::to_string ( )  [inline], [static]
```

8.21.3 Member Data Documentation

8.21.3.1 v

```
template<int32_t p>
template<int32_t x>
constexpr int32_t aerobus::zpz< p >::val< x >::v = x % p  [static], [constexpr]
```

actual value

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.22 aerobus::polynomial< Ring >::val< coeffN > Struct Template Reference

specialization for constants

```
#include <aerobus.h>
```

Classes

- struct coeff_at
- struct coeff_at< index, std::enable_if_t<(index< 0||index > 0)> >
- struct coeff_at< index, std::enable_if_t<(index==0)> >

Public Types

- using enclosing_type = polynomial< Ring >
  enclosing ring type
- using aN = coeffN
- using strip = val< coeffN >
- using is_zero_t = std::bool_constant< aN::is_zero_t::value >
- template<size_t index>
  using coeff_at_t = typename coeff_at< index >::type

Static Public Member Functions

- static std::string to_string ()
- template<typename valueRing >
  static constexpr DEVICE INLINED valueRing eval (const valueRing &x)

Static Public Attributes

- static constexpr size_t degree = 0

  degree
- static constexpr bool is_zero_v = is_zero_t::value

8.22.1 Detailed Description

template<typename Ring>
template<typename coeffN>
struct aerobus::polynomial< Ring >::val< coeffN >

specialization for constants

Template Parameters

coeffN	

8.22.2 Member Typedef Documentation

8.22.2.1 aN

```
template<typename Ring >
template<typename coeffN >
using aerobus::polynomial< Ring >::val< coeffN >::aN = coeffN
```

8.22.2.2 coeff_at_t

```
template<typename Ring >
template<typename coeffN >
template<size_t index>
using aerobus::polynomial< Ring >::val< coeffN >::coeff_at_t = typename coeff_at<index>↩
::type
```

8.22.2.3 enclosing_type

```
template<typename Ring >
template<typename coeffN >
using aerobus::polynomial< Ring >::val< coeffN >::enclosing_type = polynomial<Ring>
```

enclosing ring type

8.22.2.4 is_zero_t

```
template<typename Ring >
template<typename coeffN >
using aerobus::polynomial< Ring >::val< coeffN >::is_zero_t = std::bool_constant<aN::is_↩
zero_t::value>
```

8.22.2.5 strip

```
template<typename Ring >
template<typename coeffN >
using aerobus::polynomial< Ring >::val< coeffN >::strip = val<coeffN>
```

8.22.3 Member Function Documentation

8.22.3.1 eval()

```
template<typename Ring >
template<typename coeffN >
template<typename valueRing >
static constexpr DEVICE INLINED valueRing aerobus::polynomial< Ring >::val< coeffN >::eval (
            const valueRing & x )  [inline], [static], [constexpr]
```

8.22.3.2 to_string()

```
template<typename Ring >
template<typename coeffN >
static std::string aerobus::polynomial< Ring >::val< coeffN >::to_string ( )  [inline], [static]
```

8.22.4 Member Data Documentation

8.22.4.1 degree

```
template<typename Ring >
template<typename coeffN >
constexpr size_t aerobus::polynomial< Ring >::val< coeffN >::degree = 0  [static], [constexpr]
```

degree

8.22.4.2 is_zero_v

```
template<typename Ring >
template<typename coeffN >
constexpr bool aerobus::polynomial< Ring >::val< coeffN >::is_zero_v = is_zero_t::value  [static],
[constexpr]
```

The documentation for this struct was generated from the following file:

- src/aerobus.h

8.23 aerobus::zpz< p > Struct Template Reference

```
#include <aerobus.h>
```

Classes

- struct val

Public Types

- using inner_type = int32_t
- template<auto x>
  using inject_constant_t = val< static_cast< int32_t >(x)>
- using zero = val< 0 >
- using one = val< 1 >
- template<typename v1 , typename v2 >
  using add_t = typename add< v1, v2 >::type

  addition operator
- template<typename v1 , typename v2 >
  using sub_t = typename sub< v1, v2 >::type

  substraction operator
- template<typename v1 , typename v2 >
  using mul_t = typename mul< v1, v2 >::type

  multiplication operator
- template<typename v1 , typename v2 >
  using div_t = typename div< v1, v2 >::type

  division operator
- template<typename v1 , typename v2 >
  using mod_t = typename remainder< v1, v2 >::type

  modulo operator
- template<typename v1 , typename v2 >
  using gt_t = typename gt< v1, v2 >::type

  strictly greater operator (type)
- template<typename v1 , typename v2 >
  using lt_t = typename lt< v1, v2 >::type

  strictly smaller operator (type)
- template<typename v1 , typename v2 >
  using eq_t = typename eq< v1, v2 >::type

  equality operator (type)
- template<typename v1 , typename v2 >
  using gcd_t = gcd_t< i32, v1, v2 >

  greatest common divisor
- template<typename v1 >
  using pos_t = typename pos< v1 >::type

  positivity operator (type)

Static Public Attributes

- static constexpr bool is_field = is_prime<p>::value
- static constexpr bool is_euclidean_domain = true
- template<typename v1 , typename v2 >
  static constexpr bool gt_v = gt_t<v1, v2>::value

  strictly greater operator (booleanvalue)
- template<typename v1 , typename v2 >
  static constexpr bool lt_v = lt_t<v1, v2>::value

  strictly smaller operator (booleanvalue)

- template<typename v1 , typename v2 >
  static constexpr bool eq_v = eq_t<v1, v2>::value

  equality operator (booleanvalue)
- template<typename v >
  static constexpr bool pos_v = pos_t<v>::value

  positivity operator (boolean value)

8.23.1 Detailed Description

template<int32_t p>
struct aerobus::zpz< p >

congruence classes of integers for a modulus if p is prime, zpz is a field, otherwise an integral domain with all related operations

8.23.2 Member Typedef Documentation

8.23.2.1 add_t

```
template<int32_t p>
template<typename v1 , typename v2 >
using aerobus::zpz< p >::add_t = typename add<v1, v2>::type
```

addition operator

Template Parameters

v1	a value in zpz::val
v2	a value in zpz::val

8.23.2.2 div_t

```
template<int32_t p>
template<typename v1 , typename v2 >
using aerobus::zpz< p >::div_t = typename div<v1, v2>::type
```

division operator

Template Parameters

v1	a value in zpz::val
v2	a value in zpz::val

8.23.2.3 eq_t

```
template<int32_t p>
```

```
template<typename v1 , typename v2 >
using aerobus::zpz< p >::eq_t = typename eq<v1, v2>::type
```

equality operator (type)

Template Parameters

v1	a value in zpz::val
v2	a value in zpz::val

8.23.2.4 gcd_t

```
template<int32_t p>
template<typename v1 , typename v2 >
using aerobus::zpz< p >::gcd_t = gcd_t<i32, v1, v2>
```

greatest common divisor

Template Parameters

v1	a value in zpz::val
v2	a value in zpz::val

8.23.2.5 gt_t

```
template<int32_t p>
template<typename v1 , typename v2 >
using aerobus::zpz< p >::gt_t = typename gt<v1, v2>::type
```

strictly greater operator (type)

Template Parameters

v1	a value in zpz::val
v2	a value in zpz::val

8.23.2.6 inject_constant_t

```
template<int32_t p>
template<auto x>
using aerobus::zpz< p >::inject_constant_t = val<static_cast<int32_t>(x)>
```

8.23.2.7 inner_type

```
template<int32_t p>
using aerobus::zpz< p >::inner_type = int32_t
```

8.23.2.8 lt_t

```
template<int32_t p>
template<typename v1 , typename v2 >
using aerobus::zpz< p >::lt_t = typename lt<v1, v2>::type
```

strictly smaller operator (type)

Template Parameters

v1	a value in zpz::val
v2	a value in zpz::val

8.23.2.9 mod_t

```
template<int32_t p>
template<typename v1 , typename v2 >
using aerobus::zpz< p >::mod_t = typename remainder<v1, v2>::type
```

modulo operator

Template Parameters

v1	a value in zpz::val
v2	a value in zpz::val

8.23.2.10 mul_t

```
template<int32_t p>
template<typename v1 , typename v2 >
using aerobus::zpz< p >::mul_t = typename mul<v1, v2>::type
```

multiplication operator

Template Parameters

v1	a value in zpz::val
v2	a value in zpz::val

8.23.2.11 one

```
template<int32_t p>
using aerobus::zpz< p >::one = val<1>
```

8.23.2.12 pos_t

```
template<int32_t p>
```

```
template<typename v1 >
using aerobus::zpz< p >::pos_t = typename pos<v1>::type
```

positivity operator (type)

Template Parameters

v1	a value in zpz::val

8.23.2.13 sub_t

```
template<int32_t p>
template<typename v1 , typename v2 >
using aerobus::zpz< p >::sub_t = typename sub<v1, v2>::type
```

substraction operator

Template Parameters

v1	a value in zpz::val
v2	a value in zpz::val

8.23.2.14 zero

```
template<int32_t p>
using aerobus::zpz< p >::zero = val<0>
```

8.23.3 Member Data Documentation

8.23.3.1 eq_v

```
template<int32_t p>
template<typename v1 , typename v2 >
constexpr bool aerobus::zpz< p >::eq_v = eq_t<v1, v2>::value  [static], [constexpr]
```

equality operator (booleanvalue)

Template Parameters

v1	a value in zpz::val
v2	a value in zpz::val

8.23.3.2 gt_v

```
template<int32_t p>
```

```
template<typename v1 , typename v2 >
constexpr bool aerobus::zpz< p >::gt_v = gt_t<v1, v2>::value  [static], [constexpr]
```

strictly greater operator (booleanvalue)

Template Parameters

v1	a value in zpz::val
v2	a value in zpz::val

8.23.3.3 is_euclidean_domain

```
template<int32_t p>
constexpr bool aerobus::zpz< p >::is_euclidean_domain = true  [static], [constexpr]
```

8.23.3.4 is_field

```
template<int32_t p>
constexpr bool aerobus::zpz< p >::is_field = is_prime<p>::value  [static], [constexpr]
```

8.23.3.5 lt_v

```
template<int32_t p>
template<typename v1 , typename v2 >
constexpr bool aerobus::zpz< p >::lt_v = lt_t<v1, v2>::value  [static], [constexpr]
```

strictly smaller operator (booleanvalue)

Template Parameters

v1	a value in zpz::val
v2	a value in zpz::val

8.23.3.6 pos_v

```
template<int32_t p>
template<typename v >
constexpr bool aerobus::zpz< p >::pos_v = pos_t<v>::value  [static], [constexpr]
```

positivity operator (boolean value)

Template Parameters

v1	a value in zpz::val

The documentation for this struct was generated from the following file:

- src/aerobus.h

Chapter 9

File Documentation

9.1 README.md File Reference

9.2 src/aerobus.h File Reference

```
#include <cstdint>
#include <cstddef>
#include <cstring>
#include <type_traits>
#include <utility>
#include <algorithm>
#include <functional>
#include <string>
#include <concepts>
#include <array>
```

Include dependency graph for aerobus.h:

9.3 aerobus.h

Go to the documentation of this file.

```
00001 // -*- lsst-c++ -*-
00002 #ifndef __INC_AEROBUS__ // NOLINT
00003 #define __INC_AEROBUS__
00004
00005 #include <cstdint>
00006 #include <cstddef>
00007 #include <cstring>
00008 #include <type_traits>
00009 #include <utility>
00010 #include <algorithm>
00011 #include <functional>
00012 #include <string>
00013 #include <concepts> // NOLINT
00014 #include <array>
00015
00019 #ifdef _MSC_VER
00020 #define ALIGNED(x) __declspec(align(x))
00021 #define INLINED __forceinline
00022 #else
00023 #define ALIGNED(x) __attribute__((aligned(x)))
00024 #define INLINED __attribute__((always_inline)) inline
00025 #endif
00026
00027 #ifdef __CUDACC__
00028 #define DEVICE __host__ __device__
```

```
00029 #else
00030 #define DEVICE
00031 #endif
00032
00034
00036
00038
00039 // aligned allocation
00040 namespace aerobus {
00047     template<typename T>
00048     T* aligned_malloc(size_t count, size_t alignment) {
00049         #ifdef _MSC_VER
00050         return static_cast<T*>(_aligned_malloc(count * sizeof(T), alignment));
00051         #else
00052         return static_cast<T*>(aligned_alloc(alignment, count * sizeof(T)));
00053         #endif
00054     }
00055 }  // namespace aerobus
00056
00057 // concepts
00058 namespace aerobus {
00060     template <typename R>
00061     concept IsRing = requires {
00062         typename R::one;
00063         typename R::zero;
00064         typename R::template add_t<typename R::one, typename R::one>;
00065         typename R::template sub_t<typename R::one, typename R::one>;
00066         typename R::template mul_t<typename R::one, typename R::one>;
00067     };
00068
00070     template <typename R>
00071     concept IsEuclideanDomain = IsRing<R> && requires {
00072         typename R::template div_t<typename R::one, typename R::one>;
00073         typename R::template mod_t<typename R::one, typename R::one>;
00074         typename R::template gcd_t<typename R::one, typename R::one>;
00075         typename R::template eq_t<typename R::one, typename R::one>;
00076         typename R::template pos_t<typename R::one>;
00077
00078         R::template pos_v<typename R::one> == true;
00079         // typename R::template gt_t<typename R::one, typename R::zero>;
00080         R::is_euclidean_domain == true;
00081     };
00082
00084     template<typename R>
00085     concept IsField = IsEuclideanDomain<R> && requires {
00086         R::is_field == true;
00087     };
00088 }  // namespace aerobus
00089
00090 // utilities
00091 namespace aerobus {
00092     namespace internal {
00093         template<template<typename...> typename TT, typename T>
00094         struct is_instantiation_of : std::false_type { };
00095
00096         template<template<typename...> typename TT, typename... Ts>
00097         struct is_instantiation_of<TT, TT<Ts...>> : std::true_type { };
00098
00099         template<template<typename...> typename TT, typename T>
00100         inline constexpr bool is_instantiation_of_v = is_instantiation_of<TT, T>::value;
00101
00102         template <int64_t i, typename T, typename... Ts>
00103         struct type_at {
00104             static_assert(i < sizeof...(Ts) + 1, "index out of range");
00105             using type = typename type_at<i - 1, Ts...>::type;
00106         };
00107
00108         template <typename T, typename... Ts> struct type_at<0, T, Ts...> {
00109             using type = T;
00110         };
00111
00112         template <size_t i, typename... Ts>
00113         using type_at_t = typename type_at<i, Ts...>::type;
00114
00115
00116         template<size_t n, size_t i, typename E = void>
00117         struct _is_prime {};
00118
00119         template<size_t i>
00120         struct _is_prime<0, i> {
00121             static constexpr bool value = false;
00122         };
00123
00124         template<size_t i>
00125         struct _is_prime<1, i> {
00126             static constexpr bool value = false;
00127         };
```

```
00128
00129         template<size_t i>
00130         struct _is_prime<2, i> {
00131             static constexpr bool value = true;
00132         };
00133
00134         template<size_t i>
00135         struct _is_prime<3, i> {
00136             static constexpr bool value = true;
00137         };
00138
00139         template<size_t i>
00140         struct _is_prime<5, i> {
00141             static constexpr bool value = true;
00142         };
00143
00144         template<size_t i>
00145         struct _is_prime<7, i> {
00146             static constexpr bool value = true;
00147         };
00148
00149         template<size_t n, size_t i>
00150         struct _is_prime<n, i, std::enable_if_t<(n != 2 && n % 2 == 0)>> {
00151             static constexpr bool value = false;
00152         };
00153
00154         template<size_t n, size_t i>
00155         struct _is_prime<n, i, std::enable_if_t<(n != 2 && n != 3 && n % 2 != 0 && n % 3 == 0)>> {
00156             static constexpr bool value = false;
00157         };
00158
00159         template<size_t n, size_t i>
00160         struct _is_prime<n, i, std::enable_if_t<(n >= 9 && i * i > n)>> {
00161             static constexpr bool value = true;
00162         };
00163
00164         template<size_t n, size_t i>
00165         struct _is_prime<n, i, std::enable_if_t<(
00166             n % i == 0 &&
00167             n >= 9 &&
00168             n % 3 != 0 &&
00169             n % 2 != 0 &&
00170             i * i > n)>> {
00171             static constexpr bool value = true;
00172         };
00173
00174         template<size_t n, size_t i>
00175         struct _is_prime<n, i, std::enable_if_t<(
00176             n % (i+2) == 0 &&
00177             n >= 9 &&
00178             n % 3 != 0 &&
00179             n % 2 != 0 &&
00180             i * i <= n)>> {
00181             static constexpr bool value = true;
00182         };
00183
00184         template<size_t n, size_t i>
00185         struct _is_prime<n, i, std::enable_if_t<(
00186                 n % (i+2) != 0 &&
00187                 n % i != 0 &&
00188                 n >= 9 &&
00189                 n % 3 != 0 &&
00190                 n % 2 != 0 &&
00191                 (i * i <= n))>> {
00192             static constexpr bool value = _is_prime<n, i+6>::value;
00193         };
00194
00195     }  // namespace internal
00196
00199     template<size_t n>
00200     struct is_prime {
00202         static constexpr bool value = internal::_is_prime<n, 5>::value;
00203     };
00204
00208     template<size_t n>
00209     static constexpr bool is_prime_v = is_prime<n>::value;
00210
00211     // gcd
00212     namespace internal {
00213         template <std::size_t... Is>
00214         constexpr auto index_sequence_reverse(std::index_sequence<Is...> const&)
00215             -> decltype(std::index_sequence<sizeof...(Is) - 1U - Is...>{});
00216
00217         template <std::size_t N>
00218         using make_index_sequence_reverse
00219             = decltype(index_sequence_reverse(std::make_index_sequence<N>{}));
00220
```

```
00226         template<typename Ring, typename E = void>
00227         struct gcd;
00228
00229         template<typename Ring>
00230         struct gcd<Ring, std::enable_if_t<Ring::is_euclidean_domain» {
00231             template<typename A, typename B, typename E = void>
00232             struct gcd_helper {};
00233
00234             // B = 0, A > 0
00235             template<typename A, typename B>
00236             struct gcd_helper<A, B, std::enable_if_t<
00237                 ((B::is_zero_t::value) &&
00238                     (Ring::template gt_t<A, typename Ring::zero>::value))» {
00239                 using type = A;
00240             };
00241
00242             // B = 0, A < 0
00243             template<typename A, typename B>
00244             struct gcd_helper<A, B, std::enable_if_t<
00245                 ((B::is_zero_t::value) &&
00246                     !(Ring::template gt_t<A, typename Ring::zero>::value))» {
00247                 using type = typename Ring::template sub_t<typename Ring::zero, A>;
00248             };
00249
00250             // B != 0
00251             template<typename A, typename B>
00252             struct gcd_helper<A, B, std::enable_if_t<
00253                 (!B::is_zero_t::value)
00254                 » {
00255             private: // NOLINT
00256                 // A / B
00257                 using k = typename Ring::template div_t<A, B>;
00258                 // A - (A/B)*B = A % B
00259                 using m = typename Ring::template sub_t<A, typename Ring::template mul_t<k, B»;
00260
00261             public:
00262                 using type = typename gcd_helper<B, m>::type;
00263             };
00264
00265             template<typename A, typename B>
00266             using type = typename gcd_helper<A, B>::type;
00267         };
00268     }  // namespace internal
00269
00270     // vadd and vmul
00271     namespace internal {
00272         template<typename... vals>
00273         struct vmul {};
00274
00275         template<typename v1, typename... vals>
00276         struct vmul<v1, vals...> {
00277             using type = typename v1::enclosing_type::template mul_t<v1, typename
      vmul<vals...>::type>;
00278         };
00279
00280         template<typename v1>
00281         struct vmul<v1> {
00282             using type = v1;
00283         };
00284
00285         template<typename... vals>
00286         struct vadd {};
00287
00288         template<typename v1, typename... vals>
00289         struct vadd<v1, vals...> {
00290             using type = typename v1::enclosing_type::template add_t<v1, typename
      vadd<vals...>::type>;
00291         };
00292
00293         template<typename v1>
00294         struct vadd<v1> {
00295             using type = v1;
00296         };
00297     }  // namespace internal
00298
00301     template<typename T, typename A, typename B>
00302     using gcd_t = typename internal::gcd<T>::template type<A, B>;
00303
00307     template<typename... vals>
00308     using vadd_t = typename internal::vadd<vals...>::type;
00309
00313     template<typename... vals>
00314     using vmul_t = typename internal::vmul<vals...>::type;
00315
00319     template<typename val>
00320     requires IsEuclideanDomain<typename val::enclosing_type>
00321     using abs_t = std::conditional_t<
```

```
00322                     val::enclosing_type::template pos_v<val>,
00323                     val, typename val::enclosing_type::template sub_t<typename
      val::enclosing_type::zero, val>>;
00324 }  // namespace aerobus
00325
00326 namespace aerobus {
00331     template<typename Ring, typename X>
00332     requires IsRing<Ring>
00333     struct Quotient {
00336         template <typename V>
00337         struct val {
00338          public:
00339             using type = abs_t<typename Ring::template mod_t<V, X>>;
00340         };
00341
00343         using zero = val<typename Ring::zero>;
00344
00346         using one = val<typename Ring::one>;
00347
00351         template<typename v1, typename v2>
00352         using add_t = val<typename Ring::template add_t<typename v1::type, typename v2::type>>;
00353
00357         template<typename v1, typename v2>
00358         using mul_t = val<typename Ring::template mul_t<typename v1::type, typename v2::type>>;
00359
00363         template<typename v1, typename v2>
00364         using div_t = val<typename Ring::template div_t<typename v1::type, typename v2::type>>;
00365
00369         template<typename v1, typename v2>
00370         using mod_t = val<typename Ring::template mod_t<typename v1::type, typename v2::type>>;
00371
00375         template<typename v1, typename v2>
00376         using eq_t = typename Ring::template eq_t<typename v1::type, typename v2::type>;
00377
00381         template<typename v1, typename v2>
00382         static constexpr bool eq_v = Ring::template eq_t<typename v1::type, typename v2::type>::value;
00383
00387         template<typename v1>
00388         using pos_t = std::true_type;
00389
00393         template<typename v>
00394         static constexpr bool pos_v = pos_t<v>::value;
00395
00397         static constexpr bool is_euclidean_domain = true;
00398
00404         template<auto x>
00405         using inject_constant_t = val<typename Ring::template inject_constant_t<x>>;
00406
00412         template<typename v>
00413         using inject_ring_t = val<v>;
00414     };
00415 }  // namespace aerobus
00416
00417 // type_list
00418 namespace aerobus {
00420     template <typename... Ts>
00421     struct type_list;
00422
00423     namespace internal {
00424         template <typename T, typename... Us>
00425         struct pop_front_h {
00426             using tail = type_list<Us...>;
00427             using head = T;
00428         };
00429
00430         template <size_t index, typename L1, typename L2>
00431         struct split_h {
00432          private:
00433             static_assert(index <= L2::length, "index ouf of bounds");
00434             using a = typename L2::pop_front::type;
00435             using b = typename L2::pop_front::tail;
00436             using c = typename L1::template push_back<a>;
00437
00438          public:
00439             using head = typename split_h<index - 1, c, b>::head;
00440             using tail = typename split_h<index - 1, c, b>::tail;
00441         };
00442
00443         template <typename L1, typename L2>
00444         struct split_h<0, L1, L2> {
00445             using head = L1;
00446             using tail = L2;
00447         };
00448
00449         template <size_t index, typename L, typename T>
00450         struct insert_h {
00451             static_assert(index <= L::length, "index ouf of bounds");
```

```
00452             using s = typename L::template split<index>;
00453             using left = typename s::head;
00454             using right = typename s::tail;
00455             using ll = typename left::template push_back<T>;
00456             using type = typename ll::template concat<right>;
00457         };
00458
00459         template <size_t index, typename L>
00460         struct remove_h {
00461             using s = typename L::template split<index>;
00462             using left = typename s::head;
00463             using right = typename s::tail;
00464             using rr = typename right::pop_front::tail;
00465             using type = typename left::template concat<rr>;
00466         };
00467     }  // namespace internal
00468
00472     template <typename... Ts>
00473     struct type_list {
00474      private:
00475         template <typename T>
00476         struct concat_h;
00477
00478         template <typename... Us>
00479         struct concat_h<type_list<Us...>> {
00480             using type = type_list<Ts..., Us...>;
00481         };
00482
00483      public:
00485         static constexpr size_t length = sizeof...(Ts);
00486
00489         template <typename T>
00490         using push_front = type_list<T, Ts...>;
00491
00494         template <size_t index>
00495         using at = internal::type_at_t<index, Ts...>;
00496
00498         struct pop_front {
00500             using type = typename internal::pop_front_h<Ts...>::head;
00502             using tail = typename internal::pop_front_h<Ts...>::tail;
00503         };
00504
00507         template <typename T>
00508         using push_back = type_list<Ts..., T>;
00509
00512         template <typename U>
00513         using concat = typename concat_h<U>::type;
00514
00517         template <size_t index>
00518         struct split {
00519          private:
00520             using inner = internal::split_h<index, type_list<>, type_list<Ts...>>;
00521
00522          public:
00523             using head = typename inner::head;
00524             using tail = typename inner::tail;
00525         };
00526
00530         template <typename T, size_t index>
00531         using insert = typename internal::insert_h<index, type_list<Ts...>, T>::type;
00532
00535         template <size_t index>
00536         using remove = typename internal::remove_h<index, type_list<Ts...>>::type;
00537     };
00538
00540     template <>
00541     struct type_list<> {
00542         static constexpr size_t length = 0;
00543
00544         template <typename T>
00545         using push_front = type_list<T>;
00546
00547         template <typename T>
00548         using push_back = type_list<T>;
00549
00550         template <typename U>
00551         using concat = U;
00552
00553         // TODO(jewave): assert index == 0
00554         template <typename T, size_t index>
00555         using insert = type_list<T>;
00556     };
00557 }  // namespace aerobus
00558
00559 // i32
00560 namespace aerobus {
00562     struct i32 {
```

```
00563         using inner_type = int32_t;
00566         template<int32_t x>
00567         struct val {
00569             using enclosing_type = i32;
00571             static constexpr int32_t v = x;
00572
00575             template<typename valueType>
00576             static constexpr INLINED DEVICE valueType get() { return static_cast<valueType>(x); }
00577
00579             using is_zero_t = std::bool_constant<x == 0>;
00580
00582             static std::string to_string() {
00583                 return std::to_string(x);
00584             }
00585
00588             template<typename valueRing>
00589             static constexpr DEVICE INLINED valueRing eval(const valueRing& v) {
00590                 return static_cast<valueRing>(x);
00591             }
00592         };
00593
00595         using zero = val<0>;
00597         using one = val<1>;
00599         static constexpr bool is_field = false;
00601         static constexpr bool is_euclidean_domain = true;
00605         template<auto x>
00606         using inject_constant_t = val<static_cast<int32_t>(x)>;
00607
00608         template<typename v>
00609         using inject_ring_t = v;
00610
00611     private:
00612         template<typename v1, typename v2>
00613         struct add {
00614             using type = val<v1::v + v2::v>;
00615         };
00616
00617         template<typename v1, typename v2>
00618         struct sub {
00619             using type = val<v1::v - v2::v>;
00620         };
00621
00622         template<typename v1, typename v2>
00623         struct mul {
00624             using type = val<v1::v* v2::v>;
00625         };
00626
00627         template<typename v1, typename v2>
00628         struct div {
00629             using type = val<v1::v / v2::v>;
00630         };
00631
00632         template<typename v1, typename v2>
00633         struct remainder {
00634             using type = val<v1::v % v2::v>;
00635         };
00636
00637         template<typename v1, typename v2>
00638         struct gt {
00639             using type = std::conditional_t<(v1::v > v2::v), std::true_type, std::false_type>;
00640         };
00641
00642         template<typename v1, typename v2>
00643         struct lt {
00644             using type = std::conditional_t<(v1::v < v2::v), std::true_type, std::false_type>;
00645         };
00646
00647         template<typename v1, typename v2>
00648         struct eq {
00649             using type = std::conditional_t<(v1::v == v2::v), std::true_type, std::false_type>;
00650         };
00651
00652         template<typename v1>
00653         struct pos {
00654             using type = std::bool_constant<(v1::v > 0)>;
00655         };
00656
00657     public:
00663         template<typename v1, typename v2>
00664         using add_t = typename add<v1, v2>::type;
00665
00671         template<typename v1, typename v2>
00672         using sub_t = typename sub<v1, v2>::type;
00673
00679         template<typename v1, typename v2>
00680         using mul_t = typename mul<v1, v2>::type;
00681
```

```
00687         template<typename v1, typename v2>
00688         using div_t = typename div<v1, v2>::type;
00689
00695         template<typename v1, typename v2>
00696         using mod_t = typename remainder<v1, v2>::type;
00697
00703         template<typename v1, typename v2>
00704         using gt_t = typename gt<v1, v2>::type;
00705
00711         template<typename v1, typename v2>
00712         using lt_t = typename lt<v1, v2>::type;
00713
00719         template<typename v1, typename v2>
00720         using eq_t = typename eq<v1, v2>::type;
00721
00726         template<typename v1, typename v2>
00727         static constexpr bool eq_v = eq_t<v1, v2>::value;
00728
00734         template<typename v1, typename v2>
00735         using gcd_t = gcd_t<i32, v1, v2>;
00736
00741         template<typename v>
00742         using pos_t = typename pos<v>::type;
00743
00748         template<typename v>
00749         static constexpr bool pos_v = pos_t<v>::value;
00750     };
00751 }  // namespace aerobus
00752
00753 // i64
00754 namespace aerobus {
00756     struct i64 {
00758         using inner_type = int64_t;
00761         template<int64_t x>
00762         struct val {
00764             using inner_type = int32_t;
00766             using enclosing_type = i64;
00768             static constexpr int64_t v = x;
00769
00772             template<typename valueType>
00773             static constexpr DEVICE INLINED valueType get() {
00774                 return static_cast<valueType>(x);
00775             }
00776
00778             using is_zero_t = std::bool_constant<x == 0>;
00779
00781             static std::string to_string() {
00782                 return std::to_string(x);
00783             }
00784
00787             template<typename valueRing>
00788             static constexpr DEVICE INLINED valueRing eval(const valueRing& v) {
00789                 return static_cast<valueRing>(x);
00790             }
00791         };
00792
00796         template<auto x>
00797         using inject_constant_t = val<static_cast<int64_t>(x)>;
00798
00803         template<typename v>
00804         using inject_ring_t = v;
00805
00807         using zero = val<0>;
00809         using one = val<1>;
00811         static constexpr bool is_field = false;
00813         static constexpr bool is_euclidean_domain = true;
00814
00815     private:
00816         template<typename v1, typename v2>
00817         struct add {
00818             using type = val<v1::v + v2::v>;
00819         };
00820
00821         template<typename v1, typename v2>
00822         struct sub {
00823             using type = val<v1::v - v2::v>;
00824         };
00825
00826         template<typename v1, typename v2>
00827         struct mul {
00828             using type = val<v1::v* v2::v>;
00829         };
00830
00831         template<typename v1, typename v2>
00832         struct div {
00833             using type = val<v1::v / v2::v>;
00834         };
```

```
00835
00836         template<typename v1, typename v2>
00837         struct remainder {
00838             using type = val<v1::v% v2::v>;
00839         };
00840
00841         template<typename v1, typename v2>
00842         struct gt {
00843             using type = std::conditional_t<(v1::v > v2::v), std::true_type, std::false_type>;
00844         };
00845
00846         template<typename v1, typename v2>
00847         struct lt {
00848             using type = std::conditional_t<(v1::v < v2::v), std::true_type, std::false_type>;
00849         };
00850
00851         template<typename v1, typename v2>
00852         struct eq {
00853             using type = std::conditional_t<(v1::v == v2::v), std::true_type, std::false_type>;
00854         };
00855
00856         template<typename v>
00857         struct pos {
00858             using type = std::bool_constant<(v::v > 0)>;
00859         };
00860
00861      public:
00866         template<typename v1, typename v2>
00867         using add_t = typename add<v1, v2>::type;
00868
00873         template<typename v1, typename v2>
00874         using sub_t = typename sub<v1, v2>::type;
00875
00880         template<typename v1, typename v2>
00881         using mul_t = typename mul<v1, v2>::type;
00882
00888         template<typename v1, typename v2>
00889         using div_t = typename div<v1, v2>::type;
00890
00895         template<typename v1, typename v2>
00896         using mod_t = typename remainder<v1, v2>::type;
00897
00903         template<typename v1, typename v2>
00904         using gt_t = typename gt<v1, v2>::type;
00905
00910         template<typename v1, typename v2>
00911         static constexpr bool gt_v = gt_t<v1, v2>::value;
00912
00918         template<typename v1, typename v2>
00919         using lt_t = typename lt<v1, v2>::type;
00920
00926         template<typename v1, typename v2>
00927         static constexpr bool lt_v = lt_t<v1, v2>::value;
00928
00934         template<typename v1, typename v2>
00935         using eq_t = typename eq<v1, v2>::type;
00936
00942         template<typename v1, typename v2>
00943         static constexpr bool eq_v = eq_t<v1, v2>::value;
00944
00950         template<typename v1, typename v2>
00951         using gcd_t = gcd_t<i64, v1, v2>;
00952
00957         template<typename v>
00958         using pos_t = typename pos<v>::type;
00959
00964         template<typename v>
00965         static constexpr bool pos_v = pos_t<v>::value;
00966     };
00967 }  // namespace aerobus
00968
00969 // z/pz
00970 namespace aerobus {
00975     template<int32_t p>
00976     struct zpz {
00977         using inner_type = int32_t;
00978         template<int32_t x>
00979         struct val {
00981             using enclosing_type = zpz<p>;
00983             static constexpr int32_t v = x % p;
00984
00985             template<typename valueType>
00986             static constexpr DEVICE INLINED valueType get() { return static_cast<valueType>(x % p); }
00987
00988             using is_zero_t = std::bool_constant<x% p == 0>;
00989             static std::string to_string() {
00990                 return std::to_string(x % p);
```

```
00991             }
00992
00993             template<typename valueRing>
00994             static constexpr DEVICE INLINED valueRing eval(const valueRing& v) {
00995                 return static_cast<valueRing>(x % p);
00996             }
00997         };
00998
00999         template<auto x>
01000         using inject_constant_t = val<static_cast<int32_t>(x)>;
01001
01002         using zero = val<0>;
01003         using one = val<1>;
01004         static constexpr bool is_field = is_prime<p>::value;
01005         static constexpr bool is_euclidean_domain = true;
01006
01007     private:
01008         template<typename v1, typename v2>
01009         struct add {
01010             using type = val<(v1::v + v2::v) % p>;
01011         };
01012
01013         template<typename v1, typename v2>
01014         struct sub {
01015             using type = val<(v1::v - v2::v) % p>;
01016         };
01017
01018         template<typename v1, typename v2>
01019         struct mul {
01020             using type = val<(v1::v* v2::v) % p>;
01021         };
01022
01023         template<typename v1, typename v2>
01024         struct div {
01025             using type = val<(v1::v% p) / (v2::v % p)>;
01026         };
01027
01028         template<typename v1, typename v2>
01029         struct remainder {
01030             using type = val<(v1::v% v2::v) % p>;
01031         };
01032
01033         template<typename v1, typename v2>
01034         struct gt {
01035             using type = std::conditional_t<(v1::v% p > v2::v% p), std::true_type, std::false_type>;
01036         };
01037
01038         template<typename v1, typename v2>
01039         struct lt {
01040             using type = std::conditional_t<(v1::v% p < v2::v% p), std::true_type, std::false_type>;
01041         };
01042
01043         template<typename v1, typename v2>
01044         struct eq {
01045             using type = std::conditional_t<(v1::v% p == v2::v % p), std::true_type, std::false_type>;
01046         };
01047
01048         template<typename v1>
01049         struct pos {
01050             using type = std::bool_constant<(v1::v > 0)>;
01051         };
01052
01053     public:
01057         template<typename v1, typename v2>
01058         using add_t = typename add<v1, v2>::type;
01059
01063         template<typename v1, typename v2>
01064         using sub_t = typename sub<v1, v2>::type;
01065
01069         template<typename v1, typename v2>
01070         using mul_t = typename mul<v1, v2>::type;
01071
01075         template<typename v1, typename v2>
01076         using div_t = typename div<v1, v2>::type;
01077
01081         template<typename v1, typename v2>
01082         using mod_t = typename remainder<v1, v2>::type;
01083
01087         template<typename v1, typename v2>
01088         using gt_t = typename gt<v1, v2>::type;
01089
01093         template<typename v1, typename v2>
01094         static constexpr bool gt_v = gt_t<v1, v2>::value;
01095
01099         template<typename v1, typename v2>
01100         using lt_t = typename lt<v1, v2>::type;
01101
```

```
01105         template<typename v1, typename v2>
01106         static constexpr bool lt_v = lt_t<v1, v2>::value;
01107
01111         template<typename v1, typename v2>
01112         using eq_t = typename eq<v1, v2>::type;
01113
01117         template<typename v1, typename v2>
01118         static constexpr bool eq_v = eq_t<v1, v2>::value;
01119
01123         template<typename v1, typename v2>
01124         using gcd_t = gcd_t<i32, v1, v2>;
01125
01128         template<typename v1>
01129         using pos_t = typename pos<v1>::type;
01130
01133         template<typename v>
01134         static constexpr bool pos_v = pos_t<v>::value;
01135     };
01136 }  // namespace aerobus
01137
01138 // polynomial
01139 namespace aerobus {
01140     // coeffN x^N + ...
01145     template<typename Ring>
01146     requires IsEuclideanDomain<Ring>
01147     struct polynomial {
01148         static constexpr bool is_field = false;
01149         static constexpr bool is_euclidean_domain = Ring::is_euclidean_domain;
01150
01154         template<typename coeffN, typename... coeffs>
01155         struct val {
01157             using enclosing_type = polynomial<Ring>;
01159             static constexpr size_t degree = sizeof...(coeffs);
01161             using aN = coeffN;
01163             using strip = val<coeffs...>;
01165             using is_zero_t = std::bool_constant<(degree == 0) && (aN::is_zero_t::value)>;
01167             static constexpr bool is_zero_v = is_zero_t::value;
01168
01169          private:
01170             template<size_t index, typename E = void>
01171             struct coeff_at {};
01172
01173             template<size_t index>
01174             struct coeff_at<index, std::enable_if_t<(index >= 0 && index <= sizeof...(coeffs))>> {
01175                 using type = internal::type_at_t<sizeof...(coeffs) - index, coeffN, coeffs...>;
01176             };
01177
01178             template<size_t index>
01179             struct coeff_at<index, std::enable_if_t<(index < 0 || index > sizeof...(coeffs))>> {
01180                 using type = typename Ring::zero;
01181             };
01182
01183          public:
01186             template<size_t index>
01187             using coeff_at_t = typename coeff_at<index>::type;
01188
01191             static std::string to_string() {
01192                 return string_helper<coeffN, coeffs...>::func();
01193             }
01194
01199             template<typename valueRing>
01200             static constexpr DEVICE INLINED valueRing eval(const valueRing& x) {
01201                 return horner_evaluation<valueRing, val>
01202                         ::template inner<0, degree + 1>
01203                         ::func(static_cast<valueRing>(0), x);
01204             }
01205         };
01206
01209         template<typename coeffN>
01210         struct val<coeffN> {
01212             using enclosing_type = polynomial<Ring>;
01214             static constexpr size_t degree = 0;
01215             using aN = coeffN;
01216             using strip = val<coeffN>;
01217             using is_zero_t = std::bool_constant<aN::is_zero_t::value>;
01218
01219             static constexpr bool is_zero_v = is_zero_t::value;
01220
01221             template<size_t index, typename E = void>
01222             struct coeff_at {};
01223
01224             template<size_t index>
01225             struct coeff_at<index, std::enable_if_t<(index == 0)>> {
01226                 using type = aN;
01227             };
01228
01229             template<size_t index>
```

```
01230             struct coeff_at<index, std::enable_if_t<(index < 0 || index > 0)» {
01231                 using type = typename Ring::zero;
01232             };
01233
01234             template<size_t index>
01235             using coeff_at_t = typename coeff_at<index>::type;
01236
01237             static std::string to_string() {
01238                 return string_helper<coeffN>::func();
01239             }
01240
01241             template<typename valueRing>
01242             static constexpr DEVICE INLINED valueRing eval(const valueRing& x) {
01243                 return static_cast<valueRing>(aN::template get<valueRing>());
01244             }
01245         };
01246
01248         using zero = val<typename Ring::zero>;
01250         using one = val<typename Ring::one>;
01252         using X = val<typename Ring::one, typename Ring::zero>;
01253
01254     private:
01255         template<typename P, typename E = void>
01256         struct simplify;
01257
01258         template <typename P1, typename P2, typename I>
01259         struct add_low;
01260
01261         template<typename P1, typename P2>
01262         struct add {
01263             using type = typename simplify<typename add_low<
01264             P1,
01265             P2,
01266             internal::make_index_sequence_reverse<
01267             std::max(P1::degree, P2::degree) + 1
01268             »::type>::type;
01269         };
01270
01271         template <typename P1, typename P2, typename I>
01272         struct sub_low;
01273
01274         template <typename P1, typename P2, typename I>
01275         struct mul_low;
01276
01277         template<typename v1, typename v2>
01278         struct mul {
01279                 using type = typename mul_low<
01280                     v1,
01281                     v2,
01282                     internal::make_index_sequence_reverse<
01283                     v1::degree + v2::degree + 1
01284                     »::type;
01285         };
01286
01287         template<typename coeff, size_t deg>
01288         struct monomial;
01289
01290         template<typename v, typename E = void>
01291         struct derive_helper {};
01292
01293         template<typename v>
01294         struct derive_helper<v, std::enable_if_t<v::degree == 0» {
01295             using type = zero;
01296         };
01297
01298         template<typename v>
01299         struct derive_helper<v, std::enable_if_t<v::degree != 0» {
01300             using type = typename add<
01301                 typename derive_helper<typename simplify<typename v::strip>::type>::type,
01302                 typename monomial<
01303                     typename Ring::template mul_t<
01304                         typename v::aN,
01305                         typename Ring::template inject_constant_t<(v::degree)>
01306                     >,
01307                     v::degree - 1
01308                 >::type
01309             >::type;
01310         };
01311
01312         template<typename v1, typename v2, typename E = void>
01313         struct eq_helper {};
01314
01315         template<typename v1, typename v2>
01316         struct eq_helper<v1, v2, std::enable_if_t<v1::degree != v2::degree» {
01317             using type = std::false_type;
01318         };
01319
```

```
01320
01321         template<typename v1, typename v2>
01322         struct eq_helper<v1, v2, std::enable_if_t<
01323             v1::degree == v2::degree &&
01324             (v1::degree != 0 || v2::degree != 0) &&
01325             std::is_same<
01326             typename Ring::template eq_t<typename v1::aN, typename v2::aN>,
01327             std::false_type
01328             >::value
01329         >
01330         > {
01331             using type = std::false_type;
01332         };
01333
01334         template<typename v1, typename v2>
01335         struct eq_helper<v1, v2, std::enable_if_t<
01336             v1::degree == v2::degree &&
01337             (v1::degree != 0 || v2::degree != 0) &&
01338             std::is_same<
01339             typename Ring::template eq_t<typename v1::aN, typename v2::aN>,
01340             std::true_type
01341             >::value
01342         >> {
01343             using type = typename eq_helper<typename v1::strip, typename v2::strip>::type;
01344         };
01345
01346         template<typename v1, typename v2>
01347         struct eq_helper<v1, v2, std::enable_if_t<
01348             v1::degree == v2::degree &&
01349             (v1::degree == 0)
01350         >> {
01351             using type = typename Ring::template eq_t<typename v1::aN, typename v2::aN>;
01352         };
01353
01354         template<typename v1, typename v2, typename E = void>
01355         struct lt_helper {};
01356
01357         template<typename v1, typename v2>
01358         struct lt_helper<v1, v2, std::enable_if_t<(v1::degree < v2::degree)>> {
01359             using type = std::true_type;
01360         };
01361
01362         template<typename v1, typename v2>
01363         struct lt_helper<v1, v2, std::enable_if_t<(v1::degree == v2::degree)>> {
01364             using type = typename Ring::template lt_t<typename v1::aN, typename v2::aN>;
01365         };
01366
01367         template<typename v1, typename v2>
01368         struct lt_helper<v1, v2, std::enable_if_t<(v1::degree > v2::degree)>> {
01369             using type = std::false_type;
01370         };
01371
01372         template<typename v1, typename v2, typename E = void>
01373         struct gt_helper {};
01374
01375         template<typename v1, typename v2>
01376         struct gt_helper<v1, v2, std::enable_if_t<(v1::degree > v2::degree)>> {
01377             using type = std::true_type;
01378         };
01379
01380         template<typename v1, typename v2>
01381         struct gt_helper<v1, v2, std::enable_if_t<(v1::degree == v2::degree)>> {
01382             using type = std::false_type;
01383         };
01384
01385         template<typename v1, typename v2>
01386         struct gt_helper<v1, v2, std::enable_if_t<(v1::degree < v2::degree)>> {
01387             using type = std::false_type;
01388         };
01389
01390         // when high power is zero : strip
01391         template<typename P>
01392         struct simplify<P, std::enable_if_t<
01393             std::is_same<
01394             typename Ring::zero,
01395             typename P::aN
01396             >::value && (P::degree > 0)
01397         >> {
01398             using type = typename simplify<typename P::strip>::type;
01399         };
01400
01401         // otherwise : do nothing
01402         template<typename P>
01403         struct simplify<P, std::enable_if_t<
01404             !std::is_same<
01405             typename Ring::zero,
01406             typename P::aN
```

```
01407             >::value && (P::degree > 0)
01408         » {
01409             using type = P;
01410         };
01411
01412         // do not simplify constants
01413         template<typename P>
01414         struct simplify<P, std::enable_if_t<P::degree == 0» {
01415             using type = P;
01416         };
01417
01418         // addition at
01419         template<typename P1, typename P2, size_t index>
01420         struct add_at {
01421             using type =
01422                 typename Ring::template add_t<
01423                     typename P1::template coeff_at_t<index>,
01424                     typename P2::template coeff_at_t<index>>;
01425         };
01426
01427         template<typename P1, typename P2, size_t index>
01428         using add_at_t = typename add_at<P1, P2, index>::type;
01429
01430         template<typename P1, typename P2, std::size_t... I>
01431         struct add_low<P1, P2, std::index_sequence<I...» {
01432             using type = val<add_at_t<P1, P2, I>...>;
01433         };
01434
01435         // substraction at
01436         template<typename P1, typename P2, size_t index>
01437         struct sub_at {
01438             using type =
01439                 typename Ring::template sub_t<
01440                     typename P1::template coeff_at_t<index>,
01441                     typename P2::template coeff_at_t<index>>;
01442         };
01443
01444         template<typename P1, typename P2, size_t index>
01445         using sub_at_t = typename sub_at<P1, P2, index>::type;
01446
01447         template<typename P1, typename P2, std::size_t... I>
01448         struct sub_low<P1, P2, std::index_sequence<I...» {
01449             using type = val<sub_at_t<P1, P2, I>...>;
01450         };
01451
01452         template<typename P1, typename P2>
01453         struct sub {
01454             using type = typename simplify<typename sub_low<
01455             P1,
01456             P2,
01457             internal::make_index_sequence_reverse<
01458             std::max(P1::degree, P2::degree) + 1
01459             »::type>::type;
01460         };
01461
01462         // multiplication at
01463         template<typename v1, typename v2, size_t k, size_t index, size_t stop>
01464         struct mul_at_loop_helper {
01465             using type = typename Ring::template add_t<
01466                 typename Ring::template mul_t<
01467                 typename v1::template coeff_at_t<index>,
01468                 typename v2::template coeff_at_t<k - index>
01469                 >,
01470                 typename mul_at_loop_helper<v1, v2, k, index + 1, stop>::type
01471             >;
01472         };
01473
01474         template<typename v1, typename v2, size_t k, size_t stop>
01475         struct mul_at_loop_helper<v1, v2, k, stop, stop> {
01476             using type = typename Ring::template mul_t<
01477                 typename v1::template coeff_at_t<stop>,
01478                 typename v2::template coeff_at_t<0>>;
01479         };
01480
01481         template <typename v1, typename v2, size_t k, typename E = void>
01482         struct mul_at {};
01483
01484         template<typename v1, typename v2, size_t k>
01485         struct mul_at<v1, v2, k, std::enable_if_t<(k < 0) || (k > v1::degree + v2::degree)» {
01486             using type = typename Ring::zero;
01487         };
01488
01489         template<typename v1, typename v2, size_t k>
01490         struct mul_at<v1, v2, k, std::enable_if_t<(k >= 0) && (k <= v1::degree + v2::degree)» {
01491             using type = typename mul_at_loop_helper<v1, v2, k, 0, k>::type;
01492         };
01493
```

```
01494         template<typename P1, typename P2, size_t index>
01495         using mul_at_t = typename mul_at<P1, P2, index>::type;
01496 
01497         template<typename P1, typename P2, std::size_t... I>
01498         struct mul_low<P1, P2, std::index_sequence<I...>> {
01499             using type = val<mul_at_t<P1, P2, I>...>;
01500         };
01501 
01502         // division helper
01503         template< typename A, typename B, typename Q, typename R, typename E = void>
01504         struct div_helper {};
01505 
01506         template<typename A, typename B, typename Q, typename R>
01507         struct div_helper<A, B, Q, R, std::enable_if_t<
01508             (R::degree < B::degree) ||
01509             (R::degree == 0 && std::is_same<typename R::aN, typename Ring::zero>::value)>> {
01510             using q_type = Q;
01511             using mod_type = R;
01512             using gcd_type = B;
01513         };
01514 
01515         template<typename A, typename B, typename Q, typename R>
01516         struct div_helper<A, B, Q, R, std::enable_if_t<
01517             (R::degree >= B::degree) &&
01518             !(R::degree == 0 && std::is_same<typename R::aN, typename Ring::zero>::value)>> {
01519          private: // NOLINT
01520             using rN = typename R::aN;
01521             using bN = typename B::aN;
01522             using pT = typename monomial<typename Ring::template div_t<rN, bN>, R::degree -
      B::degree>::type;
01523             using rr = typename sub<R, typename mul<pT, B>::type>::type;
01524             using qq = typename add<Q, pT>::type;
01525 
01526          public:
01527             using q_type = typename div_helper<A, B, qq, rr>::q_type;
01528             using mod_type = typename div_helper<A, B, qq, rr>::mod_type;
01529             using gcd_type = rr;
01530         };
01531 
01532         template<typename A, typename B>
01533         struct div {
01534             static_assert(Ring::is_euclidean_domain, "cannot divide in that type of Ring");
01535             using q_type = typename div_helper<A, B, zero, A>::q_type;
01536             using m_type = typename div_helper<A, B, zero, A>::mod_type;
01537         };
01538 
01539         template<typename P>
01540         struct make_unit {
01541             using type = typename div<P, val<typename P::aN>>::q_type;
01542         };
01543 
01544         template<typename coeff, size_t deg>
01545         struct monomial {
01546             using type = typename mul<X, typename monomial<coeff, deg - 1>::type>::type;
01547         };
01548 
01549         template<typename coeff>
01550         struct monomial<coeff, 0> {
01551             using type = val<coeff>;
01552         };
01553 
01554         template<typename valueRing, typename P>
01555         struct horner_evaluation {
01556             template<size_t index, size_t stop>
01557             struct inner {
01558                 static constexpr DEVICE INLINED valueRing func(const valueRing& accum, const
      valueRing& x) {
01559                     constexpr valueRing coeff =
01560                         static_cast<valueRing>(P::template coeff_at_t<P::degree - index>::template
      get<valueRing>());
01561                     return horner_evaluation<valueRing, P>::template inner<index + 1, stop>::func(x *
      accum + coeff, x);
01562                 }
01563             };
01564 
01565             template<size_t stop>
01566             struct inner<stop, stop> {
01567                 static constexpr DEVICE INLINED valueRing func(const valueRing& accum, const
      valueRing& x) {
01568                     return accum;
01569                 }
01570             };
01571         };
01572 
01573         template<typename coeff, typename... coeffs>
01574         struct string_helper {
01575             static std::string func() {
```

```
01576                 std::string tail = string_helper<coeffs...>::func();
01577                 std::string result = "";
01578                 if (Ring::template eq_t<coeff, typename Ring::zero>::value) {
01579                     return tail;
01580                 } else if (Ring::template eq_t<coeff, typename Ring::one>::value) {
01581                     if (sizeof...(coeffs) == 1) {
01582                         result += "x";
01583                     } else {
01584                         result += "x^" + std::to_string(sizeof...(coeffs));
01585                     }
01586                 } else {
01587                     if (sizeof...(coeffs) == 1) {
01588                         result += coeff::to_string() + " x";
01589                     } else {
01590                         result += coeff::to_string()
01591                                 + " x^" + std::to_string(sizeof...(coeffs));
01592                     }
01593                 }
01594 
01595                 if (!tail.empty()) {
01596                     result += " + " + tail;
01597                 }
01598 
01599                 return result;
01600             }
01601         };
01602 
01603         template<typename coeff>
01604         struct string_helper<coeff> {
01605             static std::string func() {
01606                 if (!std::is_same<coeff, typename Ring::zero>::value) {
01607                     return coeff::to_string();
01608                 } else {
01609                     return "";
01610                 }
01611             }
01612         };
01613 
01614     public:
01617         template<typename P>
01618         using simplify_t = typename simplify<P>::type;
01619 
01623         template<typename v1, typename v2>
01624         using add_t = typename add<v1, v2>::type;
01625 
01629         template<typename v1, typename v2>
01630         using sub_t = typename sub<v1, v2>::type;
01631 
01635         template<typename v1, typename v2>
01636         using mul_t = typename mul<v1, v2>::type;
01637 
01641         template<typename v1, typename v2>
01642         using eq_t = typename eq_helper<v1, v2>::type;
01643 
01647         template<typename v1, typename v2>
01648         using lt_t = typename lt_helper<v1, v2>::type;
01649 
01653         template<typename v1, typename v2>
01654         using gt_t = typename gt_helper<v1, v2>::type;
01655 
01659         template<typename v1, typename v2>
01660         using div_t = typename div<v1, v2>::q_type;
01661 
01665         template<typename v1, typename v2>
01666         using mod_t = typename div_helper<v1, v2, zero, v1>::mod_type;
01667 
01671         template<typename coeff, size_t deg>
01672         using monomial_t = typename monomial<coeff, deg>::type;
01673 
01676         template<typename v>
01677         using derive_t = typename derive_helper<v>::type;
01678 
01681         template<typename v>
01682         using pos_t = typename Ring::template pos_t<typename v::aN>;
01683 
01686         template<typename v>
01687         static constexpr bool pos_v = pos_t<v>::value;
01688 
01692         template<typename v1, typename v2>
01693         using gcd_t = std::conditional_t<
01694             Ring::is_euclidean_domain,
01695             typename make_unit<gcd_t<polynomial<Ring>, v1, v2»::type,
01696             void>;
01697 
01701         template<auto x>
01702         using inject_constant_t = val<typename Ring::template inject_constant_t<x>>;
01703 
```

```
01707         template<typename v>
01708         using inject_ring_t = val<v>;
01709     };
01710 }  // namespace aerobus
01711
01712 // fraction field
01713 namespace aerobus {
01714     namespace internal {
01715         template<typename Ring, typename E = void>
01716         requires IsEuclideanDomain<Ring>
01717         struct _FractionField {};
01718
01719         template<typename Ring>
01720         requires IsEuclideanDomain<Ring>
01721         struct _FractionField<Ring, std::enable_if_t<Ring::is_euclidean_domain» {
01723             static constexpr bool is_field = true;
01724             static constexpr bool is_euclidean_domain = true;
01725
01726          private:
01727             template<typename val1, typename val2, typename E = void>
01728             struct to_string_helper {};
01729
01730             template<typename val1, typename val2>
01731             struct to_string_helper <val1, val2,
01732                 std::enable_if_t<
01733                 Ring::template eq_t<
01734                 val2, typename Ring::one
01735                 >::value
01736                 >
01737             > {
01738                 static std::string func() {
01739                     return val1::to_string();
01740                 }
01741             };
01742
01743             template<typename val1, typename val2>
01744             struct to_string_helper<val1, val2,
01745                 std::enable_if_t<
01746                 !Ring::template eq_t<
01747                 val2,
01748                 typename Ring::one
01749                 >::value
01750                 >
01751             > {
01752                 static std::string func() {
01753                     return "(" + val1::to_string() + ") / (" + val2::to_string() + ")";
01754                 }
01755             };
01756
01757          public:
01761             template<typename val1, typename val2>
01762             struct val {
01764                 using x = val1;
01766                 using y = val2;
01768                 using is_zero_t = typename val1::is_zero_t;
01770                 static constexpr bool is_zero_v = val1::is_zero_t::value;
01771
01773                 using ring_type = Ring;
01774                 using enclosing_type = _FractionField<Ring>;
01775
01778                  static constexpr bool is_integer = std::is_same_v<val2, typename Ring::one>;
01779
01783                 template<typename valueType>
01784                 static constexpr DEVICE INLINED valueType get() {
01785                     return static_cast<valueType>(x::v) / static_cast<valueType>(y::v);
01786                 }
01787
01790                 static std::string to_string() {
01791                     return to_string_helper<val1, val2>::func();
01792                 }
01793
01798                 template<typename valueRing>
01799                 static constexpr DEVICE INLINED valueRing eval(const valueRing& v) {
01800                     return x::eval(v) / y::eval(v);
01801                 }
01802             };
01803
01805             using zero = val<typename Ring::zero, typename Ring::one>;
01807             using one = val<typename Ring::one, typename Ring::one>;
01808
01811             template<typename v>
01812             using inject_t = val<v, typename Ring::one>;
01813
01816             template<auto x>
01817             using inject_constant_t = val<typename Ring::template inject_constant_t<x>, typename
      Ring::one>;
01818
```

```
01821             template<typename v>
01822             using inject_ring_t = val<typename Ring::template inject_ring_t<v>, typename Ring::one>;
01823 
01825             using ring_type = Ring;
01826 
01827          private:
01828             template<typename v, typename E = void>
01829             struct simplify {};
01830 
01831             // x = 0
01832             template<typename v>
01833             struct simplify<v, std::enable_if_t<v::x::is_zero_t::value» {
01834                 using type = typename _FractionField<Ring>::zero;
01835             };
01836 
01837             // x != 0
01838             template<typename v>
01839             struct simplify<v, std::enable_if_t<!v::x::is_zero_t::value» {
01840              private:
01841                 using _gcd = typename Ring::template gcd_t<typename v::x, typename v::y>;
01842                 using newx = typename Ring::template div_t<typename v::x, _gcd>;
01843                 using newy = typename Ring::template div_t<typename v::y, _gcd>;
01844 
01845                 using posx = std::conditional_t<
01846                                 !Ring::template pos_v<newy>,
01847                                 typename Ring::template sub_t<typename Ring::zero, newx>,
01848                                 newx>;
01849                 using posy = std::conditional_t<
01850                                 !Ring::template pos_v<newy>,
01851                                 typename Ring::template sub_t<typename Ring::zero, newy>,
01852                                 newy>;
01853              public:
01854                 using type = typename _FractionField<Ring>::template val<posx, posy>;
01855             };
01856 
01857          public:
01860             template<typename v>
01861             using simplify_t = typename simplify<v>::type;
01862 
01863          private:
01864             template<typename v1, typename v2>
01865             struct add {
01866              private:
01867                 using a = typename Ring::template mul_t<typename v1::x, typename v2::y>;
01868                 using b = typename Ring::template mul_t<typename v1::y, typename v2::x>;
01869                 using dividend = typename Ring::template add_t<a, b>;
01870                 using diviser = typename Ring::template mul_t<typename v1::y, typename v2::y>;
01871                 using g = typename Ring::template gcd_t<dividend, diviser>;
01872 
01873              public:
01874                 using type = typename _FractionField<Ring>::template simplify_t<val<dividend,
      diviser»;
01875             };
01876 
01877             template<typename v>
01878             struct pos {
01879                 using type = std::conditional_t<
01880                     (Ring::template pos_v<typename v::x> && Ring::template pos_v<typename v::y>) ||
01881                     (!Ring::template pos_v<typename v::x> && !Ring::template pos_v<typename v::y>),
01882                     std::true_type,
01883                     std::false_type>;
01884             };
01885 
01886             template<typename v1, typename v2>
01887             struct sub {
01888              private:
01889                 using a = typename Ring::template mul_t<typename v1::x, typename v2::y>;
01890                 using b = typename Ring::template mul_t<typename v1::y, typename v2::x>;
01891                 using dividend = typename Ring::template sub_t<a, b>;
01892                 using diviser = typename Ring::template mul_t<typename v1::y, typename v2::y>;
01893                 using g = typename Ring::template gcd_t<dividend, diviser>;
01894 
01895              public:
01896                 using type = typename _FractionField<Ring>::template simplify_t<val<dividend,
      diviser»;
01897             };
01898 
01899             template<typename v1, typename v2>
01900             struct mul {
01901              private:
01902                 using a = typename Ring::template mul_t<typename v1::x, typename v2::x>;
01903                 using b = typename Ring::template mul_t<typename v1::y, typename v2::y>;
01904 
01905              public:
01906                 using type = typename _FractionField<Ring>::template simplify_t<val<a, b»;
01907             };
01908 
```

```
01909             template<typename v1, typename v2, typename E = void>
01910             struct div {};
01911
01912             template<typename v1, typename v2>
01913             struct div<v1, v2, std::enable_if_t<!std::is_same<v2, typename
      _FractionField<Ring>::zero>::value»  {
01914              private:
01915                 using a = typename Ring::template mul_t<typename v1::x, typename v2::y>;
01916                 using b = typename Ring::template mul_t<typename v1::y, typename v2::x>;
01917
01918              public:
01919                 using type = typename _FractionField<Ring>::template simplify_t<val<a, b»;
01920             };
01921
01922             template<typename v1, typename v2>
01923             struct div<v1, v2, std::enable_if_t<
01924                 std::is_same<zero, v1>::value && std::is_same<v2, zero>::value»  {
01925                 using type = one;
01926             };
01927
01928             template<typename v1, typename v2>
01929             struct eq {
01930                 using type = std::conditional_t<
01931                         std::is_same<typename simplify_t<v1>::x, typename simplify_t<v2>::x>::value &&
01932                         std::is_same<typename simplify_t<v1>::y, typename simplify_t<v2>::y>::value,
01933                     std::true_type,
01934                     std::false_type>;
01935             };
01936
01937             template<typename v1, typename v2, typename E = void>
01938             struct gt;
01939
01940             template<typename v1, typename v2>
01941             struct gt<v1, v2, std::enable_if_t<
01942                 (eq<v1, v2>::type::value)
01943                 » {
01944                 using type = std::false_type;
01945             };
01946
01947             template<typename v1, typename v2>
01948             struct gt<v1, v2, std::enable_if_t<
01949                 (!eq<v1, v2>::type::value) &&
01950                 (!pos<v1>::type::value) && (!pos<v2>::type::value)
01951                 » {
01952                 using type = typename gt<
01953                     typename sub<zero, v1>::type, typename sub<zero, v2>::type
01954                 >::type;
01955             };
01956
01957             template<typename v1, typename v2>
01958             struct gt<v1, v2, std::enable_if_t<
01959                 (!eq<v1, v2>::type::value) &&
01960                 (pos<v1>::type::value) && (!pos<v2>::type::value)
01961                 » {
01962                 using type = std::true_type;
01963             };
01964
01965             template<typename v1, typename v2>
01966             struct gt<v1, v2, std::enable_if_t<
01967                 (!eq<v1, v2>::type::value) &&
01968                 (!pos<v1>::type::value) && (pos<v2>::type::value)
01969                 » {
01970                 using type = std::false_type;
01971             };
01972
01973             template<typename v1, typename v2>
01974             struct gt<v1, v2, std::enable_if_t<
01975                 (!eq<v1, v2>::type::value) &&
01976                 (pos<v1>::type::value) && (pos<v2>::type::value)
01977                 » {
01978                 using type = typename Ring::template gt_t<
01979                     typename Ring::template mul_t<v1::x, v2::y>,
01980                     typename Ring::template mul_t<v2::y, v2::x>
01981                 >;
01982             };
01983
01984          public:
01989             template<typename v1, typename v2>
01990             using add_t = typename add<v1, v2>::type;
01991
01996             template<typename v1, typename v2>
01997             using mod_t = zero;
01998
02003             template<typename v1, typename v2>
02004             using gcd_t = v1;
02005
02009             template<typename v1, typename v2>
```

```
02010             using sub_t = typename sub<v1, v2>::type;
02011
02015             template<typename v1, typename v2>
02016             using mul_t = typename mul<v1, v2>::type;
02017
02021             template<typename v1, typename v2>
02022             using div_t = typename div<v1, v2>::type;
02023
02027             template<typename v1, typename v2>
02028             using eq_t = typename eq<v1, v2>::type;
02029
02033             template<typename v1, typename v2>
02034             static constexpr bool eq_v = eq<v1, v2>::type::value;
02035
02039             template<typename v1, typename v2>
02040             using gt_t = typename gt<v1, v2>::type;
02041
02045             template<typename v1, typename v2>
02046             static constexpr bool gt_v = gt<v1, v2>::type::value;
02047
02050             template<typename v1>
02051             using pos_t = typename pos<v1>::type;
02052
02055             template<typename v>
02056             static constexpr bool pos_v = pos_t<v>::value;
02057         };
02058
02059         template<typename Ring, typename E = void>
02060         requires IsEuclideanDomain<Ring>
02061         struct FractionFieldImpl {};
02062
02063         // fraction field of a field is the field itself
02064         template<typename Field>
02065         requires IsEuclideanDomain<Field>
02066         struct FractionFieldImpl<Field, std::enable_if_t<Field::is_field>> {
02067             using type = Field;
02068             template<typename v>
02069             using inject_t = v;
02070         };
02071
02072         // fraction field of a ring is the actual fraction field
02073         template<typename Ring>
02074         requires IsEuclideanDomain<Ring>
02075         struct FractionFieldImpl<Ring, std::enable_if_t<!Ring::is_field>> {
02076             using type = _FractionField<Ring>;
02077         };
02078     }  // namespace internal
02079
02083     template<typename Ring>
02084     requires IsEuclideanDomain<Ring>
02085     using FractionField = typename internal::FractionFieldImpl<Ring>::type;
02086 }  // namespace aerobus
02087
02088 // short names for common types
02089 namespace aerobus {
02092     using q32 = FractionField<i32>;
02095     using fpq32 = FractionField<polynomial<q32>>;
02098     using q64 = FractionField<i64>;
02100     using pi64 = polynomial<i64>;
02102     using pq64 = polynomial<q64>;
02104     using fpq64 = FractionField<polynomial<q64>>;
02109     template<typename Ring, typename v1, typename v2>
02110     using makefraction_t = typename FractionField<Ring>::template val<v1, v2>;
02111
02115     template<int64_t p, int64_t q>
02116     using make_q64_t = typename q64::template simplify_t<
02117                 typename q64::val<i64::inject_constant_t<p>, i64::inject_constant_t<q>>;
02118
02122     template<int32_t p, int32_t q>
02123     using make_q32_t = typename q32::template simplify_t<
02124                 typename q32::val<i32::inject_constant_t<p>, i32::inject_constant_t<q>>;
02125
02130     template<typename Ring, typename v1, typename v2>
02131     using addfractions_t = typename FractionField<Ring>::template add_t<v1, v2>;
02136     template<typename Ring, typename v1, typename v2>
02137     using mulfractions_t = typename FractionField<Ring>::template mul_t<v1, v2>;
02138 }  // namespace aerobus
02139
02140 // taylor series and common integers (factorial, bernoulli...) appearing in taylor coefficients
02141 namespace aerobus {
02142     namespace internal {
02143         template<typename T, size_t x, typename E = void>
02144         struct factorial {};
02145
02146         template<typename T, size_t x>
02147         struct factorial<T, x, std::enable_if_t<(x > 0)>> {
02148         private:
```

```
02149             template<typename, size_t, typename>
02150             friend struct factorial;
02151         public:
02152             using type = typename T::template mul_t<typename T::template val<x>, typename factorial<T,
      x - 1>::type>;
02153             static constexpr typename T::inner_type value = type::template get<typename
      T::inner_type>();
02154         };
02155
02156         template<typename T>
02157         struct factorial<T, 0> {
02158          public:
02159             using type = typename T::one;
02160             static constexpr typename T::inner_type value = type::template get<typename
      T::inner_type>();
02161         };
02162     }  // namespace internal
02163
02167     template<typename T, size_t i>
02168     using factorial_t = typename internal::factorial<T, i>::type;
02169
02173     template<typename T, size_t i>
02174     inline constexpr typename T::inner_type factorial_v = internal::factorial<T, i>::value;
02175
02176     namespace internal {
02177         template<typename T, size_t k, size_t n, typename E = void>
02178         struct combination_helper {};
02179
02180         template<typename T, size_t k, size_t n>
02181         struct combination_helper<T, k, n, std::enable_if_t<(n >= 0 && k <= (n / 2) && k > 0)>> {
02182             using type = typename FractionField<T>::template mul_t<
02183                 typename combination_helper<T, k - 1, n - 1>::type,
02184                 makefraction_t<T, typename T::template val<n>, typename T::template val<k>>>;
02185         };
02186
02187         template<typename T, size_t k, size_t n>
02188         struct combination_helper<T, k, n, std::enable_if_t<(n >= 0 && k > (n / 2) && k > 0)>> {
02189             using type = typename combination_helper<T, n - k, n>::type;
02190         };
02191
02192         template<typename T, size_t n>
02193         struct combination_helper<T, 0, n> {
02194             using type = typename FractionField<T>::one;
02195         };
02196
02197         template<typename T, size_t k, size_t n>
02198         struct combination {
02199             using type = typename internal::combination_helper<T, k, n>::type::x;
02200             static constexpr typename T::inner_type value =
02201                         internal::combination_helper<T, k, n>::type::template get<typename
      T::inner_type>();
02202         };
02203     }  // namespace internal
02204
02207     template<typename T, size_t k, size_t n>
02208     using combination_t = typename internal::combination<T, k, n>::type;
02209
02214     template<typename T, size_t k, size_t n>
02215     inline constexpr typename T::inner_type combination_v = internal::combination<T, k, n>::value;
02216
02217     namespace internal {
02218         template<typename T, size_t m>
02219         struct bernoulli;
02220
02221         template<typename T, typename accum, size_t k, size_t m>
02222         struct bernoulli_helper {
02223             using type = typename bernoulli_helper<
02224                 T,
02225                 addfractions_t<T,
02226                     accum,
02227                     mulfractions_t<T,
02228                         makefraction_t<T,
02229                             combination_t<T, k, m + 1>,
02230                             typename T::one>,
02231                         typename bernoulli<T, k>::type
02232                     >
02233                 >,
02234                 k + 1,
02235                 m>::type;
02236         };
02237
02238         template<typename T, typename accum, size_t m>
02239         struct bernoulli_helper<T, accum, m, m> {
02240             using type = accum;
02241         };
02242
02243
```

```
02244
02245         template<typename T, size_t m>
02246         struct bernoulli {
02247             using type = typename FractionField<T>::template mul_t<
02248                 typename internal::bernoulli_helper<T, typename FractionField<T>::zero, 0, m>::type,
02249                 makefraction_t<T,
02250                 typename T::template val<static_cast<typename T::inner_type>(-1)>,
02251                 typename T::template val<static_cast<typename T::inner_type>(m + 1)>
02252                 >
02253             >;
02254
02255             template<typename floatType>
02256             static constexpr floatType value = type::template get<floatType>();
02257         };
02258
02259         template<typename T>
02260         struct bernoulli<T, 0> {
02261             using type = typename FractionField<T>::one;
02262
02263             template<typename floatType>
02264             static constexpr floatType value = type::template get<floatType>();
02265         };
02266     }  // namespace internal
02267
02271     template<typename T, size_t n>
02272     using bernoulli_t = typename internal::bernoulli<T, n>::type;
02273
02278     template<typename FloatType, typename T, size_t n >
02279     inline constexpr FloatType bernoulli_v = internal::bernoulli<T, n>::template value<FloatType>;
02280
02281     // bell numbers
02282     namespace internal {
02283         template<typename T, size_t n, typename E = void>
02284         struct bell_helper;
02285
02286         template <typename T, size_t n>
02287         struct bell_helper<T, n, std::enable_if_t<(n > 1)» {
02288             template<typename accum, size_t i, size_t stop>
02289             struct sum_helper {
02290              private:
02291                 using left = typename T::template mul_t<
02292                             combination_t<T, i, n-1>,
02293                             typename bell_helper<T, i>::type>;
02294                 using new_accum = typename T::template add_t<accum, left>;
02295              public:
02296                 using type = typename sum_helper<new_accum, i+1, stop>::type;
02297             };
02298
02299             template<typename accum, size_t stop>
02300             struct sum_helper<accum, stop, stop> {
02301                 using type = accum;
02302             };
02303
02304             using type = typename sum_helper<typename T::zero, 0, n>::type;
02305         };
02306
02307         template<typename T>
02308         struct bell_helper<T, 0> {
02309             using type = typename T::one;
02310         };
02311
02312         template<typename T>
02313         struct bell_helper<T, 1> {
02314             using type = typename T::one;
02315         };
02316     }  // namespace internal
02317
02321     template<typename T, size_t n>
02322     using bell_t = typename internal::bell_helper<T, n>::type;
02323
02327     template<typename T, size_t n>
02328     static constexpr typename T::inner_type bell_v = bell_t<T, n>::v;
02329
02330     namespace internal {
02331         template<typename T, int k, typename E = void>
02332         struct alternate {};
02333
02334         template<typename T, int k>
02335         struct alternate<T, k, std::enable_if_t<k % 2 == 0» {
02336             using type = typename T::one;
02337             static constexpr typename T::inner_type value = type::template get<typename
    T::inner_type>();
02338         };
02339
02340         template<typename T, int k>
02341         struct alternate<T, k, std::enable_if_t<k % 2 != 0» {
02342             using type = typename T::template sub_t<typename T::zero, typename T::one>;
```

```
02343             static constexpr typename T::inner_type value = type::template get<typename
      T::inner_type>();
02344         };
02345     }  // namespace internal
02346
02349     template<typename T, int k>
02350     using alternate_t = typename internal::alternate<T, k>::type;
02351
02352     namespace internal {
02353         template<typename T, int n, int k, typename E = void>
02354         struct stirling_helper {};
02355
02356         template<typename T>
02357         struct stirling_helper<T, 0, 0> {
02358             using type = typename T::one;
02359         };
02360
02361         template<typename T, int n>
02362         struct stirling_helper<T, n, 0, std::enable_if_t<(n > 0)>> {
02363             using type = typename T::zero;
02364         };
02365
02366         template<typename T, int n>
02367         struct stirling_helper<T, 0, n, std::enable_if_t<(n > 0)>> {
02368             using type = typename T::zero;
02369         };
02370
02371         template<typename T, int n, int k>
02372         struct stirling_helper<T, n, k, std::enable_if_t<(k > 0) && (n > 0)>> {
02373             using type = typename T::template sub_t<
02374                             typename stirling_helper<T, n-1, k-1>::type,
02375                             typename T::template mul_t<
02376                                 typename T::template inject_constant_t<n-1>,
02377                                 typename stirling_helper<T, n-1, k>::type
02378                             >;
02379         };
02380     }  // namespace internal
02381
02386     template<typename T, int n, int k>
02387     using stirling_signed_t = typename internal::stirling_helper<T, n, k>::type;
02388
02393     template<typename T, int n, int k>
02394     using stirling_unsigned_t = abs_t<typename internal::stirling_helper<T, n, k>::type>;
02395
02400     template<typename T, int n, int k>
02401     static constexpr typename T::inner_type stirling_signed_v = stirling_signed_t<T, n, k>::v;
02402
02403
02408     template<typename T, int n, int k>
02409     static constexpr typename T::inner_type stirling_unsigned_v = stirling_unsigned_t<T, n, k>::v;
02410
02413     template<typename T, size_t k>
02414     inline constexpr typename T::inner_type alternate_v = internal::alternate<T, k>::value;
02415
02416     namespace internal {
02417         template<typename T>
02418         struct pow_scalar {
02419             template<size_t p>
02420             static constexpr DEVICE INLINED T func(const T& x) { return p == 0 ? static_cast<T>(1) :
02421                 p % 2 == 0 ? func<p/2>(x) * func<p/2>(x) :
02422                 x * func<p/2>(x) * func<p/2>(x);
02423             }
02424         };
02425
02426         template<typename T, typename p, size_t n, typename E = void>
02427         requires IsEuclideanDomain<T>
02428         struct pow;
02429
02430         template<typename T, typename p, size_t n>
02431         struct pow<T, p, n, std::enable_if_t<(n > 0 && n % 2 == 0)>> {
02432             using type = typename T::template mul_t<
02433                 typename pow<T, p, n/2>::type,
02434                 typename pow<T, p, n/2>::type
02435             >;
02436         };
02437
02438         template<typename T, typename p, size_t n>
02439         struct pow<T, p, n, std::enable_if_t<(n % 2 == 1)>> {
02440             using type = typename T::template mul_t<
02441                 p,
02442                 typename T::template mul_t<
02443                     typename pow<T, p, n/2>::type,
02444                     typename pow<T, p, n/2>::type
02445                 >
02446             >;
02447         };
02448
```

```
02449         template<typename T, typename p, size_t n>
02450         struct pow<T, p, n, std::enable_if_t<n == 0» { using type = typename T::one; };
02451     }  // namespace internal
02452
02457     template<typename T, typename p, size_t n>
02458     using pow_t = typename internal::pow<T, p, n>::type;
02459
02464     template<typename T, typename p, size_t n>
02465     static constexpr typename T::inner_type pow_v = internal::pow<T, p, n>::type::v;
02466
02467     template<typename T, size_t p>
02468     static constexpr DEVICE INLINED T pow_scalar(const T& x) { return
      internal::pow_scalar<T>::template func<p>(x); }
02469
02470     namespace internal {
02471         template<typename, template<typename, size_t> typename, class>
02472         struct make_taylor_impl;
02473
02474         template<typename T, template<typename, size_t> typename coeff_at, size_t... Is>
02475         struct make_taylor_impl<T, coeff_at, std::integer_sequence<size_t, Is...»> {
02476             using type = typename polynomial<FractionField<T»::template val<typename coeff_at<T,
      Is>::type...>;
02477         };
02478     }
02479
02484     template<typename T, template<typename, size_t index> typename coeff_at, size_t deg>
02485     using taylor = typename internal::make_taylor_impl<
02486         T,
02487         coeff_at,
02488         internal::make_index_sequence_reverse<deg + 1>>::type;
02489
02490     namespace internal {
02491         template<typename T, size_t i>
02492         struct exp_coeff {
02493             using type = makefraction_t<T, typename T::one, factorial_t<T, i>>;
02494         };
02495
02496         template<typename T, size_t i, typename E = void>
02497         struct sin_coeff_helper {};
02498
02499         template<typename T, size_t i>
02500         struct sin_coeff_helper<T, i, std::enable_if_t<(i & 1) == 0» {
02501             using type = typename FractionField<T>::zero;
02502         };
02503
02504         template<typename T, size_t i>
02505         struct sin_coeff_helper<T, i, std::enable_if_t<(i & 1) == 1» {
02506             using type = makefraction_t<T, alternate_t<T, i / 2>, factorial_t<T, i>>;
02507         };
02508
02509         template<typename T, size_t i>
02510         struct sin_coeff {
02511             using type = typename sin_coeff_helper<T, i>::type;
02512         };
02513
02514         template<typename T, size_t i, typename E = void>
02515         struct sh_coeff_helper {};
02516
02517         template<typename T, size_t i>
02518         struct sh_coeff_helper<T, i, std::enable_if_t<(i & 1) == 0» {
02519             using type = typename FractionField<T>::zero;
02520         };
02521
02522         template<typename T, size_t i>
02523         struct sh_coeff_helper<T, i, std::enable_if_t<(i & 1) == 1» {
02524             using type = makefraction_t<T, typename T::one, factorial_t<T, i>>;
02525         };
02526
02527         template<typename T, size_t i>
02528         struct sh_coeff {
02529             using type = typename sh_coeff_helper<T, i>::type;
02530         };
02531
02532         template<typename T, size_t i, typename E = void>
02533         struct cos_coeff_helper {};
02534
02535         template<typename T, size_t i>
02536         struct cos_coeff_helper<T, i, std::enable_if_t<(i & 1) == 1» {
02537             using type = typename FractionField<T>::zero;
02538         };
02539
02540         template<typename T, size_t i>
02541         struct cos_coeff_helper<T, i, std::enable_if_t<(i & 1) == 0» {
02542             using type = makefraction_t<T, alternate_t<T, i / 2>, factorial_t<T, i>>;
02543         };
02544
02545         template<typename T, size_t i>
```

```
02546         struct cos_coeff {
02547             using type = typename cos_coeff_helper<T, i>::type;
02548         };
02549 
02550         template<typename T, size_t i, typename E = void>
02551         struct cosh_coeff_helper {};
02552 
02553         template<typename T, size_t i>
02554         struct cosh_coeff_helper<T, i, std::enable_if_t<(i & 1) == 1>> {
02555             using type = typename FractionField<T>::zero;
02556         };
02557 
02558         template<typename T, size_t i>
02559         struct cosh_coeff_helper<T, i, std::enable_if_t<(i & 1) == 0>> {
02560             using type = makefraction_t<T, typename T::one, factorial_t<T, i>>;
02561         };
02562 
02563         template<typename T, size_t i>
02564         struct cosh_coeff {
02565             using type = typename cosh_coeff_helper<T, i>::type;
02566         };
02567 
02568         template<typename T, size_t i>
02569         struct geom_coeff { using type = typename FractionField<T>::one; };
02570 
02571 
02572         template<typename T, size_t i, typename E = void>
02573         struct atan_coeff_helper;
02574 
02575         template<typename T, size_t i>
02576         struct atan_coeff_helper<T, i, std::enable_if_t<(i & 1) == 1>> {
02577             using type = makefraction_t<T, alternate_t<T, i / 2>, typename T::template val<i>;
02578         };
02579 
02580         template<typename T, size_t i>
02581         struct atan_coeff_helper<T, i, std::enable_if_t<(i & 1) == 0>> {
02582             using type = typename FractionField<T>::zero;
02583         };
02584 
02585         template<typename T, size_t i>
02586         struct atan_coeff { using type = typename atan_coeff_helper<T, i>::type; };
02587 
02588         template<typename T, size_t i, typename E = void>
02589         struct asin_coeff_helper;
02590 
02591         template<typename T, size_t i>
02592         struct asin_coeff_helper<T, i, std::enable_if_t<(i & 1) == 1>> {
02593             using type = makefraction_t<T,
02594                 factorial_t<T, i - 1>,
02595                 typename T::template mul_t<
02596                     typename T::template val<i>,
02597                     T::template mul_t<
02598                         pow_t<T, typename T::template inject_constant_t<4>, i / 2>,
02599                         pow<T, factorial_t<T, i / 2>, 2
02600                     >
02601                 >
02602                 >;
02603         };
02604 
02605         template<typename T, size_t i>
02606         struct asin_coeff_helper<T, i, std::enable_if_t<(i & 1) == 0>> {
02607             using type = typename FractionField<T>::zero;
02608         };
02609 
02610         template<typename T, size_t i>
02611         struct asin_coeff {
02612             using type = typename asin_coeff_helper<T, i>::type;
02613         };
02614 
02615         template<typename T, size_t i>
02616         struct lnp1_coeff {
02617             using type = makefraction_t<T,
02618                 alternate_t<T, i + 1>,
02619                 typename T::template val<i>;
02620         };
02621 
02622         template<typename T>
02623         struct lnp1_coeff<T, 0> { using type = typename FractionField<T>::zero; };
02624 
02625         template<typename T, size_t i, typename E = void>
02626         struct asinh_coeff_helper;
02627 
02628         template<typename T, size_t i>
02629         struct asinh_coeff_helper<T, i, std::enable_if_t<(i & 1) == 1>> {
02630             using type = makefraction_t<T,
02631                 typename T::template mul_t<
02632                     alternate_t<T, i / 2>,
```

```
02633                     factorial_t<T, i - 1>
02634                 >,
02635                 typename T::template mul_t<
02636                     typename T::template mul_t<
02637                         typename T::template val<i>,
02638                         pow_t<T, factorial_t<T, i / 2>, 2>
02639                     >,
02640                     pow_t<T, typename T::template inject_constant_t<4>, i / 2>
02641                 >
02642             >;
02643         };
02644 
02645         template<typename T, size_t i>
02646         struct asinh_coeff_helper<T, i, std::enable_if_t<(i & 1) == 0» {
02647             using type = typename FractionField<T>::zero;
02648         };
02649 
02650         template<typename T, size_t i>
02651         struct asinh_coeff {
02652             using type = typename asinh_coeff_helper<T, i>::type;
02653         };
02654 
02655         template<typename T, size_t i, typename E = void>
02656         struct atanh_coeff_helper;
02657 
02658         template<typename T, size_t i>
02659         struct atanh_coeff_helper<T, i, std::enable_if_t<(i & 1) == 1» {
02660             // 1/i
02661             using type = typename FractionField<T>:: template val<
02662                 typename T::one,
02663                 typename T::template inject_constant_t<i»;
02664         };
02665 
02666         template<typename T, size_t i>
02667         struct atanh_coeff_helper<T, i, std::enable_if_t<(i & 1) == 0» {
02668             using type = typename FractionField<T>::zero;
02669         };
02670 
02671         template<typename T, size_t i>
02672         struct atanh_coeff {
02673             using type = typename atanh_coeff_helper<T, i>::type;
02674         };
02675 
02676         template<typename T, size_t i, typename E = void>
02677         struct tan_coeff_helper;
02678 
02679         template<typename T, size_t i>
02680         struct tan_coeff_helper<T, i, std::enable_if_t<(i % 2) == 0» {
02681             using type = typename FractionField<T>::zero;
02682         };
02683 
02684         template<typename T, size_t i>
02685         struct tan_coeff_helper<T, i, std::enable_if_t<(i % 2) != 0» {
02686         private:
02687             // 4^((i+1)/2)
02688             using _4p = typename FractionField<T>::template inject_t<
02689                 pow_t<T, typename T::template inject_constant_t<4>, (i + 1) / 2»;
02690             // 4^((i+1)/2) - 1
02691             using _4pm1 = typename FractionField<T>::template sub_t<_4p, typename
      FractionField<T>::one>;
02692             // (-1)^((i-1)/2)
02693             using altp = typename FractionField<T>::template inject_t<alternate_t<T, (i - 1) / 2»;
02694             using dividend = typename FractionField<T>::template mul_t<
02695                 altp,
02696                 FractionField<T>::template mul_t<
02697                 _4p,
02698                 FractionField<T>::template mul_t<
02699                 _4pm1,
02700                 bernoulli_t<T, (i + 1)>
02701                 >
02702                 >
02703             >;
02704         public:
02705             using type = typename FractionField<T>::template div_t<dividend,
02706                 typename FractionField<T>::template inject_t<factorial_t<T, i + 1»>;
02707         };
02708 
02709         template<typename T, size_t i>
02710         struct tan_coeff {
02711             using type = typename tan_coeff_helper<T, i>::type;
02712         };
02713 
02714         template<typename T, size_t i, typename E = void>
02715         struct tanh_coeff_helper;
02716 
02717         template<typename T, size_t i>
02718         struct tanh_coeff_helper<T, i, std::enable_if_t<(i % 2) == 0» {
```

```
02719             using type = typename FractionField<T>::zero;
02720         };
02721
02722         template<typename T, size_t i>
02723         struct tanh_coeff_helper<T, i, std::enable_if_t<(i % 2) != 0» {
02724         private:
02725             using _4p = typename FractionField<T>::template inject_t<
02726                 pow_t<T, typename T::template inject_constant_t<4>, (i + 1) / 2»;
02727             using _4pm1 = typename FractionField<T>::template sub_t<_4p, typename
      FractionField<T>::one>;
02728             using dividend =
02729                 typename FractionField<T>::template mul_t<
02730                     _4p,
02731                     typename FractionField<T>::template mul_t<
02732                         _4pm1,
02733                         bernoulli_t<T, (i + 1)»>::type;
02734         public:
02735             using type = typename FractionField<T>::template div_t<dividend,
02736                 FractionField<T>::template inject_t<factorial_t<T, i + 1»>;
02737         };
02738
02739         template<typename T, size_t i>
02740         struct tanh_coeff {
02741             using type = typename tanh_coeff_helper<T, i>::type;
02742         };
02743     }  // namespace internal
02744
02748     template<typename Integers, size_t deg>
02749     using exp = taylor<Integers, internal::exp_coeff, deg>;
02750
02754     template<typename Integers, size_t deg>
02755     using expm1 = typename polynomial<FractionField<Integers>>::template sub_t<
02756         exp<Integers, deg>,
02757         typename polynomial<FractionField<Integers>>::one>;
02758
02762     template<typename Integers, size_t deg>
02763     using lnp1 = taylor<Integers, internal::lnp1_coeff, deg>;
02764
02768     template<typename Integers, size_t deg>
02769     using atan = taylor<Integers, internal::atan_coeff, deg>;
02770
02774     template<typename Integers, size_t deg>
02775     using sin = taylor<Integers, internal::sin_coeff, deg>;
02776
02780     template<typename Integers, size_t deg>
02781     using sinh = taylor<Integers, internal::sh_coeff, deg>;
02782
02787     template<typename Integers, size_t deg>
02788     using cosh = taylor<Integers, internal::cosh_coeff, deg>;
02789
02794     template<typename Integers, size_t deg>
02795     using cos = taylor<Integers, internal::cos_coeff, deg>;
02796
02801     template<typename Integers, size_t deg>
02802     using geometric_sum = taylor<Integers, internal::geom_coeff, deg>;
02803
02808     template<typename Integers, size_t deg>
02809     using asin = taylor<Integers, internal::asin_coeff, deg>;
02810
02815     template<typename Integers, size_t deg>
02816     using asinh = taylor<Integers, internal::asinh_coeff, deg>;
02817
02822     template<typename Integers, size_t deg>
02823     using atanh = taylor<Integers, internal::atanh_coeff, deg>;
02824
02829     template<typename Integers, size_t deg>
02830     using tan = taylor<Integers, internal::tan_coeff, deg>;
02831
02836     template<typename Integers, size_t deg>
02837     using tanh = taylor<Integers, internal::tanh_coeff, deg>;
02838 }  // namespace aerobus
02839
02840 // continued fractions
02841 namespace aerobus {
02850     template<int64_t... values>
02851     struct ContinuedFraction {};
02852
02855     template<int64_t a0>
02856     struct ContinuedFraction<a0> {
02858         using type = typename q64::template inject_constant_t<a0>;
02860         static constexpr double val = static_cast<double>(a0);
02861     };
02862
02866     template<int64_t a0, int64_t... rest>
02867     struct ContinuedFraction<a0, rest...> {
02869         using type = q64::template add_t<
02870                 typename q64::template inject_constant_t<a0>,
```

```
02871                 typename q64::template div_t<
02872                     typename q64::one,
02873                     typename ContinuedFraction<rest...>::type
02874                 »;
02876         static constexpr double val = type::template get<double>();
02877     };
02878
02883     using PI_fraction =
      ContinuedFraction<3, 7, 15, 1, 292, 1, 1, 1, 2, 1, 3, 1, 14, 2, 1, 1, 2, 2, 2, 2, 1>;
02886     using E_fraction =
      ContinuedFraction<2, 1, 2, 1, 1, 4, 1, 1, 6, 1, 1, 8, 1, 1, 10, 1, 1, 12, 1, 1, 14, 1, 1>;
02888     using SQRT2_fraction =
      ContinuedFraction<1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2>;
02890     using SQRT3_fraction =
      ContinuedFraction<1, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2>;
      // NOLINT
02891 }  // namespace aerobus
02892
02893 // known polynomials
02894 namespace aerobus {
02895     // CChebyshev
02896     namespace internal {
02897         template<int kind, size_t deg>
02898         struct chebyshev_helper {
02899             using type = typename pi64::template sub_t<
02900                 typename pi64::template mul_t<
02901                     typename pi64::template mul_t<
02902                         pi64::inject_constant_t<2>,
02903                         typename pi64::X>,
02904                     typename chebyshev_helper<kind, deg - 1>::type
02905                 >,
02906                 typename chebyshev_helper<kind, deg - 2>::type
02907             >;
02908         };
02909
02910         template<>
02911         struct chebyshev_helper<1, 0> {
02912             using type = typename pi64::one;
02913         };
02914
02915         template<>
02916         struct chebyshev_helper<1, 1> {
02917             using type = typename pi64::X;
02918         };
02919
02920         template<>
02921         struct chebyshev_helper<2, 0> {
02922             using type = typename pi64::one;
02923         };
02924
02925         template<>
02926         struct chebyshev_helper<2, 1> {
02927             using type = typename pi64::template mul_t<
02928                 typename pi64::inject_constant_t<2>,
02929                 typename pi64::X>;
02930         };
02931     }  // namespace internal
02932
02933     // Laguerre
02934     namespace internal {
02935         template<size_t deg>
02936         struct laguerre_helper {
02937          private:
02938             // Lk = (1 / k) * ((2 * k - 1 - x) * lkm1 - (k - 2)Lkm2)
02939             using lnm2 = typename laguerre_helper<deg - 2>::type;
02940             using lnm1 = typename laguerre_helper<deg - 1>::type;
02941             // -x + 2k-1
02942             using p = typename pq64::template val<
02943                 typename q64::template inject_constant_t<-1>,
02944                 typename q64::template inject_constant_t<2 * deg - 1»;
02945             // 1/n
02946             using factor = typename pq64::template inject_ring_t<
02947                 q64::val<typename i64::one, typename i64::template inject_constant_t<deg»>;
02948
02949          public:
02950             using type = typename pq64::template mul_t <
02951                 factor,
02952                 typename pq64::template sub_t<
02953                     typename pq64::template mul_t<
02954                         p,
02955                         lnm1
02956                     >,
02957                     typename pq64::template mul_t<
02958                         typename pq64::template inject_constant_t<deg-1>,
02959                         lnm2
02960                     >
02961                 >
```

```
02962             >;
02963         };
02964
02965         template<>
02966         struct laguerre_helper<0> {
02967             using type = typename pq64::one;
02968         };
02969
02970         template<>
02971         struct laguerre_helper<1> {
02972             using type = typename pq64::template sub_t<typename pq64::one, typename pq64::X>;
02973         };
02974     }  // namespace internal
02975
02976     // Bernstein
02977     namespace internal {
02978         template<size_t i, size_t m, typename E = void>
02979         struct bernstein_helper {};
02980
02981         template<>
02982         struct bernstein_helper<0, 0> {
02983             using type = typename pi64::one;
02984         };
02985
02986         template<size_t i, size_t m>
02987         struct bernstein_helper<i, m, std::enable_if_t<
02988                     (m > 0) && (i == 0)» {
02989             using type = typename pi64::mul_t<
02990                     typename pi64::sub_t<typename pi64::one, typename pi64::X>,
02991                     typename bernstein_helper<i, m-1>::type>;
02992         };
02993
02994         template<size_t i, size_t m>
02995         struct bernstein_helper<i, m, std::enable_if_t<
02996                     (m > 0) && (i == m)» {
02997             using type = typename pi64::template mul_t<
02998                     typename pi64::X,
02999                     typename bernstein_helper<i-1, m-1>::type>;
03000         };
03001
03002         template<size_t i, size_t m>
03003         struct bernstein_helper<i, m, std::enable_if_t<
03004                     (m > 0) && (i > 0) && (i < m)» {
03005             using type = typename pi64::add_t<
03006                     typename pi64::mul_t<
03007                         typename pi64::sub_t<typename pi64::one, typename pi64::X>,
03008                         typename bernstein_helper<i, m-1>::type>,
03009                     typename pi64::mul_t<
03010                         typename pi64::X,
03011                         typename bernstein_helper<i-1, m-1>::type»;
03012         };
03013     }  // namespace internal
03014
03015     namespace known_polynomials {
03017         enum hermite_kind {
03019             probabilist,
03021             physicist
03022         };
03023     }
03024
03025     // hermite
03026     namespace internal {
03027         template<size_t deg, known_polynomials::hermite_kind kind>
03028         struct hermite_helper {};
03029
03030         template<size_t deg>
03031         struct hermite_helper<deg, known_polynomials::hermite_kind::probabilist> {
03032          private:
03033             using hnm1 = typename hermite_helper<deg - 1,
      known_polynomials::hermite_kind::probabilist>::type;
03034             using hnm2 = typename hermite_helper<deg - 2,
      known_polynomials::hermite_kind::probabilist>::type;
03035
03036          public:
03037             using type = typename pi64::template sub_t<
03038                 typename pi64::template mul_t<typename pi64::X, hnm1>,
03039                 typename pi64::template mul_t<
03040                     typename pi64::template inject_constant_t<deg - 1>,
03041                     hnm2
03042                 >
03043             >;
03044         };
03045
03046         template<size_t deg>
03047         struct hermite_helper<deg, known_polynomials::hermite_kind::physicist> {
03048          private:
03049             using hnm1 = typename hermite_helper<deg - 1,
```

```
known_polynomials::hermite_kind::physicist>::type;
03050             using hnm2 = typename hermite_helper<deg - 2,
known_polynomials::hermite_kind::physicist>::type;
03051
03052          public:
03053             using type = typename pi64::template sub_t<
03054                 // 2X Hn-1
03055                 typename pi64::template mul_t<
03056                     typename pi64::val<typename i64::template inject_constant_t<2>,
03057                     typename i64::zero>, hnm1>,
03058
03059                 typename pi64::template mul_t<
03060                     typename pi64::template inject_constant_t<2*(deg - 1)>,
03061                     hnm2
03062                 >
03063             >;
03064         };
03065
03066         template<>
03067         struct hermite_helper<0, known_polynomials::hermite_kind::probabilist> {
03068             using type = typename pi64::one;
03069         };
03070
03071         template<>
03072         struct hermite_helper<1, known_polynomials::hermite_kind::probabilist> {
03073             using type = typename pi64::X;
03074         };
03075
03076         template<>
03077         struct hermite_helper<0, known_polynomials::hermite_kind::physicist> {
03078             using type = typename pi64::one;
03079         };
03080
03081         template<>
03082         struct hermite_helper<1, known_polynomials::hermite_kind::physicist> {
03083             // 2X
03084             using type = typename pi64::template val<typename i64::template inject_constant_t<2>,
typename i64::zero>;
03085         };
03086     }  // namespace internal
03087
03088     // legendre
03089     namespace internal {
03090         template<size_t n>
03091         struct legendre_helper {
03092          private:
03093             // 1/n constant
03094             // (2n-1)/n X
03095             using fact_left = typename pq64::monomial_t<make_q64_t<2*n-1, n>, 1>;
03096             // (n-1) / n
03097             using fact_right = typename pq64::val<make_q64_t<n-1, n»;
03098          public:
03099             using type = pq64::template sub_t<
03100                     typename pq64::template mul_t<
03101                         fact_left,
03102                         typename legendre_helper<n-1>::type
03103                     >,
03104                     typename pq64::template mul_t<
03105                         fact_right,
03106                         typename legendre_helper<n-2>::type
03107                     >
03108                 >;
03109         };
03110
03111         template<>
03112         struct legendre_helper<0> {
03113             using type = typename pq64::one;
03114         };
03115
03116         template<>
03117         struct legendre_helper<1> {
03118             using type = typename pq64::X;
03119         };
03120     }  // namespace internal
03121
03122     // bernoulli polynomials
03123     namespace internal {
03124         template<size_t n>
03125         struct bernoulli_coeff {
03126             template<typename T, size_t i>
03127             struct inner {
03128              private:
03129                 using F = FractionField<T>;
03130              public:
03131                 using type = typename F::template mul_t<
03132                     typename F::template inject_ring_t<combination_t<T, i, n»,
03133                     bernoulli_t<T, n-i>
```

```
03134                 >;
03135             };
03136         };
03137     }  // namespace internal
03138
03140     namespace known_polynomials {
03147         template <size_t deg>
03148         using chebyshev_T = typename internal::chebyshev_helper<1, deg>::type;
03149
03156         template <size_t deg>
03157         using chebyshev_U = typename internal::chebyshev_helper<2, deg>::type;
03158
03165         template <size_t deg>
03166         using laguerre = typename internal::laguerre_helper<deg>::type;
03167
03174         template <size_t deg>
03175         using hermite_prob = typename internal::hermite_helper<deg, hermite_kind::probabilist>::type;
03176
03183         template <size_t deg>
03184         using hermite_phys = typename internal::hermite_helper<deg, hermite_kind::physicist>::type;
03185
03193         template<size_t i, size_t m>
03194         using bernstein = typename internal::bernstein_helper<i, m>::type;
03195
03202         template<size_t deg>
03203         using legendre = typename internal::legendre_helper<deg>::type;
03204
03211         template<size_t deg>
03212         using bernoulli = taylor<i64, internal::bernoulli_coeff<deg>::template inner, deg>;
03213     }  // namespace known_polynomials
03214 }  // namespace aerobus
03215
03216
03217 #ifdef AEROBUS_CONWAY_IMPORTS
03218
03219 // conway polynomials
03220 namespace aerobus {
03224     template<int p, int n>
03225     struct ConwayPolynomial {};
03226
03227 #ifndef DO_NOT_DOCUMENT
03228     #define ZPZV ZPZ::template val
03229     #define POLYV aerobus::polynomial<ZPZ>::template val
03230     template<> struct ConwayPolynomial<2, 1> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<1»; };  // NOLINT
03231     template<> struct ConwayPolynomial<2, 2> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<1>, ZPZV<1»; }; // NOLINT
03232     template<> struct ConwayPolynomial<2, 3> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<1»; };  // NOLINT
03233     template<> struct ConwayPolynomial<2, 4> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<1»; };  // NOLINT
03234     template<> struct ConwayPolynomial<2, 5> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<0>, ZPZV<1»; };  // NOLINT
03235     template<> struct ConwayPolynomial<2, 6> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<1»; };  // NOLINT
03236     template<> struct ConwayPolynomial<2, 7> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<1»; };  // NOLINT
03237     template<> struct ConwayPolynomial<2, 8> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<1>, ZPZV<1>, ZPZV<0>, ZPZV<1»; };  // NOLINT
03238     template<> struct ConwayPolynomial<2, 9> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<1»; };  //
      NOLINT
03239     template<> struct ConwayPolynomial<2, 10> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<1>, ZPZV<1>,
      ZPZV<1»; };  // NOLINT
03240     template<> struct ConwayPolynomial<2, 11> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>,
      ZPZV<0>, ZPZV<1»; };  // NOLINT
03241     template<> struct ConwayPolynomial<2, 12> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<1>, ZPZV<1>, ZPZV<0>, ZPZV<1>,
      ZPZV<0>, ZPZV<1>, ZPZV<1»; };  // NOLINT
03242     template<> struct ConwayPolynomial<2, 13> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>,
      ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<1»; };  // NOLINT
03243     template<> struct ConwayPolynomial<2, 14> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<0>, ZPZV<1>,
      ZPZV<0>, ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<1»; };  // NOLINT
03244     template<> struct ConwayPolynomial<2, 15> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<1>, ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<0>, ZPZV<1»; };  // NOLINT
03245     template<> struct ConwayPolynomial<2, 16> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<1>, ZPZV<0>, ZPZV<1»; };  // NOLINT
03246     template<> struct ConwayPolynomial<2, 17> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<1»; };  // NOLINT
03247     template<> struct ConwayPolynomial<2, 18> { using ZPZ = aerobus::zpz<2>; using type =
```

```
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<1»; };  // NOLINT
03248     template<> struct ConwayPolynomial<2, 19> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<1>, ZPZV<1»; };  //
      NOLINT
03249     template<> struct ConwayPolynomial<2, 20> { using ZPZ = aerobus::zpz<2>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<1>, ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<1>, ZPZV<1>, ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<1»; };
      // NOLINT
03250     template<> struct ConwayPolynomial<3, 1> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<1»; };  // NOLINT
03251     template<> struct ConwayPolynomial<3, 2> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<2>, ZPZV<2»; };  // NOLINT
03252     template<> struct ConwayPolynomial<3, 3> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<1»; };  // NOLINT
03253     template<> struct ConwayPolynomial<3, 4> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<2>, ZPZV<0>, ZPZV<0>, ZPZV<2»; };  // NOLINT
03254     template<> struct ConwayPolynomial<3, 5> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<1»; };  // NOLINT
03255     template<> struct ConwayPolynomial<3, 6> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<0>, ZPZV<1>, ZPZV<2>, ZPZV<2»; };  // NOLINT
03256     template<> struct ConwayPolynomial<3, 7> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<0>, ZPZV<1»; };  // NOLINT
03257     template<> struct ConwayPolynomial<3, 8> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<2>, ZPZV<2»; };  // NOLINT
03258     template<> struct ConwayPolynomial<3, 9> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<2>, ZPZV<1>, ZPZV<1»; };  //
      NOLINT
03259     template<> struct ConwayPolynomial<3, 10> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<2>, ZPZV<2>, ZPZV<0>, ZPZV<0>, ZPZV<1>,
      ZPZV<2»; };  // NOLINT
03260     template<> struct ConwayPolynomial<3, 11> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>,
      ZPZV<0>, ZPZV<1»; };  // NOLINT
03261     template<> struct ConwayPolynomial<3, 12> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<1>, ZPZV<1>, ZPZV<0>,
      ZPZV<1>, ZPZV<0>, ZPZV<2»; };  // NOLINT
03262     template<> struct ConwayPolynomial<3, 13> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<1»; };  // NOLINT
03263     template<> struct ConwayPolynomial<3, 14> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<1>, ZPZV<1>, ZPZV<2>, ZPZV<1>,
      ZPZV<0>, ZPZV<2>, ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<2»; };  // NOLINT
03264     template<> struct ConwayPolynomial<3, 15> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<0>, ZPZV<0>,
      ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<1>, ZPZV<1»; };  // NOLINT
03265     template<> struct ConwayPolynomial<3, 16> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>,
      ZPZV<2>, ZPZV<0>, ZPZV<2>, ZPZV<2>, ZPZV<2>, ZPZV<1>, ZPZV<2»; };  // NOLINT
03266     template<> struct ConwayPolynomial<3, 17> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<1»; };  // NOLINT
03267     template<> struct ConwayPolynomial<3, 18> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<0>,
      ZPZV<2>, ZPZV<0>, ZPZV<2>, ZPZV<1>, ZPZV<2>, ZPZV<0>, ZPZV<2>, ZPZV<0>, ZPZV<2»; };  // NOLINT
03268     template<> struct ConwayPolynomial<3, 19> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<0>, ZPZV<1»; };  //
      NOLINT
03269     template<> struct ConwayPolynomial<3, 20> { using ZPZ = aerobus::zpz<3>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<0>, ZPZV<1>,
      ZPZV<1>, ZPZV<1>, ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<2>, ZPZV<2>, ZPZV<0>, ZPZV<1>, ZPZV<2»; };
      // NOLINT
03270     template<> struct ConwayPolynomial<5, 1> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<3»; };  // NOLINT
03271     template<> struct ConwayPolynomial<5, 2> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<4>, ZPZV<2»; };  // NOLINT
03272     template<> struct ConwayPolynomial<5, 3> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<3»; };  // NOLINT
03273     template<> struct ConwayPolynomial<5, 4> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<4>, ZPZV<2»; };  // NOLINT
03274     template<> struct ConwayPolynomial<5, 5> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<3»; };  // NOLINT
03275     template<> struct ConwayPolynomial<5, 6> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<4>, ZPZV<1>, ZPZV<0>, ZPZV<2»; };  // NOLINT
03276     template<> struct ConwayPolynomial<5, 7> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<3»; };  // NOLINT
03277     template<> struct ConwayPolynomial<5, 8> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<4>, ZPZV<2»; };  // NOLINT
03278     template<> struct ConwayPolynomial<5, 9> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<0>, ZPZV<1>, ZPZV<3»; };  //
      NOLINT
03279     template<> struct ConwayPolynomial<5, 10> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<3>, ZPZV<2>, ZPZV<4>, ZPZV<1>,
      ZPZV<2»; };  // NOLINT
03280     template<> struct ConwayPolynomial<5, 11> { using ZPZ = aerobus::zpz<5>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<3>, ZPZV<3»; };  // NOLINT
03281     template<> struct ConwayPolynomial<5, 12> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<4>,
      ZPZV<3>, ZPZV<2>, ZPZV<2»; };  // NOLINT
03282     template<> struct ConwayPolynomial<5, 13> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<4>, ZPZV<3>, ZPZV<3»; };  // NOLINT
03283     template<> struct ConwayPolynomial<5, 14> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<4>,
      ZPZV<2>, ZPZV<3>, ZPZV<0>, ZPZV<1>, ZPZV<2»; };  // NOLINT
03284     template<> struct ConwayPolynomial<5, 15> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<2>, ZPZV<0>, ZPZV<3>, ZPZV<3>, ZPZV<4>, ZPZV<3»; };  // NOLINT
03285     template<> struct ConwayPolynomial<5, 16> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<4>,
      ZPZV<4>, ZPZV<4>, ZPZV<2>, ZPZV<4>, ZPZV<4>, ZPZV<1>, ZPZV<2»; };  // NOLINT
03286     template<> struct ConwayPolynomial<5, 17> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<2>, ZPZV<3»; };  // NOLINT
03287     template<> struct ConwayPolynomial<5, 18> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<1>, ZPZV<1>, ZPZV<1>,
      ZPZV<2>, ZPZV<0>, ZPZV<2>, ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<2>, ZPZV<0>, ZPZV<2»; };  // NOLINT
03288     template<> struct ConwayPolynomial<5, 19> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<3»; };  //
      NOLINT
03289     template<> struct ConwayPolynomial<5, 20> { using ZPZ = aerobus::zpz<5>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<0>,
      ZPZV<4>, ZPZV<3>, ZPZV<2>, ZPZV<0>, ZPZV<3>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<0>, ZPZV<1>, ZPZV<2»; };
      // NOLINT
03290     template<> struct ConwayPolynomial<7, 1> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<4»; };  // NOLINT
03291     template<> struct ConwayPolynomial<7, 2> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<6>, ZPZV<3»; };  // NOLINT
03292     template<> struct ConwayPolynomial<7, 3> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<6>, ZPZV<0>, ZPZV<4»; };  // NOLINT
03293     template<> struct ConwayPolynomial<7, 4> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<4>, ZPZV<3»; };  // NOLINT
03294     template<> struct ConwayPolynomial<7, 5> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<4»; };  // NOLINT
03295     template<> struct ConwayPolynomial<7, 6> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<5>, ZPZV<4>, ZPZV<6>, ZPZV<3»; };  // NOLINT
03296     template<> struct ConwayPolynomial<7, 7> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<4»; };  // NOLINT
03297     template<> struct ConwayPolynomial<7, 8> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<6>, ZPZV<2>, ZPZV<3»; };  // NOLINT
03298     template<> struct ConwayPolynomial<7, 9> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<4»; };  //
      NOLINT
03299     template<> struct ConwayPolynomial<7, 10> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<1>, ZPZV<4>, ZPZV<1>, ZPZV<2>, ZPZV<3>,
      ZPZV<3»; };  // NOLINT
03300     template<> struct ConwayPolynomial<7, 11> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<1>, ZPZV<4»; };  // NOLINT
03301     template<> struct ConwayPolynomial<7, 12> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<5>, ZPZV<3>, ZPZV<2>, ZPZV<4>, ZPZV<0>,
      ZPZV<5>, ZPZV<0>, ZPZV<3»; };  // NOLINT
03302     template<> struct ConwayPolynomial<7, 13> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<6>, ZPZV<0>, ZPZV<4»; };  // NOLINT
03303     template<> struct ConwayPolynomial<7, 14> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<0>, ZPZV<6>,
      ZPZV<2>, ZPZV<0>, ZPZV<3>, ZPZV<6>, ZPZV<3»; };  // NOLINT
03304     template<> struct ConwayPolynomial<7, 15> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>,
      ZPZV<6>, ZPZV<6>, ZPZV<4>, ZPZV<1>, ZPZV<2>, ZPZV<4»; };  // NOLINT
03305     template<> struct ConwayPolynomial<7, 16> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<5>,
      ZPZV<3>, ZPZV<4>, ZPZV<1>, ZPZV<6>, ZPZV<2>, ZPZV<4>, ZPZV<3»; };  // NOLINT
03306     template<> struct ConwayPolynomial<7, 17> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<4»; };  // NOLINT
03307     template<> struct ConwayPolynomial<7, 18> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<2>, ZPZV<6>, ZPZV<1>,
      ZPZV<6>, ZPZV<5>, ZPZV<1>, ZPZV<3>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<2>, ZPZV<3»; };  // NOLINT
03308     template<> struct ConwayPolynomial<7, 19> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<0>, ZPZV<4»; };  //
      NOLINT
03309     template<> struct ConwayPolynomial<7, 20> { using ZPZ = aerobus::zpz<7>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<6>,
      ZPZV<2>, ZPZV<5>, ZPZV<2>, ZPZV<3>, ZPZV<1>, ZPZV<3>, ZPZV<0>, ZPZV<3>, ZPZV<0>, ZPZV<1>, ZPZV<3»; };
      // NOLINT
03310     template<> struct ConwayPolynomial<11, 1> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<9»; };  // NOLINT
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03311     template<> struct ConwayPolynomial<11, 2> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<7>, ZPZV<2>>; };  // NOLINT
03312     template<> struct ConwayPolynomial<11, 3> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<9>>; };  // NOLINT
03313     template<> struct ConwayPolynomial<11, 4> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<10>, ZPZV<2>>; };  // NOLINT
03314     template<> struct ConwayPolynomial<11, 5> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<0>, ZPZV<9>>; };  // NOLINT
03315     template<> struct ConwayPolynomial<11, 6> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<4>, ZPZV<6>, ZPZV<7>, ZPZV<2>>; };  // NOLINT
03316     template<> struct ConwayPolynomial<11, 7> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<9>>; };  // NOLINT
03317     template<> struct ConwayPolynomial<11, 8> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<7>, ZPZV<1>, ZPZV<7>, ZPZV<2>>; };  // NOLINT
03318     template<> struct ConwayPolynomial<11, 9> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<8>, ZPZV<9>>; };  //
      NOLINT
03319     template<> struct ConwayPolynomial<11, 10> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<8>, ZPZV<10>, ZPZV<6>, ZPZV<6>,
      ZPZV<2>>; };  // NOLINT
03320     template<> struct ConwayPolynomial<11, 11> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<10>, ZPZV<9>>; };  // NOLINT
03321     template<> struct ConwayPolynomial<11, 12> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<1>, ZPZV<4>, ZPZV<2>, ZPZV<5>, ZPZV<5>,
      ZPZV<6>, ZPZV<5>, ZPZV<2>>; };  // NOLINT
03322     template<> struct ConwayPolynomial<11, 13> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<9>>; };  // NOLINT
03323     template<> struct ConwayPolynomial<11, 14> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<9>, ZPZV<6>,
      ZPZV<4>, ZPZV<8>, ZPZV<6>, ZPZV<10>, ZPZV<2>>; };  // NOLINT
03324     template<> struct ConwayPolynomial<11, 15> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>,
      ZPZV<7>, ZPZV<0>, ZPZV<5>, ZPZV<0>, ZPZV<0>, ZPZV<9>>; };  // NOLINT
03325     template<> struct ConwayPolynomial<11, 16> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<10>,
      ZPZV<1>, ZPZV<3>, ZPZV<5>, ZPZV<3>, ZPZV<10>, ZPZV<9>, ZPZV<2>>; };  // NOLINT
03326     template<> struct ConwayPolynomial<11, 17> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<9>>; };  // NOLINT
03327     template<> struct ConwayPolynomial<11, 18> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<8>, ZPZV<10>, ZPZV<8>,
      ZPZV<3>, ZPZV<9>, ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<9>, ZPZV<8>, ZPZV<2>, ZPZV<2>>; };  // NOLINT
03328     template<> struct ConwayPolynomial<11, 19> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<2>, ZPZV<9>>; };  //
      NOLINT
03329     template<> struct ConwayPolynomial<11, 20> { using ZPZ = aerobus::zpz<11>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<10>,
      ZPZV<9>, ZPZV<1>, ZPZV<5>, ZPZV<7>, ZPZV<2>, ZPZV<4>, ZPZV<5>, ZPZV<5>, ZPZV<6>, ZPZV<5>, ZPZV<2>>; };
      // NOLINT
03330     template<> struct ConwayPolynomial<13, 1> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<11>>; };  // NOLINT
03331     template<> struct ConwayPolynomial<13, 2> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<12>, ZPZV<2>>; };  // NOLINT
03332     template<> struct ConwayPolynomial<13, 3> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<11>>; };  // NOLINT
03333     template<> struct ConwayPolynomial<13, 4> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<12>, ZPZV<2>>; };  // NOLINT
03334     template<> struct ConwayPolynomial<13, 5> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<11>>; };  // NOLINT
03335     template<> struct ConwayPolynomial<13, 6> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<11>, ZPZV<11>, ZPZV<2>>; };  // NOLINT
03336     template<> struct ConwayPolynomial<13, 7> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<11>>; };  // NOLINT
03337     template<> struct ConwayPolynomial<13, 8> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<12>, ZPZV<2>, ZPZV<3>, ZPZV<2>>; };  // NOLINT
03338     template<> struct ConwayPolynomial<13, 9> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<8>, ZPZV<12>, ZPZV<12>, ZPZV<11>>; };
      // NOLINT
03339     template<> struct ConwayPolynomial<13, 10> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<5>, ZPZV<8>, ZPZV<1>, ZPZV<1>,
      ZPZV<2>>; };  // NOLINT
03340     template<> struct ConwayPolynomial<13, 11> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<3>, ZPZV<11>>; };  // NOLINT
03341     template<> struct ConwayPolynomial<13, 12> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<5>, ZPZV<8>, ZPZV<11>, ZPZV<3>, ZPZV<1>,
      ZPZV<1>, ZPZV<4>, ZPZV<2>>; };  // NOLINT
03342     template<> struct ConwayPolynomial<13, 13> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<11>>; };  // NOLINT
03343     template<> struct ConwayPolynomial<13, 14> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<0>, ZPZV<6>,
      ZPZV<11>, ZPZV<7>, ZPZV<10>, ZPZV<10>, ZPZV<2>>; };  // NOLINT
03344     template<> struct ConwayPolynomial<13, 15> { using ZPZ = aerobus::zpz<13>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<12>,
      ZPZV<2>, ZPZV<11>, ZPZV<10>, ZPZV<11>, ZPZV<8>, ZPZV<11>»; };  // NOLINT
03345     template<> struct ConwayPolynomial<13, 16> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<12>,
      ZPZV<8>, ZPZV<2>, ZPZV<12>, ZPZV<9>, ZPZV<12>, ZPZV<6>, ZPZV<2>»; };  // NOLINT
03346     template<> struct ConwayPolynomial<13, 17> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<6>, ZPZV<11>»; };  // NOLINT
03347     template<> struct ConwayPolynomial<13, 18> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<4>, ZPZV<11>,
      ZPZV<11>, ZPZV<9>, ZPZV<5>, ZPZV<3>, ZPZV<5>, ZPZV<6>, ZPZV<0>, ZPZV<9>, ZPZV<2>»; };  // NOLINT
03348     template<> struct ConwayPolynomial<13, 19> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<11>»; };  //
      NOLINT
03349     template<> struct ConwayPolynomial<13, 20> { using ZPZ = aerobus::zpz<13>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<12>,
      ZPZV<9>, ZPZV<0>, ZPZV<7>, ZPZV<8>, ZPZV<7>, ZPZV<4>, ZPZV<0>, ZPZV<4>, ZPZV<8>, ZPZV<11>, ZPZV<2>»; };
      // NOLINT
03350     template<> struct ConwayPolynomial<17, 1> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<14>»; };  // NOLINT
03351     template<> struct ConwayPolynomial<17, 2> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<16>, ZPZV<3>»; };  // NOLINT
03352     template<> struct ConwayPolynomial<17, 3> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<14>»; };  // NOLINT
03353     template<> struct ConwayPolynomial<17, 4> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<10>, ZPZV<3>»; };  // NOLINT
03354     template<> struct ConwayPolynomial<17, 5> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<14>»; };  // NOLINT
03355     template<> struct ConwayPolynomial<17, 6> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<0>, ZPZV<10>, ZPZV<3>, ZPZV<3>»; };  // NOLINT
03356     template<> struct ConwayPolynomial<17, 7> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<14>»; };  // NOLINT
03357     template<> struct ConwayPolynomial<17, 8> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<12>, ZPZV<0>, ZPZV<6>, ZPZV<3>»; };  // NOLINT
03358     template<> struct ConwayPolynomial<17, 9> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<8>, ZPZV<14>»; };
      // NOLINT
03359     template<> struct ConwayPolynomial<17, 10> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<6>, ZPZV<5>, ZPZV<9>, ZPZV<12>,
      ZPZV<3>»; };  // NOLINT
03360     template<> struct ConwayPolynomial<17, 11> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<5>, ZPZV<14>»; };  // NOLINT
03361     template<> struct ConwayPolynomial<17, 12> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<4>, ZPZV<14>, ZPZV<14>, ZPZV<13>, ZPZV<6>,
      ZPZV<14>, ZPZV<9>, ZPZV<3>»; };  // NOLINT
03362     template<> struct ConwayPolynomial<17, 13> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<14>»; };  // NOLINT
03363     template<> struct ConwayPolynomial<17, 14> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<11>, ZPZV<1>, ZPZV<8>,
      ZPZV<16>, ZPZV<13>, ZPZV<9>, ZPZV<3>, ZPZV<3>»; };  // NOLINT
03364     template<> struct ConwayPolynomial<17, 15> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>,
      ZPZV<4>, ZPZV<16>, ZPZV<6>, ZPZV<14>, ZPZV<14>, ZPZV<14>»; };  // NOLINT
03365     template<> struct ConwayPolynomial<17, 16> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<13>,
      ZPZV<5>, ZPZV<2>, ZPZV<12>, ZPZV<13>, ZPZV<12>, ZPZV<1>, ZPZV<3>»; };  // NOLINT
03366     template<> struct ConwayPolynomial<17, 17> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<16>, ZPZV<14>»; };  // NOLINT
03367     template<> struct ConwayPolynomial<17, 18> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<0>, ZPZV<9>, ZPZV<16>,
      ZPZV<7>, ZPZV<1>, ZPZV<0>, ZPZV<9>, ZPZV<11>, ZPZV<13>, ZPZV<13>, ZPZV<9>, ZPZV<3>»; };  // NOLINT
03368     template<> struct ConwayPolynomial<17, 19> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<14>»; };  //
      NOLINT
03369     template<> struct ConwayPolynomial<17, 20> { using ZPZ = aerobus::zpz<17>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<5>,
      ZPZV<16>, ZPZV<14>, ZPZV<13>, ZPZV<3>, ZPZV<14>, ZPZV<9>, ZPZV<1>, ZPZV<13>, ZPZV<2>, ZPZV<5>,
      ZPZV<3>»; };  // NOLINT
03370     template<> struct ConwayPolynomial<19, 1> { using ZPZ = aerobus::zpz<19>; using type =
      POLYV<ZPZV<1>, ZPZV<17>»; };  // NOLINT
03371     template<> struct ConwayPolynomial<19, 2> { using ZPZ = aerobus::zpz<19>; using type =
      POLYV<ZPZV<1>, ZPZV<18>, ZPZV<2>»; };  // NOLINT
03372     template<> struct ConwayPolynomial<19, 3> { using ZPZ = aerobus::zpz<19>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<17>»; };  // NOLINT
03373     template<> struct ConwayPolynomial<19, 4> { using ZPZ = aerobus::zpz<19>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<11>, ZPZV<2>»; };  // NOLINT
03374     template<> struct ConwayPolynomial<19, 5> { using ZPZ = aerobus::zpz<19>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<17>»; };  // NOLINT
03375     template<> struct ConwayPolynomial<19, 6> { using ZPZ = aerobus::zpz<19>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<17>, ZPZV<17>, ZPZV<6>, ZPZV<2>»; };  // NOLINT
03376     template<> struct ConwayPolynomial<19, 7> { using ZPZ = aerobus::zpz<19>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<17>»; };  // NOLINT
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03377     template<> struct ConwayPolynomial<19, 8> { using ZPZ = aerobus::zpz<19>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<12>, ZPZV<10>, ZPZV<3>, ZPZV<2»; };  // NOLINT
03378     template<> struct ConwayPolynomial<19, 9> { using ZPZ = aerobus::zpz<19>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<14>, ZPZV<16>, ZPZV<17»; };
          // NOLINT
03379     template<> struct ConwayPolynomial<19, 10> { using ZPZ = aerobus::zpz<19>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<18>, ZPZV<13>, ZPZV<17>, ZPZV<3>, ZPZV<4>,
          ZPZV<2»; };  // NOLINT
03380     template<> struct ConwayPolynomial<19, 11> { using ZPZ = aerobus::zpz<19>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
          ZPZV<8>, ZPZV<17»; };  // NOLINT
03381     template<> struct ConwayPolynomial<19, 12> { using ZPZ = aerobus::zpz<19>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<2>, ZPZV<18>, ZPZV<2>, ZPZV<9>,
          ZPZV<16>, ZPZV<7>, ZPZV<2»; };  // NOLINT
03382     template<> struct ConwayPolynomial<19, 13> { using ZPZ = aerobus::zpz<19>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
          ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<17»; };  // NOLINT
03383     template<> struct ConwayPolynomial<19, 14> { using ZPZ = aerobus::zpz<19>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<11>, ZPZV<11>,
          ZPZV<1>, ZPZV<5>, ZPZV<16>, ZPZV<7>, ZPZV<2»; };  // NOLINT
03384     template<> struct ConwayPolynomial<19, 15> { using ZPZ = aerobus::zpz<19>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<10>,
          ZPZV<11>, ZPZV<13>, ZPZV<15>, ZPZV<14>, ZPZV<0>, ZPZV<17»; };  // NOLINT
03385     template<> struct ConwayPolynomial<19, 16> { using ZPZ = aerobus::zpz<19>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>,
          ZPZV<13>, ZPZV<0>, ZPZV<15>, ZPZV<9>, ZPZV<6>, ZPZV<14>, ZPZV<2»; };  // NOLINT
03386     template<> struct ConwayPolynomial<19, 17> { using ZPZ = aerobus::zpz<19>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
          ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<17»; };  // NOLINT
03387     template<> struct ConwayPolynomial<19, 18> { using ZPZ = aerobus::zpz<19>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<9>, ZPZV<7>,
          ZPZV<17>, ZPZV<5>, ZPZV<0>, ZPZV<16>, ZPZV<5>, ZPZV<7>, ZPZV<3>, ZPZV<14>, ZPZV<2»; };  // NOLINT
03388     template<> struct ConwayPolynomial<19, 19> { using ZPZ = aerobus::zpz<19>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
          ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<18>, ZPZV<17»; };  //
          NOLINT
03389     template<> struct ConwayPolynomial<19, 20> { using ZPZ = aerobus::zpz<19>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<16>,
          ZPZV<13>, ZPZV<0>, ZPZV<4>, ZPZV<7>, ZPZV<8>, ZPZV<6>, ZPZV<0>, ZPZV<3>, ZPZV<6>, ZPZV<11>, ZPZV<2»;
          };  // NOLINT
03390     template<> struct ConwayPolynomial<23, 1> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<18»; };  // NOLINT
03391     template<> struct ConwayPolynomial<23, 2> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<21>, ZPZV<5»; };  // NOLINT
03392     template<> struct ConwayPolynomial<23, 3> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<18»; };  // NOLINT
03393     template<> struct ConwayPolynomial<23, 4> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<19>, ZPZV<5»; };  // NOLINT
03394     template<> struct ConwayPolynomial<23, 5> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<18»; };  // NOLINT
03395     template<> struct ConwayPolynomial<23, 6> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<9>, ZPZV<9>, ZPZV<1>, ZPZV<5»; };  // NOLINT
03396     template<> struct ConwayPolynomial<23, 7> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<21>, ZPZV<18»; };  // NOLINT
03397     template<> struct ConwayPolynomial<23, 8> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<20>, ZPZV<5>, ZPZV<3>, ZPZV<5»; };  // NOLINT
03398     template<> struct ConwayPolynomial<23, 9> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<8>, ZPZV<9>, ZPZV<18»; };
          // NOLINT
03399     template<> struct ConwayPolynomial<23, 10> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<17>, ZPZV<5>, ZPZV<15>, ZPZV<6>, ZPZV<1>,
          ZPZV<5»; };  // NOLINT
03400     template<> struct ConwayPolynomial<23, 11> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<22>,
          ZPZV<7>, ZPZV<18»; };  // NOLINT
03401     template<> struct ConwayPolynomial<23, 12> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<21>, ZPZV<21>, ZPZV<15>, ZPZV<14>, ZPZV<12>,
          ZPZV<18>, ZPZV<12>, ZPZV<5»; };  // NOLINT
03402     template<> struct ConwayPolynomial<23, 13> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
          ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<18»; };  // NOLINT
03403     template<> struct ConwayPolynomial<23, 14> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<5>, ZPZV<16>, ZPZV<1>,
          ZPZV<18>, ZPZV<19>, ZPZV<1>, ZPZV<22>, ZPZV<5»; };  // NOLINT
03404     template<> struct ConwayPolynomial<23, 15> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>,
          ZPZV<8>, ZPZV<15>, ZPZV<9>, ZPZV<7>, ZPZV<18>, ZPZV<18»; };  // NOLINT
03405     template<> struct ConwayPolynomial<23, 16> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<19>,
          ZPZV<19>, ZPZV<16>, ZPZV<13>, ZPZV<1>, ZPZV<14>, ZPZV<17>, ZPZV<5»; };  // NOLINT
03406     template<> struct ConwayPolynomial<23, 17> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
          ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<20>, ZPZV<18»; };  // NOLINT
03407     template<> struct ConwayPolynomial<23, 18> { using ZPZ = aerobus::zpz<23>; using type =
          POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<18>, ZPZV<2>, ZPZV<1>,
          ZPZV<18>, ZPZV<3>, ZPZV<16>, ZPZV<21>, ZPZV<0>, ZPZV<11>, ZPZV<3>, ZPZV<19>, ZPZV<5»; };  // NOLINT
03408     template<> struct ConwayPolynomial<23, 19> { using ZPZ = aerobus::zpz<23>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<18»; };  //
      NOLINT
03409     template<> struct ConwayPolynomial<29, 1> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<27»; };  // NOLINT
03410     template<> struct ConwayPolynomial<29, 2> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<24>, ZPZV<2»; };  // NOLINT
03411     template<> struct ConwayPolynomial<29, 3> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<27»; };  // NOLINT
03412     template<> struct ConwayPolynomial<29, 4> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<15>, ZPZV<2»; };  // NOLINT
03413     template<> struct ConwayPolynomial<29, 5> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<27»; };  // NOLINT
03414     template<> struct ConwayPolynomial<29, 6> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<25>, ZPZV<17>, ZPZV<13>, ZPZV<2»; };  // NOLINT
03415     template<> struct ConwayPolynomial<29, 7> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<27»; };  // NOLINT
03416     template<> struct ConwayPolynomial<29, 8> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<24>, ZPZV<26>, ZPZV<23>, ZPZV<2»; };  //
      NOLINT
03417     template<> struct ConwayPolynomial<29, 9> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<22>, ZPZV<22>, ZPZV<27»; };
      // NOLINT
03418     template<> struct ConwayPolynomial<29, 10> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<25>, ZPZV<8>, ZPZV<17>, ZPZV<2>, ZPZV<22>,
      ZPZV<2»; };  // NOLINT
03419     template<> struct ConwayPolynomial<29, 11> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<28>,
      ZPZV<8>, ZPZV<27»; };  // NOLINT
03420     template<> struct ConwayPolynomial<29, 12> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<19>, ZPZV<28>, ZPZV<9>, ZPZV<16>, ZPZV<25>,
      ZPZV<1>, ZPZV<1>, ZPZV<2»; };  // NOLINT
03421     template<> struct ConwayPolynomial<29, 13> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<27»; };  // NOLINT
03422     template<> struct ConwayPolynomial<29, 14> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<3>, ZPZV<14>, ZPZV<10>,
      ZPZV<21>, ZPZV<18>, ZPZV<27>, ZPZV<5>, ZPZV<2»; };  // NOLINT
03423     template<> struct ConwayPolynomial<29, 15> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>,
      ZPZV<14>, ZPZV<8>, ZPZV<1>, ZPZV<12>, ZPZV<26>, ZPZV<27»; };  // NOLINT
03424     template<> struct ConwayPolynomial<29, 16> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<27>,
      ZPZV<2>, ZPZV<18>, ZPZV<23>, ZPZV<1>, ZPZV<27>, ZPZV<10>, ZPZV<2»; };  // NOLINT
03425     template<> struct ConwayPolynomial<29, 17> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<27»; };  // NOLINT
03426     template<> struct ConwayPolynomial<29, 18> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<24>, ZPZV<1>, ZPZV<1>,
      ZPZV<6>, ZPZV<26>, ZPZV<2>, ZPZV<10>, ZPZV<8>, ZPZV<16>, ZPZV<19>, ZPZV<14>, ZPZV<2»; };  // NOLINT
03427     template<> struct ConwayPolynomial<29, 19> { using ZPZ = aerobus::zpz<29>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<27»; };  //
      NOLINT
03428     template<> struct ConwayPolynomial<31, 1> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<28»; };  // NOLINT
03429     template<> struct ConwayPolynomial<31, 2> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<29>, ZPZV<3»; };  // NOLINT
03430     template<> struct ConwayPolynomial<31, 3> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<28»; };  // NOLINT
03431     template<> struct ConwayPolynomial<31, 4> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<16>, ZPZV<3»; };  // NOLINT
03432     template<> struct ConwayPolynomial<31, 5> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<28»; };  // NOLINT
03433     template<> struct ConwayPolynomial<31, 6> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<19>, ZPZV<16>, ZPZV<8>, ZPZV<3»; };  // NOLINT
03434     template<> struct ConwayPolynomial<31, 7> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<28»; };  // NOLINT
03435     template<> struct ConwayPolynomial<31, 8> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<25>, ZPZV<12>, ZPZV<24>, ZPZV<3»; };  //
      NOLINT
03436     template<> struct ConwayPolynomial<31, 9> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<20>, ZPZV<29>, ZPZV<28»; };
      // NOLINT
03437     template<> struct ConwayPolynomial<31, 10> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<30>, ZPZV<26>, ZPZV<13>, ZPZV<13>, ZPZV<13>,
      ZPZV<3»; };  // NOLINT
03438     template<> struct ConwayPolynomial<31, 11> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<20>, ZPZV<28»; };  // NOLINT
03439     template<> struct ConwayPolynomial<31, 12> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<14>, ZPZV<28>, ZPZV<2>, ZPZV<9>,
      ZPZV<25>, ZPZV<12>, ZPZV<3»; };  // NOLINT
03440     template<> struct ConwayPolynomial<31, 13> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<28»; };  // NOLINT
03441     template<> struct ConwayPolynomial<31, 14> { using ZPZ = aerobus::zpz<31>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<5>, ZPZV<1>,
      ZPZV<1>, ZPZV<18>, ZPZV<18>, ZPZV<6>, ZPZV<3»; };  // NOLINT
03442     template<> struct ConwayPolynomial<31, 15> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<30>,
      ZPZV<29>, ZPZV<12>, ZPZV<13>, ZPZV<23>, ZPZV<25>, ZPZV<28»; };  // NOLINT
03443     template<> struct ConwayPolynomial<31, 16> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<28>,
      ZPZV<24>, ZPZV<26>, ZPZV<28>, ZPZV<11>, ZPZV<19>, ZPZV<27>, ZPZV<3»; };  // NOLINT
03444     template<> struct ConwayPolynomial<31, 17> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<28»; };  // NOLINT
03445     template<> struct ConwayPolynomial<31, 18> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<27>, ZPZV<5>, ZPZV<24>,
      ZPZV<2>, ZPZV<7>, ZPZV<12>, ZPZV<11>, ZPZV<25>, ZPZV<25>, ZPZV<10>, ZPZV<6>, ZPZV<3»; };  // NOLINT
03446     template<> struct ConwayPolynomial<31, 19> { using ZPZ = aerobus::zpz<31>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<28»; };  //
      NOLINT
03447     template<> struct ConwayPolynomial<37, 1> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<35»; };  // NOLINT
03448     template<> struct ConwayPolynomial<37, 2> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<33>, ZPZV<2»; };  // NOLINT
03449     template<> struct ConwayPolynomial<37, 3> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<35»; };  // NOLINT
03450     template<> struct ConwayPolynomial<37, 4> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<24>, ZPZV<2»; };  // NOLINT
03451     template<> struct ConwayPolynomial<37, 5> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<35»; };  // NOLINT
03452     template<> struct ConwayPolynomial<37, 6> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<35>, ZPZV<4>, ZPZV<30>, ZPZV<2»; };  // NOLINT
03453     template<> struct ConwayPolynomial<37, 7> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<35»; };  // NOLINT
03454     template<> struct ConwayPolynomial<37, 8> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<20>, ZPZV<27>, ZPZV<1>, ZPZV<2»; };  // NOLINT
03455     template<> struct ConwayPolynomial<37, 9> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<20>, ZPZV<32>, ZPZV<35»; };
      // NOLINT
03456     template<> struct ConwayPolynomial<37, 10> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<29>, ZPZV<18>, ZPZV<11>, ZPZV<4>,
      ZPZV<2»; };  // NOLINT
03457     template<> struct ConwayPolynomial<37, 11> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<2>, ZPZV<35»; };  // NOLINT
03458     template<> struct ConwayPolynomial<37, 12> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<31>, ZPZV<10>, ZPZV<23>, ZPZV<23>,
      ZPZV<18>, ZPZV<33>, ZPZV<2»; };  // NOLINT
03459     template<> struct ConwayPolynomial<37, 13> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<35»; };  // NOLINT
03460     template<> struct ConwayPolynomial<37, 14> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<35>, ZPZV<35>, ZPZV<1>,
      ZPZV<32>, ZPZV<16>, ZPZV<1>, ZPZV<9>, ZPZV<2»; };  // NOLINT
03461     template<> struct ConwayPolynomial<37, 15> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<31>,
      ZPZV<28>, ZPZV<27>, ZPZV<13>, ZPZV<34>, ZPZV<33>, ZPZV<35»; };  // NOLINT
03462     template<> struct ConwayPolynomial<37, 17> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<35»; };  // NOLINT
03463     template<> struct ConwayPolynomial<37, 18> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<8>, ZPZV<19>, ZPZV<15>,
      ZPZV<1>, ZPZV<22>, ZPZV<20>, ZPZV<12>, ZPZV<32>, ZPZV<14>, ZPZV<27>, ZPZV<20>, ZPZV<2»; };  // NOLINT
03464     template<> struct ConwayPolynomial<37, 19> { using ZPZ = aerobus::zpz<37>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<36>, ZPZV<23>, ZPZV<35»; };  //
      NOLINT
03465     template<> struct ConwayPolynomial<41, 1> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<35»; };  // NOLINT
03466     template<> struct ConwayPolynomial<41, 2> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<38>, ZPZV<6»; };  // NOLINT
03467     template<> struct ConwayPolynomial<41, 3> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<35»; };  // NOLINT
03468     template<> struct ConwayPolynomial<41, 4> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<23>, ZPZV<6»; };  // NOLINT
03469     template<> struct ConwayPolynomial<41, 5> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<40>, ZPZV<14>, ZPZV<35»; };  // NOLINT
03470     template<> struct ConwayPolynomial<41, 6> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<33>, ZPZV<39>, ZPZV<6>, ZPZV<6»; };  // NOLINT
03471     template<> struct ConwayPolynomial<41, 7> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<35»; };  // NOLINT
03472     template<> struct ConwayPolynomial<41, 8> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<32>, ZPZV<20>, ZPZV<6>, ZPZV<6»; };  // NOLINT
03473     template<> struct ConwayPolynomial<41, 9> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<31>, ZPZV<5>, ZPZV<35»; };
      // NOLINT
03474     template<> struct ConwayPolynomial<41, 10> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<31>, ZPZV<8>, ZPZV<20>, ZPZV<30>,
      ZPZV<6»; };  // NOLINT
```

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03475     template<> struct ConwayPolynomial<41, 11> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<20>, ZPZV<35»; };  // NOLINT
03476     template<> struct ConwayPolynomial<41, 12> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<26>, ZPZV<13>, ZPZV<34>, ZPZV<24>,
      ZPZV<21>, ZPZV<27>, ZPZV<6»; };  // NOLINT
03477     template<> struct ConwayPolynomial<41, 13> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<35»; };  // NOLINT
03478     template<> struct ConwayPolynomial<41, 14> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<15>, ZPZV<4>,
      ZPZV<27>, ZPZV<11>, ZPZV<39>, ZPZV<10>, ZPZV<6»; };  // NOLINT
03479     template<> struct ConwayPolynomial<41, 15> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<29>,
      ZPZV<16>, ZPZV<2>, ZPZV<35>, ZPZV<10>, ZPZV<21>, ZPZV<35»; };  // NOLINT
03480     template<> struct ConwayPolynomial<41, 17> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<35»; };  // NOLINT
03481     template<> struct ConwayPolynomial<41, 18> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<7>, ZPZV<20>,
      ZPZV<23>, ZPZV<35>, ZPZV<38>, ZPZV<24>, ZPZV<12>, ZPZV<29>, ZPZV<10>, ZPZV<6>, ZPZV<6»; };  // NOLINT
03482     template<> struct ConwayPolynomial<41, 19> { using ZPZ = aerobus::zpz<41>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<35»; };  //
      NOLINT
03483     template<> struct ConwayPolynomial<43, 1> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<40»; };  // NOLINT
03484     template<> struct ConwayPolynomial<43, 2> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<42>, ZPZV<3»; };  // NOLINT
03485     template<> struct ConwayPolynomial<43, 3> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<40»; };  // NOLINT
03486     template<> struct ConwayPolynomial<43, 4> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<42>, ZPZV<3»; };  // NOLINT
03487     template<> struct ConwayPolynomial<43, 5> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<40»; };  // NOLINT
03488     template<> struct ConwayPolynomial<43, 6> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<19>, ZPZV<28>, ZPZV<21>, ZPZV<3»; };  // NOLINT
03489     template<> struct ConwayPolynomial<43, 7> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<42>, ZPZV<7>, ZPZV<40»; };  // NOLINT
03490     template<> struct ConwayPolynomial<43, 8> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<39>, ZPZV<20>, ZPZV<24>, ZPZV<3»; };  //
      NOLINT
03491     template<> struct ConwayPolynomial<43, 9> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<39>, ZPZV<1>, ZPZV<40»; };
      // NOLINT
03492     template<> struct ConwayPolynomial<43, 10> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<26>, ZPZV<36>, ZPZV<5>, ZPZV<27>, ZPZV<24>,
      ZPZV<3»; };  // NOLINT
03493     template<> struct ConwayPolynomial<43, 11> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<7>, ZPZV<40»; };  // NOLINT
03494     template<> struct ConwayPolynomial<43, 12> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<34>, ZPZV<27>, ZPZV<16>, ZPZV<17>, ZPZV<6>,
      ZPZV<23>, ZPZV<38>, ZPZV<3»; };  // NOLINT
03495     template<> struct ConwayPolynomial<43, 13> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<40»; };  // NOLINT
03496     template<> struct ConwayPolynomial<43, 14> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<38>, ZPZV<22>, ZPZV<24>,
      ZPZV<37>, ZPZV<18>, ZPZV<4>, ZPZV<19>, ZPZV<3»; };  // NOLINT
03497     template<> struct ConwayPolynomial<43, 15> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<37>,
      ZPZV<22>, ZPZV<42>, ZPZV<4>, ZPZV<15>, ZPZV<37>, ZPZV<40»; };  // NOLINT
03498     template<> struct ConwayPolynomial<43, 17> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<36>, ZPZV<40»; };  // NOLINT
03499     template<> struct ConwayPolynomial<43, 18> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<3>, ZPZV<28>, ZPZV<41>,
      ZPZV<24>, ZPZV<7>, ZPZV<24>, ZPZV<29>, ZPZV<16>, ZPZV<34>, ZPZV<37>, ZPZV<18>, ZPZV<3»; };  // NOLINT
03500     template<> struct ConwayPolynomial<43, 19> { using ZPZ = aerobus::zpz<43>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<30>, ZPZV<40»; };  //
      NOLINT
03501     template<> struct ConwayPolynomial<47, 1> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<42»; };  // NOLINT
03502     template<> struct ConwayPolynomial<47, 2> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<45>, ZPZV<5»; };  // NOLINT
03503     template<> struct ConwayPolynomial<47, 3> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<42»; };  // NOLINT
03504     template<> struct ConwayPolynomial<47, 4> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<40>, ZPZV<5»; };  // NOLINT
03505     template<> struct ConwayPolynomial<47, 5> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<42»; };  // NOLINT
03506     template<> struct ConwayPolynomial<47, 6> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<35>, ZPZV<9>, ZPZV<41>, ZPZV<5»; };  // NOLINT
03507     template<> struct ConwayPolynomial<47, 7> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<42»; };  // NOLINT
```

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03508     template<> struct ConwayPolynomial<47, 8> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<29>, ZPZV<19>, ZPZV<3>, ZPZV<5>>; };  // NOLINT
03509     template<> struct ConwayPolynomial<47, 9> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<19>, ZPZV<1>, ZPZV<42>>; };
      // NOLINT
03510     template<> struct ConwayPolynomial<47, 10> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<42>, ZPZV<14>, ZPZV<18>, ZPZV<45>, ZPZV<45>,
      ZPZV<5>>; };  // NOLINT
03511     template<> struct ConwayPolynomial<47, 11> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<6>, ZPZV<42>>; };  // NOLINT
03512     template<> struct ConwayPolynomial<47, 12> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<46>, ZPZV<40>, ZPZV<35>, ZPZV<12>, ZPZV<46>,
      ZPZV<14>, ZPZV<9>, ZPZV<5>>; };  // NOLINT
03513     template<> struct ConwayPolynomial<47, 13> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<42>>; };  // NOLINT
03514     template<> struct ConwayPolynomial<47, 14> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<36>, ZPZV<20>, ZPZV<30>,
      ZPZV<17>, ZPZV<24>, ZPZV<9>, ZPZV<32>, ZPZV<5>>; };  // NOLINT
03515     template<> struct ConwayPolynomial<47, 15> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<43>,
      ZPZV<31>, ZPZV<14>, ZPZV<42>, ZPZV<13>, ZPZV<17>, ZPZV<42>>; };  // NOLINT
03516     template<> struct ConwayPolynomial<47, 17> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<16>, ZPZV<42>>; };  // NOLINT
03517     template<> struct ConwayPolynomial<47, 18> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<41>, ZPZV<42>,
      ZPZV<26>, ZPZV<44>, ZPZV<24>, ZPZV<22>, ZPZV<11>, ZPZV<5>, ZPZV<45>, ZPZV<33>, ZPZV<5>>; };  // NOLINT
03518     template<> struct ConwayPolynomial<47, 19> { using ZPZ = aerobus::zpz<47>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<35>, ZPZV<42>>; };  //
      NOLINT
03519     template<> struct ConwayPolynomial<53, 1> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<51>>; };  // NOLINT
03520     template<> struct ConwayPolynomial<53, 2> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<49>, ZPZV<2>>; };  // NOLINT
03521     template<> struct ConwayPolynomial<53, 3> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<51>>; };  // NOLINT
03522     template<> struct ConwayPolynomial<53, 4> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<9>, ZPZV<38>, ZPZV<2>>; };  // NOLINT
03523     template<> struct ConwayPolynomial<53, 5> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<51>>; };  // NOLINT
03524     template<> struct ConwayPolynomial<53, 6> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<7>, ZPZV<4>, ZPZV<45>, ZPZV<2>>; };  // NOLINT
03525     template<> struct ConwayPolynomial<53, 7> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<51>>; };  // NOLINT
03526     template<> struct ConwayPolynomial<53, 8> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<29>, ZPZV<18>, ZPZV<1>, ZPZV<2>>; };  // NOLINT
03527     template<> struct ConwayPolynomial<53, 9> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<5>, ZPZV<51>>; };
      // NOLINT
03528     template<> struct ConwayPolynomial<53, 10> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<27>, ZPZV<15>, ZPZV<29>,
      ZPZV<2>>; };  // NOLINT
03529     template<> struct ConwayPolynomial<53, 11> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<15>, ZPZV<51>>; };  // NOLINT
03530     template<> struct ConwayPolynomial<53, 12> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<34>, ZPZV<4>, ZPZV<13>, ZPZV<10>, ZPZV<42>,
      ZPZV<34>, ZPZV<41>, ZPZV<2>>; };  // NOLINT
03531     template<> struct ConwayPolynomial<53, 13> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<52>, ZPZV<28>, ZPZV<51>>; };  // NOLINT
03532     template<> struct ConwayPolynomial<53, 14> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<45>, ZPZV<23>, ZPZV<52>,
      ZPZV<0>, ZPZV<37>, ZPZV<12>, ZPZV<23>, ZPZV<2>>; };  // NOLINT
03533     template<> struct ConwayPolynomial<53, 15> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<22>,
      ZPZV<31>, ZPZV<15>, ZPZV<11>, ZPZV<20>, ZPZV<4>, ZPZV<51>>; };  // NOLINT
03534     template<> struct ConwayPolynomial<53, 17> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<51>>; };  // NOLINT
03535     template<> struct ConwayPolynomial<53, 18> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<52>, ZPZV<31>, ZPZV<51>,
      ZPZV<27>, ZPZV<0>, ZPZV<39>, ZPZV<44>, ZPZV<6>, ZPZV<8>, ZPZV<16>, ZPZV<11>, ZPZV<2>>; };  // NOLINT
03536     template<> struct ConwayPolynomial<53, 19> { using ZPZ = aerobus::zpz<53>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<51>>; };  //
      NOLINT
03537     template<> struct ConwayPolynomial<59, 1> { using ZPZ = aerobus::zpz<59>; using type =
      POLYV<ZPZV<1>, ZPZV<57>>; };  // NOLINT
03538     template<> struct ConwayPolynomial<59, 2> { using ZPZ = aerobus::zpz<59>; using type =
      POLYV<ZPZV<1>, ZPZV<58>, ZPZV<2>>; };  // NOLINT
03539     template<> struct ConwayPolynomial<59, 3> { using ZPZ = aerobus::zpz<59>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<57>>; };  // NOLINT
03540     template<> struct ConwayPolynomial<59, 4> { using ZPZ = aerobus::zpz<59>; using type =
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    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<40>, ZPZV<2»; };  // NOLINT
03541     template<> struct ConwayPolynomial<59, 5> { using ZPZ = aerobus::zpz<59>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<57»; };  // NOLINT
03542     template<> struct ConwayPolynomial<59, 6> { using ZPZ = aerobus::zpz<59>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<18>, ZPZV<38>, ZPZV<0>, ZPZV<2»; };  // NOLINT
03543     template<> struct ConwayPolynomial<59, 7> { using ZPZ = aerobus::zpz<59>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<57»; };  // NOLINT
03544     template<> struct ConwayPolynomial<59, 8> { using ZPZ = aerobus::zpz<59>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<16>, ZPZV<32>, ZPZV<2>, ZPZV<50>, ZPZV<2»; };  //
    NOLINT
03545     template<> struct ConwayPolynomial<59, 9> { using ZPZ = aerobus::zpz<59>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<32>, ZPZV<47>, ZPZV<57»; };
    // NOLINT
03546     template<> struct ConwayPolynomial<59, 10> { using ZPZ = aerobus::zpz<59>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<28>, ZPZV<25>, ZPZV<4>, ZPZV<39>, ZPZV<15>,
    ZPZV<2»; };  // NOLINT
03547     template<> struct ConwayPolynomial<59, 11> { using ZPZ = aerobus::zpz<59>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<6>, ZPZV<57»; };  // NOLINT
03548     template<> struct ConwayPolynomial<59, 12> { using ZPZ = aerobus::zpz<59>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<39>, ZPZV<25>, ZPZV<51>, ZPZV<21>, ZPZV<38>,
    ZPZV<8>, ZPZV<1>, ZPZV<2»; };  // NOLINT
03549     template<> struct ConwayPolynomial<59, 13> { using ZPZ = aerobus::zpz<59>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<57»; };  // NOLINT
03550     template<> struct ConwayPolynomial<59, 14> { using ZPZ = aerobus::zpz<59>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<33>, ZPZV<51>, ZPZV<11>,
    ZPZV<13>, ZPZV<25>, ZPZV<32>, ZPZV<26>, ZPZV<2»; };  // NOLINT
03551     template<> struct ConwayPolynomial<59, 15> { using ZPZ = aerobus::zpz<59>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<57>,
    ZPZV<24>, ZPZV<23>, ZPZV<13>, ZPZV<39>, ZPZV<58>, ZPZV<57»; };  // NOLINT
03552     template<> struct ConwayPolynomial<59, 17> { using ZPZ = aerobus::zpz<59>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<57»; };  // NOLINT
03553     template<> struct ConwayPolynomial<59, 18> { using ZPZ = aerobus::zpz<59>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<37>, ZPZV<38>, ZPZV<27>,
    ZPZV<11>, ZPZV<14>, ZPZV<7>, ZPZV<44>, ZPZV<16>, ZPZV<47>, ZPZV<34>, ZPZV<32>, ZPZV<2»; };  // NOLINT
03554     template<> struct ConwayPolynomial<59, 19> { using ZPZ = aerobus::zpz<59>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<57»; };  //
    NOLINT
03555     template<> struct ConwayPolynomial<61, 1> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<59»; };  // NOLINT
03556     template<> struct ConwayPolynomial<61, 2> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<60>, ZPZV<2»; };  // NOLINT
03557     template<> struct ConwayPolynomial<61, 3> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<59»; };  // NOLINT
03558     template<> struct ConwayPolynomial<61, 4> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<40>, ZPZV<2»; };  // NOLINT
03559     template<> struct ConwayPolynomial<61, 5> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<59»; };  // NOLINT
03560     template<> struct ConwayPolynomial<61, 6> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<49>, ZPZV<3>, ZPZV<29>, ZPZV<2»; };  // NOLINT
03561     template<> struct ConwayPolynomial<61, 7> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<59»; };  // NOLINT
03562     template<> struct ConwayPolynomial<61, 8> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<57>, ZPZV<1>, ZPZV<56>, ZPZV<2»; };  // NOLINT
03563     template<> struct ConwayPolynomial<61, 9> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<50>, ZPZV<18>, ZPZV<59»; };
    // NOLINT
03564     template<> struct ConwayPolynomial<61, 10> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<28>, ZPZV<15>, ZPZV<44>, ZPZV<16>, ZPZV<6>,
    ZPZV<2»; };  // NOLINT
03565     template<> struct ConwayPolynomial<61, 11> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<18>, ZPZV<59»; };  // NOLINT
03566     template<> struct ConwayPolynomial<61, 12> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<42>, ZPZV<33>, ZPZV<8>, ZPZV<38>, ZPZV<14>,
    ZPZV<1>, ZPZV<15>, ZPZV<2»; };  // NOLINT
03567     template<> struct ConwayPolynomial<61, 13> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<59»; };  // NOLINT
03568     template<> struct ConwayPolynomial<61, 14> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<48>, ZPZV<26>, ZPZV<11>,
    ZPZV<8>, ZPZV<30>, ZPZV<54>, ZPZV<48>, ZPZV<2»; };  // NOLINT
03569     template<> struct ConwayPolynomial<61, 15> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<39>,
    ZPZV<35>, ZPZV<44>, ZPZV<25>, ZPZV<23>, ZPZV<51>, ZPZV<59»; };  // NOLINT
03570     template<> struct ConwayPolynomial<61, 17> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<59»; };  // NOLINT
03571     template<> struct ConwayPolynomial<61, 18> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<35>, ZPZV<36>, ZPZV<13>,
    ZPZV<36>, ZPZV<4>, ZPZV<32>, ZPZV<57>, ZPZV<42>, ZPZV<25>, ZPZV<25>, ZPZV<52>, ZPZV<2»; };  // NOLINT
03572     template<> struct ConwayPolynomial<61, 19> { using ZPZ = aerobus::zpz<61>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<59»; };  //
```

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    NOLINT
03573     template<> struct ConwayPolynomial<67, 1> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<65»; };  // NOLINT
03574     template<> struct ConwayPolynomial<67, 2> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<63>, ZPZV<2»; };  // NOLINT
03575     template<> struct ConwayPolynomial<67, 3> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<65»; };  // NOLINT
03576     template<> struct ConwayPolynomial<67, 4> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<54>, ZPZV<2»; };  // NOLINT
03577     template<> struct ConwayPolynomial<67, 5> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<65»; };  // NOLINT
03578     template<> struct ConwayPolynomial<67, 6> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<63>, ZPZV<49>, ZPZV<55>, ZPZV<2»; };  // NOLINT
03579     template<> struct ConwayPolynomial<67, 7> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<65»; };  // NOLINT
03580     template<> struct ConwayPolynomial<67, 8> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<46>, ZPZV<17>, ZPZV<64>, ZPZV<2»; };  //
    NOLINT
03581     template<> struct ConwayPolynomial<67, 9> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<25>, ZPZV<49>, ZPZV<55>, ZPZV<65»; };
    // NOLINT
03582     template<> struct ConwayPolynomial<67, 10> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<21>, ZPZV<0>, ZPZV<16>, ZPZV<7>, ZPZV<23>,
    ZPZV<2»; };  // NOLINT
03583     template<> struct ConwayPolynomial<67, 11> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<66>,
    ZPZV<9>, ZPZV<65»; };  // NOLINT
03584     template<> struct ConwayPolynomial<67, 12> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<57>, ZPZV<27>, ZPZV<4>, ZPZV<55>, ZPZV<64>,
    ZPZV<21>, ZPZV<27>, ZPZV<2»; };  // NOLINT
03585     template<> struct ConwayPolynomial<67, 13> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<22>, ZPZV<65»; };  // NOLINT
03586     template<> struct ConwayPolynomial<67, 14> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<17>, ZPZV<22>, ZPZV<5>,
    ZPZV<56>, ZPZV<0>, ZPZV<1>, ZPZV<37>, ZPZV<2»; };  // NOLINT
03587     template<> struct ConwayPolynomial<67, 15> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<1>,
    ZPZV<52>, ZPZV<41>, ZPZV<20>, ZPZV<21>, ZPZV<46>, ZPZV<65»; };  // NOLINT
03588     template<> struct ConwayPolynomial<67, 17> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<65»; };  // NOLINT
03589     template<> struct ConwayPolynomial<67, 18> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<63>, ZPZV<52>, ZPZV<18>,
    ZPZV<33>, ZPZV<55>, ZPZV<28>, ZPZV<29>, ZPZV<51>, ZPZV<6>, ZPZV<59>, ZPZV<13>, ZPZV<2»; };  // NOLINT
03590     template<> struct ConwayPolynomial<67, 19> { using ZPZ = aerobus::zpz<67>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<18>, ZPZV<65»; };  //
    NOLINT
03591     template<> struct ConwayPolynomial<71, 1> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<64»; };  // NOLINT
03592     template<> struct ConwayPolynomial<71, 2> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<69>, ZPZV<7»; };  // NOLINT
03593     template<> struct ConwayPolynomial<71, 3> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<64»; };  // NOLINT
03594     template<> struct ConwayPolynomial<71, 4> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<41>, ZPZV<7»; };  // NOLINT
03595     template<> struct ConwayPolynomial<71, 5> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<18>, ZPZV<64»; };  // NOLINT
03596     template<> struct ConwayPolynomial<71, 6> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<10>, ZPZV<13>, ZPZV<29>, ZPZV<7»; };  // NOLINT
03597     template<> struct ConwayPolynomial<71, 7> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<64»; };  // NOLINT
03598     template<> struct ConwayPolynomial<71, 8> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<53>, ZPZV<22>, ZPZV<19>, ZPZV<7»; };  //
    NOLINT
03599     template<> struct ConwayPolynomial<71, 9> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<43>, ZPZV<62>, ZPZV<64»; };
    // NOLINT
03600     template<> struct ConwayPolynomial<71, 10> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<53>, ZPZV<17>, ZPZV<26>, ZPZV<1>, ZPZV<40>,
    ZPZV<7»; };  // NOLINT
03601     template<> struct ConwayPolynomial<71, 11> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<48>, ZPZV<64»; };  // NOLINT
03602     template<> struct ConwayPolynomial<71, 12> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<28>, ZPZV<29>, ZPZV<55>, ZPZV<21>,
    ZPZV<58>, ZPZV<23>, ZPZV<7»; };  // NOLINT
03603     template<> struct ConwayPolynomial<71, 13> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<27>, ZPZV<64»; };  // NOLINT
03604     template<> struct ConwayPolynomial<71, 15> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<28>,
    ZPZV<32>, ZPZV<18>, ZPZV<52>, ZPZV<67>, ZPZV<49>, ZPZV<64»; };  // NOLINT
03605     template<> struct ConwayPolynomial<71, 17> { using ZPZ = aerobus::zpz<71>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<64»; };  // NOLINT
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03606     template<> struct ConwayPolynomial<71, 19> { using ZPZ = aerobus::zpz<71>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<64>; };  //
      NOLINT
03607     template<> struct ConwayPolynomial<73, 1> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<68>; };  // NOLINT
03608     template<> struct ConwayPolynomial<73, 2> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<70>, ZPZV<5>; };  // NOLINT
03609     template<> struct ConwayPolynomial<73, 3> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<68>; };  // NOLINT
03610     template<> struct ConwayPolynomial<73, 4> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<16>, ZPZV<56>, ZPZV<5>; };  // NOLINT
03611     template<> struct ConwayPolynomial<73, 5> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<68>; };  // NOLINT
03612     template<> struct ConwayPolynomial<73, 6> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<45>, ZPZV<23>, ZPZV<48>, ZPZV<5>; };  // NOLINT
03613     template<> struct ConwayPolynomial<73, 7> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<68>; };  // NOLINT
03614     template<> struct ConwayPolynomial<73, 8> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<53>, ZPZV<39>, ZPZV<18>, ZPZV<5>; };  //
      NOLINT
03615     template<> struct ConwayPolynomial<73, 9> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<72>, ZPZV<15>, ZPZV<68>; };
      // NOLINT
03616     template<> struct ConwayPolynomial<73, 10> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<15>, ZPZV<23>, ZPZV<33>, ZPZV<32>, ZPZV<69>,
      ZPZV<5>; };  // NOLINT
03617     template<> struct ConwayPolynomial<73, 11> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<5>, ZPZV<68>; };  // NOLINT
03618     template<> struct ConwayPolynomial<73, 12> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<69>, ZPZV<52>, ZPZV<26>, ZPZV<20>, ZPZV<46>,
      ZPZV<29>, ZPZV<25>, ZPZV<5>; };  // NOLINT
03619     template<> struct ConwayPolynomial<73, 13> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<68>; };  // NOLINT
03620     template<> struct ConwayPolynomial<73, 15> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<10>, ZPZV<33>, ZPZV<57>, ZPZV<57>, ZPZV<62>, ZPZV<68>; };  // NOLINT
03621     template<> struct ConwayPolynomial<73, 17> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<68>; };  // NOLINT
03622     template<> struct ConwayPolynomial<73, 19> { using ZPZ = aerobus::zpz<73>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<25>, ZPZV<68>; };  //
      NOLINT
03623     template<> struct ConwayPolynomial<79, 1> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<76>; };  // NOLINT
03624     template<> struct ConwayPolynomial<79, 2> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<78>, ZPZV<3>; };  // NOLINT
03625     template<> struct ConwayPolynomial<79, 3> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<9>, ZPZV<76>; };  // NOLINT
03626     template<> struct ConwayPolynomial<79, 4> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<66>, ZPZV<3>; };  // NOLINT
03627     template<> struct ConwayPolynomial<79, 5> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<76>; };  // NOLINT
03628     template<> struct ConwayPolynomial<79, 6> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<19>, ZPZV<28>, ZPZV<68>, ZPZV<3>; };  // NOLINT
03629     template<> struct ConwayPolynomial<79, 7> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<76>; };  // NOLINT
03630     template<> struct ConwayPolynomial<79, 8> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<60>, ZPZV<59>, ZPZV<48>, ZPZV<3>; };  //
      NOLINT
03631     template<> struct ConwayPolynomial<79, 9> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<57>, ZPZV<19>, ZPZV<76>; };
      // NOLINT
03632     template<> struct ConwayPolynomial<79, 10> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<44>, ZPZV<51>, ZPZV<1>, ZPZV<30>, ZPZV<42>,
      ZPZV<3>; };  // NOLINT
03633     template<> struct ConwayPolynomial<79, 11> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<3>, ZPZV<76>; };  // NOLINT
03634     template<> struct ConwayPolynomial<79, 12> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<29>, ZPZV<45>, ZPZV<52>, ZPZV<7>, ZPZV<40>,
      ZPZV<59>, ZPZV<62>, ZPZV<3>; };  // NOLINT
03635     template<> struct ConwayPolynomial<79, 13> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<78>, ZPZV<4>, ZPZV<76>; };  // NOLINT
03636     template<> struct ConwayPolynomial<79, 17> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<25>, ZPZV<76>; };  // NOLINT
03637     template<> struct ConwayPolynomial<79, 19> { using ZPZ = aerobus::zpz<79>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<25>, ZPZV<76>; };  //
      NOLINT
03638     template<> struct ConwayPolynomial<83, 1> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<81>; };  // NOLINT
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03639     template<> struct ConwayPolynomial<83, 2> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<82>, ZPZV<2>>; };  // NOLINT
03640     template<> struct ConwayPolynomial<83, 3> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<81>>; };  // NOLINT
03641     template<> struct ConwayPolynomial<83, 4> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<42>, ZPZV<2>>; };  // NOLINT
03642     template<> struct ConwayPolynomial<83, 5> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<81>>; };  // NOLINT
03643     template<> struct ConwayPolynomial<83, 6> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<76>, ZPZV<32>, ZPZV<17>, ZPZV<2>>; };  // NOLINT
03644     template<> struct ConwayPolynomial<83, 7> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<81>>; };  // NOLINT
03645     template<> struct ConwayPolynomial<83, 8> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<65>, ZPZV<23>, ZPZV<42>, ZPZV<2>>; };  //
      NOLINT
03646     template<> struct ConwayPolynomial<83, 9> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<24>, ZPZV<18>, ZPZV<81>>; };
      // NOLINT
03647     template<> struct ConwayPolynomial<83, 10> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<0>, ZPZV<73>, ZPZV<0>, ZPZV<53>,
      ZPZV<2>>; };  // NOLINT
03648     template<> struct ConwayPolynomial<83, 11> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<17>, ZPZV<81>>; };  // NOLINT
03649     template<> struct ConwayPolynomial<83, 12> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<35>, ZPZV<12>, ZPZV<31>, ZPZV<19>, ZPZV<65>,
      ZPZV<55>, ZPZV<75>, ZPZV<2>>; };  // NOLINT
03650     template<> struct ConwayPolynomial<83, 13> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<81>>; };  // NOLINT
03651     template<> struct ConwayPolynomial<83, 17> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<81>>; };  // NOLINT
03652     template<> struct ConwayPolynomial<83, 19> { using ZPZ = aerobus::zpz<83>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<47>, ZPZV<81>>; };  //
      NOLINT
03653     template<> struct ConwayPolynomial<89, 1> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<86>>; };  // NOLINT
03654     template<> struct ConwayPolynomial<89, 2> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<82>, ZPZV<3>>; };  // NOLINT
03655     template<> struct ConwayPolynomial<89, 3> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<86>>; };  // NOLINT
03656     template<> struct ConwayPolynomial<89, 4> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<72>, ZPZV<3>>; };  // NOLINT
03657     template<> struct ConwayPolynomial<89, 5> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<86>>; };  // NOLINT
03658     template<> struct ConwayPolynomial<89, 6> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<82>, ZPZV<80>, ZPZV<15>, ZPZV<3>>; };  // NOLINT
03659     template<> struct ConwayPolynomial<89, 7> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<86>>; };  // NOLINT
03660     template<> struct ConwayPolynomial<89, 8> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<65>, ZPZV<40>, ZPZV<79>, ZPZV<3>>; };  //
      NOLINT
03661     template<> struct ConwayPolynomial<89, 9> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<12>, ZPZV<6>, ZPZV<86>>; };
      // NOLINT
03662     template<> struct ConwayPolynomial<89, 10> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<16>, ZPZV<33>, ZPZV<82>, ZPZV<52>, ZPZV<4>,
      ZPZV<3>>; };  // NOLINT
03663     template<> struct ConwayPolynomial<89, 11> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<88>,
      ZPZV<26>, ZPZV<86>>; };  // NOLINT
03664     template<> struct ConwayPolynomial<89, 12> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<85>, ZPZV<15>, ZPZV<44>, ZPZV<51>, ZPZV<8>,
      ZPZV<70>, ZPZV<52>, ZPZV<3>>; };  // NOLINT
03665     template<> struct ConwayPolynomial<89, 13> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<17>, ZPZV<86>>; };  // NOLINT
03666     template<> struct ConwayPolynomial<89, 17> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<20>, ZPZV<86>>; };  // NOLINT
03667     template<> struct ConwayPolynomial<89, 19> { using ZPZ = aerobus::zpz<89>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<34>, ZPZV<86>>; };  //
      NOLINT
03668     template<> struct ConwayPolynomial<97, 1> { using ZPZ = aerobus::zpz<97>; using type =
      POLYV<ZPZV<1>, ZPZV<92>>; };  // NOLINT
03669     template<> struct ConwayPolynomial<97, 2> { using ZPZ = aerobus::zpz<97>; using type =
      POLYV<ZPZV<1>, ZPZV<96>, ZPZV<5>>; };  // NOLINT
03670     template<> struct ConwayPolynomial<97, 3> { using ZPZ = aerobus::zpz<97>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<9>, ZPZV<92>>; };  // NOLINT
03671     template<> struct ConwayPolynomial<97, 4> { using ZPZ = aerobus::zpz<97>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<80>, ZPZV<5>>; };  // NOLINT
03672     template<> struct ConwayPolynomial<97, 5> { using ZPZ = aerobus::zpz<97>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<92>>; };  // NOLINT
03673     template<> struct ConwayPolynomial<97, 6> { using ZPZ = aerobus::zpz<97>; using type =
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    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<92>, ZPZV<58>, ZPZV<88>, ZPZV<5>>; };  // NOLINT
03674     template<> struct ConwayPolynomial<97, 7> { using ZPZ = aerobus::zpz<97>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<92>>; };  // NOLINT
03675     template<> struct ConwayPolynomial<97, 8> { using ZPZ = aerobus::zpz<97>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<65>, ZPZV<1>, ZPZV<32>, ZPZV<5>>; };  // NOLINT
03676     template<> struct ConwayPolynomial<97, 9> { using ZPZ = aerobus::zpz<97>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<59>, ZPZV<7>, ZPZV<92>>; };
    // NOLINT
03677     template<> struct ConwayPolynomial<97, 10> { using ZPZ = aerobus::zpz<97>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<22>, ZPZV<66>, ZPZV<34>, ZPZV<34>, ZPZV<20>,
    ZPZV<5>>; };  // NOLINT
03678     template<> struct ConwayPolynomial<97, 11> { using ZPZ = aerobus::zpz<97>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<5>, ZPZV<92>>; };  // NOLINT
03679     template<> struct ConwayPolynomial<97, 12> { using ZPZ = aerobus::zpz<97>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<30>, ZPZV<59>, ZPZV<81>, ZPZV<0>, ZPZV<86>,
    ZPZV<78>, ZPZV<94>, ZPZV<5>>; };  // NOLINT
03680     template<> struct ConwayPolynomial<97, 13> { using ZPZ = aerobus::zpz<97>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<92>>; };  // NOLINT
03681     template<> struct ConwayPolynomial<97, 17> { using ZPZ = aerobus::zpz<97>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<92>>; };  // NOLINT
03682     template<> struct ConwayPolynomial<97, 19> { using ZPZ = aerobus::zpz<97>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<92>>; };  //
    NOLINT
03683     template<> struct ConwayPolynomial<101, 1> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<99>>; };  // NOLINT
03684     template<> struct ConwayPolynomial<101, 2> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<97>, ZPZV<2>>; };  // NOLINT
03685     template<> struct ConwayPolynomial<101, 3> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<99>>; };  // NOLINT
03686     template<> struct ConwayPolynomial<101, 4> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<78>, ZPZV<2>>; };  // NOLINT
03687     template<> struct ConwayPolynomial<101, 5> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<99>>; };  // NOLINT
03688     template<> struct ConwayPolynomial<101, 6> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<90>, ZPZV<20>, ZPZV<67>, ZPZV<2>>; };  // NOLINT
03689     template<> struct ConwayPolynomial<101, 7> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<99>>; };  // NOLINT
03690     template<> struct ConwayPolynomial<101, 8> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<76>, ZPZV<29>, ZPZV<24>, ZPZV<2>>; };  //
    NOLINT
03691     template<> struct ConwayPolynomial<101, 9> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<64>, ZPZV<47>, ZPZV<99>>; };
    // NOLINT
03692     template<> struct ConwayPolynomial<101, 10> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<67>, ZPZV<49>, ZPZV<100>, ZPZV<100>, ZPZV<52>,
    ZPZV<2>>; };  // NOLINT
03693     template<> struct ConwayPolynomial<101, 11> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<31>, ZPZV<99>>; };  // NOLINT
03694     template<> struct ConwayPolynomial<101, 12> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<79>, ZPZV<64>, ZPZV<39>, ZPZV<78>, ZPZV<48>,
    ZPZV<84>, ZPZV<21>, ZPZV<2>>; };  // NOLINT
03695     template<> struct ConwayPolynomial<101, 13> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<99>>; };  // NOLINT
03696     template<> struct ConwayPolynomial<101, 17> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<31>, ZPZV<99>>; };  // NOLINT
03697     template<> struct ConwayPolynomial<101, 19> { using ZPZ = aerobus::zpz<101>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<24>, ZPZV<99>>; };  //
    NOLINT
03698     template<> struct ConwayPolynomial<103, 1> { using ZPZ = aerobus::zpz<103>; using type =
    POLYV<ZPZV<1>, ZPZV<98>>; };  // NOLINT
03699     template<> struct ConwayPolynomial<103, 2> { using ZPZ = aerobus::zpz<103>; using type =
    POLYV<ZPZV<1>, ZPZV<102>, ZPZV<5>>; };  // NOLINT
03700     template<> struct ConwayPolynomial<103, 3> { using ZPZ = aerobus::zpz<103>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<98>>; };  // NOLINT
03701     template<> struct ConwayPolynomial<103, 4> { using ZPZ = aerobus::zpz<103>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<88>, ZPZV<5>>; };  // NOLINT
03702     template<> struct ConwayPolynomial<103, 5> { using ZPZ = aerobus::zpz<103>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<98>>; };  // NOLINT
03703     template<> struct ConwayPolynomial<103, 6> { using ZPZ = aerobus::zpz<103>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<96>, ZPZV<9>, ZPZV<30>, ZPZV<5>>; };  // NOLINT
03704     template<> struct ConwayPolynomial<103, 7> { using ZPZ = aerobus::zpz<103>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<98>>; };  // NOLINT
03705     template<> struct ConwayPolynomial<103, 8> { using ZPZ = aerobus::zpz<103>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<70>, ZPZV<71>, ZPZV<49>, ZPZV<5>>; };  //
    NOLINT
03706     template<> struct ConwayPolynomial<103, 9> { using ZPZ = aerobus::zpz<103>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<97>, ZPZV<51>, ZPZV<98>>; };
    // NOLINT
03707     template<> struct ConwayPolynomial<103, 10> { using ZPZ = aerobus::zpz<103>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<101>, ZPZV<86>, ZPZV<101>, ZPZV<94>, ZPZV<11>,
      ZPZV<5»; };  // NOLINT
03708     template<> struct ConwayPolynomial<103, 11> { using ZPZ = aerobus::zpz<103>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<5>, ZPZV<98»; };  // NOLINT
03709     template<> struct ConwayPolynomial<103, 12> { using ZPZ = aerobus::zpz<103>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<74>, ZPZV<23>, ZPZV<94>, ZPZV<20>, ZPZV<81>,
      ZPZV<29>, ZPZV<88>, ZPZV<5»; };  // NOLINT
03710     template<> struct ConwayPolynomial<103, 13> { using ZPZ = aerobus::zpz<103>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<98»; };  // NOLINT
03711     template<> struct ConwayPolynomial<103, 17> { using ZPZ = aerobus::zpz<103>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<102>, ZPZV<8>, ZPZV<98»; };  // NOLINT
03712     template<> struct ConwayPolynomial<103, 19> { using ZPZ = aerobus::zpz<103>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<98»; };  //
      NOLINT
03713     template<> struct ConwayPolynomial<107, 1> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<105»; };  // NOLINT
03714     template<> struct ConwayPolynomial<107, 2> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<103>, ZPZV<2»; };  // NOLINT
03715     template<> struct ConwayPolynomial<107, 3> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<105»; };  // NOLINT
03716     template<> struct ConwayPolynomial<107, 4> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<13>, ZPZV<79>, ZPZV<2»; };  // NOLINT
03717     template<> struct ConwayPolynomial<107, 5> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<105»; };  // NOLINT
03718     template<> struct ConwayPolynomial<107, 6> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<52>, ZPZV<22>, ZPZV<79>, ZPZV<2»; };  // NOLINT
03719     template<> struct ConwayPolynomial<107, 7> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<16>, ZPZV<105»; };  // NOLINT
03720     template<> struct ConwayPolynomial<107, 8> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<105>, ZPZV<24>, ZPZV<95>, ZPZV<2»; };  //
      NOLINT
03721     template<> struct ConwayPolynomial<107, 9> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<3>, ZPZV<66>, ZPZV<105»; };
      // NOLINT
03722     template<> struct ConwayPolynomial<107, 10> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<94>, ZPZV<61>, ZPZV<83>, ZPZV<83>, ZPZV<95>,
      ZPZV<2»; };  // NOLINT
03723     template<> struct ConwayPolynomial<107, 11> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<8>, ZPZV<105»; };  // NOLINT
03724     template<> struct ConwayPolynomial<107, 12> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<37>, ZPZV<48>, ZPZV<6>, ZPZV<0>, ZPZV<61>,
      ZPZV<42>, ZPZV<57>, ZPZV<2»; };  // NOLINT
03725     template<> struct ConwayPolynomial<107, 13> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<105»; };  // NOLINT
03726     template<> struct ConwayPolynomial<107, 17> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<105»; };  // NOLINT
03727     template<> struct ConwayPolynomial<107, 19> { using ZPZ = aerobus::zpz<107>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<24>, ZPZV<105»; };  //
      NOLINT
03728     template<> struct ConwayPolynomial<109, 1> { using ZPZ = aerobus::zpz<109>; using type =
      POLYV<ZPZV<1>, ZPZV<103»; };  // NOLINT
03729     template<> struct ConwayPolynomial<109, 2> { using ZPZ = aerobus::zpz<109>; using type =
      POLYV<ZPZV<1>, ZPZV<108>, ZPZV<6»; };  // NOLINT
03730     template<> struct ConwayPolynomial<109, 3> { using ZPZ = aerobus::zpz<109>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<103»; };  // NOLINT
03731     template<> struct ConwayPolynomial<109, 4> { using ZPZ = aerobus::zpz<109>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<11>, ZPZV<98>, ZPZV<6»; };  // NOLINT
03732     template<> struct ConwayPolynomial<109, 5> { using ZPZ = aerobus::zpz<109>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<103»; };  // NOLINT
03733     template<> struct ConwayPolynomial<109, 6> { using ZPZ = aerobus::zpz<109>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<107>, ZPZV<102>, ZPZV<66>, ZPZV<6»; };  // NOLINT
03734     template<> struct ConwayPolynomial<109, 7> { using ZPZ = aerobus::zpz<109>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<103»; };  // NOLINT
03735     template<> struct ConwayPolynomial<109, 8> { using ZPZ = aerobus::zpz<109>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<102>, ZPZV<34>, ZPZV<86>, ZPZV<6»; };  //
      NOLINT
03736     template<> struct ConwayPolynomial<109, 9> { using ZPZ = aerobus::zpz<109>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<93>, ZPZV<87>, ZPZV<103»; };
      // NOLINT
03737     template<> struct ConwayPolynomial<109, 10> { using ZPZ = aerobus::zpz<109>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<71>, ZPZV<55>, ZPZV<16>, ZPZV<75>, ZPZV<69>,
      ZPZV<6»; };  // NOLINT
03738     template<> struct ConwayPolynomial<109, 11> { using ZPZ = aerobus::zpz<109>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<11>, ZPZV<103»; };  // NOLINT
03739     template<> struct ConwayPolynomial<109, 12> { using ZPZ = aerobus::zpz<109>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<50>, ZPZV<53>, ZPZV<37>, ZPZV<8>, ZPZV<65>,
      ZPZV<103>, ZPZV<28>, ZPZV<6»; };  // NOLINT
03740     template<> struct ConwayPolynomial<109, 13> { using ZPZ = aerobus::zpz<109>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<103>>; };  // NOLINT
03741     template<> struct ConwayPolynomial<109, 17> { using ZPZ = aerobus::zpz<109>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<103>>; };  // NOLINT
03742     template<> struct ConwayPolynomial<109, 19> { using ZPZ = aerobus::zpz<109>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<103>>; };  //
      NOLINT
03743     template<> struct ConwayPolynomial<113, 1> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<110>>; };  // NOLINT
03744     template<> struct ConwayPolynomial<113, 2> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<101>, ZPZV<3>>; };  // NOLINT
03745     template<> struct ConwayPolynomial<113, 3> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<110>>; };  // NOLINT
03746     template<> struct ConwayPolynomial<113, 4> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<62>, ZPZV<3>>; };  // NOLINT
03747     template<> struct ConwayPolynomial<113, 5> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<110>>; };  // NOLINT
03748     template<> struct ConwayPolynomial<113, 6> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<59>, ZPZV<30>, ZPZV<71>, ZPZV<3>>; };  // NOLINT
03749     template<> struct ConwayPolynomial<113, 7> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<110>>; };  // NOLINT
03750     template<> struct ConwayPolynomial<113, 8> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<98>, ZPZV<38>, ZPZV<28>, ZPZV<3>>; };  //
      NOLINT
03751     template<> struct ConwayPolynomial<113, 9> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<87>, ZPZV<71>, ZPZV<110>>; };
      // NOLINT
03752     template<> struct ConwayPolynomial<113, 10> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<108>, ZPZV<57>, ZPZV<45>, ZPZV<83>, ZPZV<56>,
      ZPZV<3>>; };  // NOLINT
03753     template<> struct ConwayPolynomial<113, 11> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<3>, ZPZV<110>>; };  // NOLINT
03754     template<> struct ConwayPolynomial<113, 12> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<23>, ZPZV<62>, ZPZV<4>, ZPZV<98>, ZPZV<56>,
      ZPZV<10>, ZPZV<27>, ZPZV<3>>; };  // NOLINT
03755     template<> struct ConwayPolynomial<113, 13> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<110>>; };  // NOLINT
03756     template<> struct ConwayPolynomial<113, 17> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<110>>; };  // NOLINT
03757     template<> struct ConwayPolynomial<113, 19> { using ZPZ = aerobus::zpz<113>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<22>, ZPZV<110>>; };  //
      NOLINT
03758     template<> struct ConwayPolynomial<127, 1> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<124>>; };  // NOLINT
03759     template<> struct ConwayPolynomial<127, 2> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<126>, ZPZV<3>>; };  // NOLINT
03760     template<> struct ConwayPolynomial<127, 3> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<124>>; };  // NOLINT
03761     template<> struct ConwayPolynomial<127, 4> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<97>, ZPZV<3>>; };  // NOLINT
03762     template<> struct ConwayPolynomial<127, 5> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<124>>; };  // NOLINT
03763     template<> struct ConwayPolynomial<127, 6> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<84>, ZPZV<115>, ZPZV<82>, ZPZV<3>>; };  // NOLINT
03764     template<> struct ConwayPolynomial<127, 7> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<124>>; };  // NOLINT
03765     template<> struct ConwayPolynomial<127, 8> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<104>, ZPZV<55>, ZPZV<8>, ZPZV<3>>; };  //
      NOLINT
03766     template<> struct ConwayPolynomial<127, 9> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<119>, ZPZV<126>, ZPZV<124>>;
      };  // NOLINT
03767     template<> struct ConwayPolynomial<127, 10> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<107>, ZPZV<64>, ZPZV<95>, ZPZV<60>, ZPZV<4>,
      ZPZV<3>>; };  // NOLINT
03768     template<> struct ConwayPolynomial<127, 11> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<11>, ZPZV<124>>; };  // NOLINT
03769     template<> struct ConwayPolynomial<127, 12> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<119>, ZPZV<25>, ZPZV<33>, ZPZV<97>, ZPZV<15>,
      ZPZV<99>, ZPZV<8>, ZPZV<3>>; };  // NOLINT
03770     template<> struct ConwayPolynomial<127, 13> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<124>>; };  // NOLINT
03771     template<> struct ConwayPolynomial<127, 17> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<124>>; };  // NOLINT
03772     template<> struct ConwayPolynomial<127, 19> { using ZPZ = aerobus::zpz<127>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<30>, ZPZV<124>>; };  //
      NOLINT
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03773     template<> struct ConwayPolynomial<131, 1> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<129»; };  // NOLINT
03774     template<> struct ConwayPolynomial<131, 2> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<127>, ZPZV<2»; };  // NOLINT
03775     template<> struct ConwayPolynomial<131, 3> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<129»; };  // NOLINT
03776     template<> struct ConwayPolynomial<131, 4> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<9>, ZPZV<109>, ZPZV<2»; };  // NOLINT
03777     template<> struct ConwayPolynomial<131, 5> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<19>, ZPZV<129»; };  // NOLINT
03778     template<> struct ConwayPolynomial<131, 6> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<66>, ZPZV<4>, ZPZV<22>, ZPZV<2»; };  // NOLINT
03779     template<> struct ConwayPolynomial<131, 7> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<129»; };  // NOLINT
03780     template<> struct ConwayPolynomial<131, 8> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<72>, ZPZV<116>, ZPZV<104>, ZPZV<2»; };  //
      NOLINT
03781     template<> struct ConwayPolynomial<131, 9> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<6>, ZPZV<19>, ZPZV<129»; };
      // NOLINT
03782     template<> struct ConwayPolynomial<131, 10> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<124>, ZPZV<97>, ZPZV<9>, ZPZV<126>, ZPZV<44>,
      ZPZV<2»; };  // NOLINT
03783     template<> struct ConwayPolynomial<131, 11> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<6>, ZPZV<129»; };  // NOLINT
03784     template<> struct ConwayPolynomial<131, 12> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<50>, ZPZV<122>, ZPZV<40>, ZPZV<83>, ZPZV<125>,
      ZPZV<28>, ZPZV<103>, ZPZV<2»; };  // NOLINT
03785     template<> struct ConwayPolynomial<131, 13> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<129»; };  // NOLINT
03786     template<> struct ConwayPolynomial<131, 17> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<129»; };  // NOLINT
03787     template<> struct ConwayPolynomial<131, 19> { using ZPZ = aerobus::zpz<131>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<129»; };  //
      NOLINT
03788     template<> struct ConwayPolynomial<137, 1> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<134»; };  // NOLINT
03789     template<> struct ConwayPolynomial<137, 2> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<131>, ZPZV<3»; };  // NOLINT
03790     template<> struct ConwayPolynomial<137, 3> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<134»; };  // NOLINT
03791     template<> struct ConwayPolynomial<137, 4> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<95>, ZPZV<3»; };  // NOLINT
03792     template<> struct ConwayPolynomial<137, 5> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<134»; };  // NOLINT
03793     template<> struct ConwayPolynomial<137, 6> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<116>, ZPZV<102>, ZPZV<3>, ZPZV<3»; };  // NOLINT
03794     template<> struct ConwayPolynomial<137, 7> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<134»; };  // NOLINT
03795     template<> struct ConwayPolynomial<137, 8> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<105>, ZPZV<21>, ZPZV<34>, ZPZV<3»; };  //
      NOLINT
03796     template<> struct ConwayPolynomial<137, 9> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<80>, ZPZV<122>, ZPZV<134»;
      };  // NOLINT
03797     template<> struct ConwayPolynomial<137, 10> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<0>, ZPZV<20>, ZPZV<67>, ZPZV<93>, ZPZV<119>,
      ZPZV<3»; };  // NOLINT
03798     template<> struct ConwayPolynomial<137, 11> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<1>, ZPZV<134»; };  // NOLINT
03799     template<> struct ConwayPolynomial<137, 12> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<61>, ZPZV<40>, ZPZV<40>, ZPZV<12>, ZPZV<36>,
      ZPZV<135>, ZPZV<61>, ZPZV<3»; };  // NOLINT
03800     template<> struct ConwayPolynomial<137, 13> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<134»; };  // NOLINT
03801     template<> struct ConwayPolynomial<137, 17> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<136>, ZPZV<4>, ZPZV<134»; };  // NOLINT
03802     template<> struct ConwayPolynomial<137, 19> { using ZPZ = aerobus::zpz<137>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<18>, ZPZV<134»; };  //
      NOLINT
03803     template<> struct ConwayPolynomial<139, 1> { using ZPZ = aerobus::zpz<139>; using type =
      POLYV<ZPZV<1>, ZPZV<137»; };  // NOLINT
03804     template<> struct ConwayPolynomial<139, 2> { using ZPZ = aerobus::zpz<139>; using type =
      POLYV<ZPZV<1>, ZPZV<138>, ZPZV<2»; };  // NOLINT
03805     template<> struct ConwayPolynomial<139, 3> { using ZPZ = aerobus::zpz<139>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<137»; };  // NOLINT
03806     template<> struct ConwayPolynomial<139, 4> { using ZPZ = aerobus::zpz<139>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<96>, ZPZV<2»; };  // NOLINT
03807     template<> struct ConwayPolynomial<139, 5> { using ZPZ = aerobus::zpz<139>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<137»; };  // NOLINT
03808     template<> struct ConwayPolynomial<139, 6> { using ZPZ = aerobus::zpz<139>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<46>, ZPZV<10>, ZPZV<118>, ZPZV<2»; };  // NOLINT
03809     template<> struct ConwayPolynomial<139, 7> { using ZPZ = aerobus::zpz<139>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<137»; };  // NOLINT
03810     template<> struct ConwayPolynomial<139, 8> { using ZPZ = aerobus::zpz<139>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<103>, ZPZV<36>, ZPZV<21>, ZPZV<2»; };  //
      NOLINT
03811     template<> struct ConwayPolynomial<139, 9> { using ZPZ = aerobus::zpz<139>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<70>, ZPZV<87>, ZPZV<137»; };
      // NOLINT
03812     template<> struct ConwayPolynomial<139, 10> { using ZPZ = aerobus::zpz<139>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<110>, ZPZV<48>, ZPZV<130>, ZPZV<66>,
      ZPZV<106>, ZPZV<2»; };  // NOLINT
03813     template<> struct ConwayPolynomial<139, 11> { using ZPZ = aerobus::zpz<139>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<7>, ZPZV<137»; };  // NOLINT
03814     template<> struct ConwayPolynomial<139, 12> { using ZPZ = aerobus::zpz<139>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<120>, ZPZV<75>, ZPZV<41>, ZPZV<77>, ZPZV<106>,
      ZPZV<8>, ZPZV<10>, ZPZV<2»; };  // NOLINT
03815     template<> struct ConwayPolynomial<139, 13> { using ZPZ = aerobus::zpz<139>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<22>, ZPZV<137»; };  // NOLINT
03816     template<> struct ConwayPolynomial<139, 17> { using ZPZ = aerobus::zpz<139>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<137»; };  // NOLINT
03817     template<> struct ConwayPolynomial<139, 19> { using ZPZ = aerobus::zpz<139>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<23>, ZPZV<137»; };  //
      NOLINT
03818     template<> struct ConwayPolynomial<149, 1> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<147»; };  // NOLINT
03819     template<> struct ConwayPolynomial<149, 2> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<145>, ZPZV<2»; };  // NOLINT
03820     template<> struct ConwayPolynomial<149, 3> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<147»; };  // NOLINT
03821     template<> struct ConwayPolynomial<149, 4> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<107>, ZPZV<2»; };  // NOLINT
03822     template<> struct ConwayPolynomial<149, 5> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<147»; };  // NOLINT
03823     template<> struct ConwayPolynomial<149, 6> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<105>, ZPZV<33>, ZPZV<55>, ZPZV<2»; };  // NOLINT
03824     template<> struct ConwayPolynomial<149, 7> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<19>, ZPZV<147»; };  // NOLINT
03825     template<> struct ConwayPolynomial<149, 8> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<140>, ZPZV<25>, ZPZV<123>, ZPZV<2»; };  //
      NOLINT
03826     template<> struct ConwayPolynomial<149, 9> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<146>, ZPZV<20>, ZPZV<147»;
      };  // NOLINT
03827     template<> struct ConwayPolynomial<149, 10> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<74>, ZPZV<42>, ZPZV<148>, ZPZV<143>, ZPZV<51>,
      ZPZV<2»; };  // NOLINT
03828     template<> struct ConwayPolynomial<149, 11> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<33>, ZPZV<147»; };  // NOLINT
03829     template<> struct ConwayPolynomial<149, 12> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<121>, ZPZV<91>, ZPZV<52>, ZPZV<9>,
      ZPZV<104>, ZPZV<110>, ZPZV<2»; };  // NOLINT
03830     template<> struct ConwayPolynomial<149, 13> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<147»; };  // NOLINT
03831     template<> struct ConwayPolynomial<149, 17> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<29>, ZPZV<147»; };  // NOLINT
03832     template<> struct ConwayPolynomial<149, 19> { using ZPZ = aerobus::zpz<149>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<147»; };  //
      NOLINT
03833     template<> struct ConwayPolynomial<151, 1> { using ZPZ = aerobus::zpz<151>; using type =
      POLYV<ZPZV<1>, ZPZV<145»; };  // NOLINT
03834     template<> struct ConwayPolynomial<151, 2> { using ZPZ = aerobus::zpz<151>; using type =
      POLYV<ZPZV<1>, ZPZV<149>, ZPZV<6»; };  // NOLINT
03835     template<> struct ConwayPolynomial<151, 3> { using ZPZ = aerobus::zpz<151>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<145»; };  // NOLINT
03836     template<> struct ConwayPolynomial<151, 4> { using ZPZ = aerobus::zpz<151>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<13>, ZPZV<89>, ZPZV<6»; };  // NOLINT
03837     template<> struct ConwayPolynomial<151, 5> { using ZPZ = aerobus::zpz<151>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<145»; };  // NOLINT
03838     template<> struct ConwayPolynomial<151, 6> { using ZPZ = aerobus::zpz<151>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<125>, ZPZV<18>, ZPZV<15>, ZPZV<6»; };  // NOLINT
03839     template<> struct ConwayPolynomial<151, 7> { using ZPZ = aerobus::zpz<151>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<145»; };  // NOLINT
03840     template<> struct ConwayPolynomial<151, 8> { using ZPZ = aerobus::zpz<151>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<140>, ZPZV<122>, ZPZV<43>, ZPZV<6»; };  //
      NOLINT
03841     template<> struct ConwayPolynomial<151, 9> { using ZPZ = aerobus::zpz<151>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<126>, ZPZV<96>, ZPZV<145»;
      };  // NOLINT
03842     template<> struct ConwayPolynomial<151, 10> { using ZPZ = aerobus::zpz<151>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<21>, ZPZV<104>, ZPZV<49>, ZPZV<20>, ZPZV<142>,
      ZPZV<6»; };  // NOLINT
03843     template<> struct ConwayPolynomial<151, 11> { using ZPZ = aerobus::zpz<151>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<1>, ZPZV<145»; };  // NOLINT
03844     template<> struct ConwayPolynomial<151, 12> { using ZPZ = aerobus::zpz<151>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<109>, ZPZV<121>, ZPZV<101>, ZPZV<6>, ZPZV<77>,
      ZPZV<107>, ZPZV<147>, ZPZV<6»; };  // NOLINT
03845     template<> struct ConwayPolynomial<151, 13> { using ZPZ = aerobus::zpz<151>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<145»; };  // NOLINT
03846     template<> struct ConwayPolynomial<151, 17> { using ZPZ = aerobus::zpz<151>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<24>, ZPZV<145»; };  // NOLINT
03847     template<> struct ConwayPolynomial<151, 19> { using ZPZ = aerobus::zpz<151>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<145»; };  //
      NOLINT
03848     template<> struct ConwayPolynomial<157, 1> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<152»; };  // NOLINT
03849     template<> struct ConwayPolynomial<157, 2> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<152>, ZPZV<5»; };  // NOLINT
03850     template<> struct ConwayPolynomial<157, 3> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<152»; };  // NOLINT
03851     template<> struct ConwayPolynomial<157, 4> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<11>, ZPZV<136>, ZPZV<5»; };  // NOLINT
03852     template<> struct ConwayPolynomial<157, 5> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<152»; };  // NOLINT
03853     template<> struct ConwayPolynomial<157, 6> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<130>, ZPZV<43>, ZPZV<144>, ZPZV<5»; };  // NOLINT
03854     template<> struct ConwayPolynomial<157, 7> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<152»; };  // NOLINT
03855     template<> struct ConwayPolynomial<157, 8> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<97>, ZPZV<40>, ZPZV<153>, ZPZV<5»; };  //
      NOLINT
03856     template<> struct ConwayPolynomial<157, 9> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<114>, ZPZV<52>, ZPZV<152»;
      };  // NOLINT
03857     template<> struct ConwayPolynomial<157, 10> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<61>, ZPZV<22>, ZPZV<124>, ZPZV<61>, ZPZV<93>,
      ZPZV<5»; };  // NOLINT
03858     template<> struct ConwayPolynomial<157, 11> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<29>, ZPZV<152»; };  // NOLINT
03859     template<> struct ConwayPolynomial<157, 12> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<77>, ZPZV<110>, ZPZV<72>, ZPZV<137>, ZPZV<43>,
      ZPZV<152>, ZPZV<57>, ZPZV<5»; };  // NOLINT
03860     template<> struct ConwayPolynomial<157, 13> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<156>, ZPZV<9>, ZPZV<152»; };  // NOLINT
03861     template<> struct ConwayPolynomial<157, 17> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<152»; };  // NOLINT
03862     template<> struct ConwayPolynomial<157, 19> { using ZPZ = aerobus::zpz<157>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<152»; };  //
      NOLINT
03863     template<> struct ConwayPolynomial<163, 1> { using ZPZ = aerobus::zpz<163>; using type =
      POLYV<ZPZV<1>, ZPZV<161»; };  // NOLINT
03864     template<> struct ConwayPolynomial<163, 2> { using ZPZ = aerobus::zpz<163>; using type =
      POLYV<ZPZV<1>, ZPZV<159>, ZPZV<2»; };  // NOLINT
03865     template<> struct ConwayPolynomial<163, 3> { using ZPZ = aerobus::zpz<163>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<161»; };  // NOLINT
03866     template<> struct ConwayPolynomial<163, 4> { using ZPZ = aerobus::zpz<163>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<91>, ZPZV<2»; };  // NOLINT
03867     template<> struct ConwayPolynomial<163, 5> { using ZPZ = aerobus::zpz<163>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<161»; };  // NOLINT
03868     template<> struct ConwayPolynomial<163, 6> { using ZPZ = aerobus::zpz<163>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<83>, ZPZV<25>, ZPZV<156>, ZPZV<2»; };  // NOLINT
03869     template<> struct ConwayPolynomial<163, 7> { using ZPZ = aerobus::zpz<163>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<161»; };  // NOLINT
03870     template<> struct ConwayPolynomial<163, 8> { using ZPZ = aerobus::zpz<163>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<132>, ZPZV<83>, ZPZV<6>, ZPZV<2»; };  //
      NOLINT
03871     template<> struct ConwayPolynomial<163, 9> { using ZPZ = aerobus::zpz<163>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<162>, ZPZV<127>, ZPZV<161»;
      };  // NOLINT
03872     template<> struct ConwayPolynomial<163, 10> { using ZPZ = aerobus::zpz<163>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<111>, ZPZV<120>, ZPZV<125>, ZPZV<15>, ZPZV<0>,
      ZPZV<2»; };  // NOLINT
03873     template<> struct ConwayPolynomial<163, 11> { using ZPZ = aerobus::zpz<163>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<11>, ZPZV<161»; };  // NOLINT
03874     template<> struct ConwayPolynomial<163, 12> { using ZPZ = aerobus::zpz<163>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<39>, ZPZV<112>, ZPZV<31>, ZPZV<38>, ZPZV<103>,
      ZPZV<10>, ZPZV<69>, ZPZV<2»; };  // NOLINT
03875     template<> struct ConwayPolynomial<163, 13> { using ZPZ = aerobus::zpz<163>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<24>, ZPZV<161»; };  // NOLINT
03876     template<> struct ConwayPolynomial<163, 17> { using ZPZ = aerobus::zpz<163>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<71>, ZPZV<161»; };  // NOLINT
03877     template<> struct ConwayPolynomial<163, 19> { using ZPZ = aerobus::zpz<163>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<161»; };  //
      NOLINT
03878     template<> struct ConwayPolynomial<167, 1> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<162»; };  // NOLINT
03879     template<> struct ConwayPolynomial<167, 2> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<166>, ZPZV<5»; };  // NOLINT
03880     template<> struct ConwayPolynomial<167, 3> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<162»; };  // NOLINT
03881     template<> struct ConwayPolynomial<167, 4> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<120>, ZPZV<5»; };  // NOLINT
03882     template<> struct ConwayPolynomial<167, 5> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<162»; };  // NOLINT
03883     template<> struct ConwayPolynomial<167, 6> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<75>, ZPZV<38>, ZPZV<2>, ZPZV<5»; };  // NOLINT
03884     template<> struct ConwayPolynomial<167, 7> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<162»; };  // NOLINT
03885     template<> struct ConwayPolynomial<167, 8> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<149>, ZPZV<56>, ZPZV<113>, ZPZV<5»; };  //
      NOLINT
03886     template<> struct ConwayPolynomial<167, 9> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<165>, ZPZV<122>, ZPZV<162»;
      };  // NOLINT
03887     template<> struct ConwayPolynomial<167, 10> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<85>, ZPZV<68>, ZPZV<109>, ZPZV<143>,
      ZPZV<148>, ZPZV<5»; };  // NOLINT
03888     template<> struct ConwayPolynomial<167, 11> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<24>, ZPZV<162»; };  // NOLINT
03889     template<> struct ConwayPolynomial<167, 12> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<142>, ZPZV<10>, ZPZV<142>, ZPZV<131>,
      ZPZV<140>, ZPZV<41>, ZPZV<57>, ZPZV<5»; };  // NOLINT
03890     template<> struct ConwayPolynomial<167, 13> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<162»; };  // NOLINT
03891     template<> struct ConwayPolynomial<167, 17> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<32>, ZPZV<162»; };  // NOLINT
03892     template<> struct ConwayPolynomial<167, 19> { using ZPZ = aerobus::zpz<167>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<162»; };  //
      NOLINT
03893     template<> struct ConwayPolynomial<173, 1> { using ZPZ = aerobus::zpz<173>; using type =
      POLYV<ZPZV<1>, ZPZV<171»; };  // NOLINT
03894     template<> struct ConwayPolynomial<173, 2> { using ZPZ = aerobus::zpz<173>; using type =
      POLYV<ZPZV<1>, ZPZV<169>, ZPZV<2»; };  // NOLINT
03895     template<> struct ConwayPolynomial<173, 3> { using ZPZ = aerobus::zpz<173>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<171»; };  // NOLINT
03896     template<> struct ConwayPolynomial<173, 4> { using ZPZ = aerobus::zpz<173>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<102>, ZPZV<2»; };  // NOLINT
03897     template<> struct ConwayPolynomial<173, 5> { using ZPZ = aerobus::zpz<173>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<171»; };  // NOLINT
03898     template<> struct ConwayPolynomial<173, 6> { using ZPZ = aerobus::zpz<173>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<27>, ZPZV<134>, ZPZV<107>, ZPZV<2»; };  // NOLINT
03899     template<> struct ConwayPolynomial<173, 7> { using ZPZ = aerobus::zpz<173>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<171»; };  // NOLINT
03900     template<> struct ConwayPolynomial<173, 8> { using ZPZ = aerobus::zpz<173>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<125>, ZPZV<158>, ZPZV<27>, ZPZV<2»; };  //
      NOLINT
03901     template<> struct ConwayPolynomial<173, 9> { using ZPZ = aerobus::zpz<173>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<56>, ZPZV<104>, ZPZV<171»;
      };  // NOLINT
03902     template<> struct ConwayPolynomial<173, 10> { using ZPZ = aerobus::zpz<173>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<156>, ZPZV<164>, ZPZV<48>, ZPZV<106>,
      ZPZV<58>, ZPZV<2»; };  // NOLINT
03903     template<> struct ConwayPolynomial<173, 11> { using ZPZ = aerobus::zpz<173>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<12>, ZPZV<171»; };  // NOLINT
03904     template<> struct ConwayPolynomial<173, 12> { using ZPZ = aerobus::zpz<173>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<29>, ZPZV<64>, ZPZV<46>, ZPZV<166>, ZPZV<0>,
      ZPZV<159>, ZPZV<22>, ZPZV<2»; };  // NOLINT
03905     template<> struct ConwayPolynomial<173, 13> { using ZPZ = aerobus::zpz<173>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<171»; };  // NOLINT
03906     template<> struct ConwayPolynomial<173, 17> { using ZPZ = aerobus::zpz<173>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<171»; };  // NOLINT
03907     template<> struct ConwayPolynomial<173, 19> { using ZPZ = aerobus::zpz<173>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<171»; };  //
      NOLINT
03908     template<> struct ConwayPolynomial<179, 1> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<177»; };  // NOLINT
03909     template<> struct ConwayPolynomial<179, 2> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<172>, ZPZV<2»; };  // NOLINT
03910     template<> struct ConwayPolynomial<179, 3> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<177»; };  // NOLINT
03911     template<> struct ConwayPolynomial<179, 4> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<109>, ZPZV<2»; };  // NOLINT
03912     template<> struct ConwayPolynomial<179, 5> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<177»; };  // NOLINT
03913     template<> struct ConwayPolynomial<179, 6> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<91>, ZPZV<55>, ZPZV<109>, ZPZV<2»; };  // NOLINT
03914     template<> struct ConwayPolynomial<179, 7> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<177»; };  // NOLINT
03915     template<> struct ConwayPolynomial<179, 8> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<163>, ZPZV<144>, ZPZV<73>, ZPZV<2»; };  //
      NOLINT
03916     template<> struct ConwayPolynomial<179, 9> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<40>, ZPZV<64>, ZPZV<177»; };
      // NOLINT
03917     template<> struct ConwayPolynomial<179, 10> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<115>, ZPZV<71>, ZPZV<150>, ZPZV<49>, ZPZV<87>,
      ZPZV<2»; };  // NOLINT
03918     template<> struct ConwayPolynomial<179, 11> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<28>, ZPZV<177»; };  // NOLINT
03919     template<> struct ConwayPolynomial<179, 12> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<103>, ZPZV<83>, ZPZV<43>, ZPZV<76>, ZPZV<8>,
      ZPZV<177>, ZPZV<1>, ZPZV<2»; };  // NOLINT
03920     template<> struct ConwayPolynomial<179, 13> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<18>, ZPZV<177»; };  // NOLINT
03921     template<> struct ConwayPolynomial<179, 17> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<177»; };  // NOLINT
03922     template<> struct ConwayPolynomial<179, 19> { using ZPZ = aerobus::zpz<179>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<177»; };  //
      NOLINT
03923     template<> struct ConwayPolynomial<181, 1> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<179»; };  // NOLINT
03924     template<> struct ConwayPolynomial<181, 2> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<177>, ZPZV<2»; };  // NOLINT
03925     template<> struct ConwayPolynomial<181, 3> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<179»; };  // NOLINT
03926     template<> struct ConwayPolynomial<181, 4> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<105>, ZPZV<2»; };  // NOLINT
03927     template<> struct ConwayPolynomial<181, 5> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<21>, ZPZV<179»; };  // NOLINT
03928     template<> struct ConwayPolynomial<181, 6> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<177>, ZPZV<163>, ZPZV<169>, ZPZV<2»; };  // NOLINT
03929     template<> struct ConwayPolynomial<181, 7> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<179»; };  // NOLINT
03930     template<> struct ConwayPolynomial<181, 8> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<108>, ZPZV<22>, ZPZV<149>, ZPZV<2»; };  //
      NOLINT
03931     template<> struct ConwayPolynomial<181, 9> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<107>, ZPZV<168>, ZPZV<179»;
      };  // NOLINT
03932     template<> struct ConwayPolynomial<181, 10> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<154>, ZPZV<104>, ZPZV<94>, ZPZV<57>, ZPZV<88>,
      ZPZV<2»; };  // NOLINT
03933     template<> struct ConwayPolynomial<181, 11> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<24>, ZPZV<179»; };  // NOLINT
03934     template<> struct ConwayPolynomial<181, 12> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<171>, ZPZV<141>, ZPZV<45>, ZPZV<122>,
      ZPZV<175>, ZPZV<12>, ZPZV<10>, ZPZV<2»; };  // NOLINT
03935     template<> struct ConwayPolynomial<181, 13> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<179»; };  // NOLINT
03936     template<> struct ConwayPolynomial<181, 17> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<179»; };  // NOLINT
03937     template<> struct ConwayPolynomial<181, 19> { using ZPZ = aerobus::zpz<181>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<36>, ZPZV<179»; };  //
      NOLINT
03938     template<> struct ConwayPolynomial<191, 1> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<172»; };  // NOLINT
03939     template<> struct ConwayPolynomial<191, 2> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<190>, ZPZV<19»; };  // NOLINT
03940     template<> struct ConwayPolynomial<191, 3> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<172»; };  // NOLINT
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03941     template<> struct ConwayPolynomial<191, 4> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<100>, ZPZV<19»; };  // NOLINT
03942     template<> struct ConwayPolynomial<191, 5> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<172»; };  // NOLINT
03943     template<> struct ConwayPolynomial<191, 6> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<110>, ZPZV<10>, ZPZV<10>, ZPZV<19»; };  // NOLINT
03944     template<> struct ConwayPolynomial<191, 7> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<172»; };  // NOLINT
03945     template<> struct ConwayPolynomial<191, 8> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<164>, ZPZV<139>, ZPZV<171>, ZPZV<19»; };  //
      NOLINT
03946     template<> struct ConwayPolynomial<191, 9> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<62>, ZPZV<124>, ZPZV<172»;
      };  // NOLINT
03947     template<> struct ConwayPolynomial<191, 10> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<113>, ZPZV<47>, ZPZV<173>, ZPZV<74>,
      ZPZV<156>, ZPZV<19»; };  // NOLINT
03948     template<> struct ConwayPolynomial<191, 11> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<6>, ZPZV<172»; };  // NOLINT
03949     template<> struct ConwayPolynomial<191, 12> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<79>, ZPZV<168>, ZPZV<25>, ZPZV<49>, ZPZV<90>,
      ZPZV<7>, ZPZV<151>, ZPZV<19»; };  // NOLINT
03950     template<> struct ConwayPolynomial<191, 13> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<172»; };  // NOLINT
03951     template<> struct ConwayPolynomial<191, 17> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<172»; };  // NOLINT
03952     template<> struct ConwayPolynomial<191, 19> { using ZPZ = aerobus::zpz<191>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<190>, ZPZV<2>, ZPZV<172»; };  //
      NOLINT
03953     template<> struct ConwayPolynomial<193, 1> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<188»; };  // NOLINT
03954     template<> struct ConwayPolynomial<193, 2> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<192>, ZPZV<5»; };  // NOLINT
03955     template<> struct ConwayPolynomial<193, 3> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<188»; };  // NOLINT
03956     template<> struct ConwayPolynomial<193, 4> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<148>, ZPZV<5»; };  // NOLINT
03957     template<> struct ConwayPolynomial<193, 5> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<188»; };  // NOLINT
03958     template<> struct ConwayPolynomial<193, 6> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<149>, ZPZV<8>, ZPZV<172>, ZPZV<5»; };  // NOLINT
03959     template<> struct ConwayPolynomial<193, 7> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<188»; };  // NOLINT
03960     template<> struct ConwayPolynomial<193, 8> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<145>, ZPZV<34>, ZPZV<154>, ZPZV<5»; };  //
      NOLINT
03961     template<> struct ConwayPolynomial<193, 9> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<168>, ZPZV<27>, ZPZV<188»;
      };  // NOLINT
03962     template<> struct ConwayPolynomial<193, 10> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<20>, ZPZV<51>, ZPZV<77>, ZPZV<0>, ZPZV<89>,
      ZPZV<5»; };  // NOLINT
03963     template<> struct ConwayPolynomial<193, 11> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<1>, ZPZV<188»; };  // NOLINT
03964     template<> struct ConwayPolynomial<193, 12> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<155>, ZPZV<52>, ZPZV<135>, ZPZV<152>,
      ZPZV<90>, ZPZV<46>, ZPZV<28>, ZPZV<5»; };  // NOLINT
03965     template<> struct ConwayPolynomial<193, 13> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<39>, ZPZV<188»; };  // NOLINT
03966     template<> struct ConwayPolynomial<193, 17> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<188»; };  // NOLINT
03967     template<> struct ConwayPolynomial<193, 19> { using ZPZ = aerobus::zpz<193>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<188»; };  //
      NOLINT
03968     template<> struct ConwayPolynomial<197, 1> { using ZPZ = aerobus::zpz<197>; using type =
      POLYV<ZPZV<1>, ZPZV<195»; };  // NOLINT
03969     template<> struct ConwayPolynomial<197, 2> { using ZPZ = aerobus::zpz<197>; using type =
      POLYV<ZPZV<1>, ZPZV<192>, ZPZV<2»; };  // NOLINT
03970     template<> struct ConwayPolynomial<197, 3> { using ZPZ = aerobus::zpz<197>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<195»; };  // NOLINT
03971     template<> struct ConwayPolynomial<197, 4> { using ZPZ = aerobus::zpz<197>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<16>, ZPZV<124>, ZPZV<2»; };  // NOLINT
03972     template<> struct ConwayPolynomial<197, 5> { using ZPZ = aerobus::zpz<197>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<195»; };  // NOLINT
03973     template<> struct ConwayPolynomial<197, 6> { using ZPZ = aerobus::zpz<197>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<124>, ZPZV<79>, ZPZV<173>, ZPZV<2»; };  // NOLINT
03974     template<> struct ConwayPolynomial<197, 7> { using ZPZ = aerobus::zpz<197>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<195»; };  // NOLINT
03975     template<> struct ConwayPolynomial<197, 8> { using ZPZ = aerobus::zpz<197>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<176>, ZPZV<96>, ZPZV<29>, ZPZV<2»; };  //
      NOLINT
03976     template<> struct ConwayPolynomial<197, 9> { using ZPZ = aerobus::zpz<197>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<127>, ZPZV<8>, ZPZV<195»;
      };  // NOLINT
03977     template<> struct ConwayPolynomial<197, 10> { using ZPZ = aerobus::zpz<197>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<121>, ZPZV<137>, ZPZV<8>, ZPZV<73>, ZPZV<42>,
      ZPZV<2»; };  // NOLINT
03978     template<> struct ConwayPolynomial<197, 11> { using ZPZ = aerobus::zpz<197>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<14>, ZPZV<195»; };  // NOLINT
03979     template<> struct ConwayPolynomial<197, 12> { using ZPZ = aerobus::zpz<197>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<168>, ZPZV<15>, ZPZV<130>, ZPZV<141>, ZPZV<9>,
      ZPZV<90>, ZPZV<163>, ZPZV<2»; };  // NOLINT
03980     template<> struct ConwayPolynomial<197, 13> { using ZPZ = aerobus::zpz<197>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<39>, ZPZV<195»; };  // NOLINT
03981     template<> struct ConwayPolynomial<197, 17> { using ZPZ = aerobus::zpz<197>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<35>, ZPZV<195»; };  // NOLINT
03982     template<> struct ConwayPolynomial<197, 19> { using ZPZ = aerobus::zpz<197>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<195»; };  //
      NOLINT
03983     template<> struct ConwayPolynomial<199, 1> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<196»; };  // NOLINT
03984     template<> struct ConwayPolynomial<199, 2> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<193>, ZPZV<3»; };  // NOLINT
03985     template<> struct ConwayPolynomial<199, 3> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<196»; };  // NOLINT
03986     template<> struct ConwayPolynomial<199, 4> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<162>, ZPZV<3»; };  // NOLINT
03987     template<> struct ConwayPolynomial<199, 5> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<196»; };  // NOLINT
03988     template<> struct ConwayPolynomial<199, 6> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<90>, ZPZV<58>, ZPZV<79>, ZPZV<3»; };  // NOLINT
03989     template<> struct ConwayPolynomial<199, 7> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<196»; };  // NOLINT
03990     template<> struct ConwayPolynomial<199, 8> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<160>, ZPZV<23>, ZPZV<159>, ZPZV<3»; };  //
      NOLINT
03991     template<> struct ConwayPolynomial<199, 9> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<177>, ZPZV<141>, ZPZV<196»;
      };  // NOLINT
03992     template<> struct ConwayPolynomial<199, 10> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<171>, ZPZV<158>, ZPZV<31>, ZPZV<54>, ZPZV<9>,
      ZPZV<3»; };  // NOLINT
03993     template<> struct ConwayPolynomial<199, 11> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<1>, ZPZV<196»; };  // NOLINT
03994     template<> struct ConwayPolynomial<199, 12> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<33>, ZPZV<192>, ZPZV<197>, ZPZV<138>,
      ZPZV<69>, ZPZV<57>, ZPZV<151>, ZPZV<3»; };  // NOLINT
03995     template<> struct ConwayPolynomial<199, 13> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<196»; };  // NOLINT
03996     template<> struct ConwayPolynomial<199, 17> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<196»; };  // NOLINT
03997     template<> struct ConwayPolynomial<199, 19> { using ZPZ = aerobus::zpz<199>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<19>, ZPZV<196»; };  //
      NOLINT
03998     template<> struct ConwayPolynomial<211, 1> { using ZPZ = aerobus::zpz<211>; using type =
      POLYV<ZPZV<1>, ZPZV<209»; };  // NOLINT
03999     template<> struct ConwayPolynomial<211, 2> { using ZPZ = aerobus::zpz<211>; using type =
      POLYV<ZPZV<1>, ZPZV<207>, ZPZV<2»; };  // NOLINT
04000     template<> struct ConwayPolynomial<211, 3> { using ZPZ = aerobus::zpz<211>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<209»; };  // NOLINT
04001     template<> struct ConwayPolynomial<211, 4> { using ZPZ = aerobus::zpz<211>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<161>, ZPZV<2»; };  // NOLINT
04002     template<> struct ConwayPolynomial<211, 5> { using ZPZ = aerobus::zpz<211>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<209»; };  // NOLINT
04003     template<> struct ConwayPolynomial<211, 6> { using ZPZ = aerobus::zpz<211>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<81>, ZPZV<194>, ZPZV<133>, ZPZV<2»; };  // NOLINT
04004     template<> struct ConwayPolynomial<211, 7> { using ZPZ = aerobus::zpz<211>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<209»; };  // NOLINT
04005     template<> struct ConwayPolynomial<211, 8> { using ZPZ = aerobus::zpz<211>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<200>, ZPZV<87>, ZPZV<29>, ZPZV<2»; };  //
      NOLINT
04006     template<> struct ConwayPolynomial<211, 9> { using ZPZ = aerobus::zpz<211>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<19>, ZPZV<139>, ZPZV<26>, ZPZV<209»;
      };  // NOLINT
04007     template<> struct ConwayPolynomial<211, 10> { using ZPZ = aerobus::zpz<211>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<30>, ZPZV<61>, ZPZV<148>, ZPZV<87>, ZPZV<125>,
      ZPZV<2»; };  // NOLINT
04008     template<> struct ConwayPolynomial<211, 11> { using ZPZ = aerobus::zpz<211>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<7>, ZPZV<209>>; };  // NOLINT
04009     template<> struct ConwayPolynomial<211, 12> { using ZPZ = aerobus::zpz<211>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<50>, ZPZV<145>, ZPZV<126>, ZPZV<184>,
      ZPZV<84>, ZPZV<27>, ZPZV<2>>; };  // NOLINT
04010     template<> struct ConwayPolynomial<211, 13> { using ZPZ = aerobus::zpz<211>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<209>>; };  // NOLINT
04011     template<> struct ConwayPolynomial<211, 17> { using ZPZ = aerobus::zpz<211>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<209>>; };  // NOLINT
04012     template<> struct ConwayPolynomial<211, 19> { using ZPZ = aerobus::zpz<211>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<17>, ZPZV<209>>; };  //
      NOLINT
04013     template<> struct ConwayPolynomial<223, 1> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<220>>; };  // NOLINT
04014     template<> struct ConwayPolynomial<223, 2> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<221>, ZPZV<3>>; };  // NOLINT
04015     template<> struct ConwayPolynomial<223, 3> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<220>>; };  // NOLINT
04016     template<> struct ConwayPolynomial<223, 4> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<163>, ZPZV<3>>; };  // NOLINT
04017     template<> struct ConwayPolynomial<223, 5> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<220>>; };  // NOLINT
04018     template<> struct ConwayPolynomial<223, 6> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<68>, ZPZV<24>, ZPZV<196>, ZPZV<3>>; };  // NOLINT
04019     template<> struct ConwayPolynomial<223, 7> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<220>>; };  // NOLINT
04020     template<> struct ConwayPolynomial<223, 8> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<139>, ZPZV<98>, ZPZV<138>, ZPZV<3>>; };  //
      NOLINT
04021     template<> struct ConwayPolynomial<223, 9> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<164>, ZPZV<64>, ZPZV<220>>;
      };  // NOLINT
04022     template<> struct ConwayPolynomial<223, 10> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<118>, ZPZV<177>, ZPZV<87>, ZPZV<99>, ZPZV<62>,
      ZPZV<3>>; };  // NOLINT
04023     template<> struct ConwayPolynomial<223, 11> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<8>, ZPZV<220>>; };  // NOLINT
04024     template<> struct ConwayPolynomial<223, 12> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<64>, ZPZV<94>, ZPZV<11>, ZPZV<105>, ZPZV<64>,
      ZPZV<151>, ZPZV<213>, ZPZV<3>>; };  // NOLINT
04025     template<> struct ConwayPolynomial<223, 13> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<23>, ZPZV<220>>; };  // NOLINT
04026     template<> struct ConwayPolynomial<223, 17> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<220>>; };  // NOLINT
04027     template<> struct ConwayPolynomial<223, 19> { using ZPZ = aerobus::zpz<223>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<220>>; };  //
      NOLINT
04028     template<> struct ConwayPolynomial<227, 1> { using ZPZ = aerobus::zpz<227>; using type =
      POLYV<ZPZV<1>, ZPZV<225>>; };  // NOLINT
04029     template<> struct ConwayPolynomial<227, 2> { using ZPZ = aerobus::zpz<227>; using type =
      POLYV<ZPZV<1>, ZPZV<220>, ZPZV<2>>; };  // NOLINT
04030     template<> struct ConwayPolynomial<227, 3> { using ZPZ = aerobus::zpz<227>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<225>>; };  // NOLINT
04031     template<> struct ConwayPolynomial<227, 4> { using ZPZ = aerobus::zpz<227>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<143>, ZPZV<2>>; };  // NOLINT
04032     template<> struct ConwayPolynomial<227, 5> { using ZPZ = aerobus::zpz<227>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<225>>; };  // NOLINT
04033     template<> struct ConwayPolynomial<227, 6> { using ZPZ = aerobus::zpz<227>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<174>, ZPZV<24>, ZPZV<135>, ZPZV<2>>; };  // NOLINT
04034     template<> struct ConwayPolynomial<227, 7> { using ZPZ = aerobus::zpz<227>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<18>, ZPZV<225>>; };  // NOLINT
04035     template<> struct ConwayPolynomial<227, 8> { using ZPZ = aerobus::zpz<227>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<151>, ZPZV<176>, ZPZV<106>, ZPZV<2>>; };  //
      NOLINT
04036     template<> struct ConwayPolynomial<227, 9> { using ZPZ = aerobus::zpz<227>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<24>, ZPZV<183>, ZPZV<225>>;
      };  // NOLINT
04037     template<> struct ConwayPolynomial<227, 10> { using ZPZ = aerobus::zpz<227>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<22>, ZPZV<199>, ZPZV<12>, ZPZV<93>, ZPZV<77>,
      ZPZV<2>>; };  // NOLINT
04038     template<> struct ConwayPolynomial<227, 11> { using ZPZ = aerobus::zpz<227>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<2>, ZPZV<225>>; };  // NOLINT
04039     template<> struct ConwayPolynomial<227, 12> { using ZPZ = aerobus::zpz<227>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<123>, ZPZV<99>, ZPZV<160>, ZPZV<96>,
      ZPZV<127>, ZPZV<142>, ZPZV<94>, ZPZV<2>>; };  // NOLINT
04040     template<> struct ConwayPolynomial<227, 13> { using ZPZ = aerobus::zpz<227>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<225>>; };  // NOLINT
04041     template<> struct ConwayPolynomial<227, 17> { using ZPZ = aerobus::zpz<227>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<225»; };  // NOLINT
04042     template<> struct ConwayPolynomial<227, 19> { using ZPZ = aerobus::zpz<227>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<34>, ZPZV<225»; };  //
      NOLINT
04043     template<> struct ConwayPolynomial<229, 1> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<223»; };  // NOLINT
04044     template<> struct ConwayPolynomial<229, 2> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<228>, ZPZV<6»; };  // NOLINT
04045     template<> struct ConwayPolynomial<229, 3> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<223»; };  // NOLINT
04046     template<> struct ConwayPolynomial<229, 4> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<162>, ZPZV<6»; };  // NOLINT
04047     template<> struct ConwayPolynomial<229, 5> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<223»; };  // NOLINT
04048     template<> struct ConwayPolynomial<229, 6> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<24>, ZPZV<160>, ZPZV<186>, ZPZV<6»; };  // NOLINT
04049     template<> struct ConwayPolynomial<229, 7> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<223»; };  // NOLINT
04050     template<> struct ConwayPolynomial<229, 8> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<193>, ZPZV<62>, ZPZV<205>, ZPZV<6»; };  //
      NOLINT
04051     template<> struct ConwayPolynomial<229, 9> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<117>, ZPZV<50>, ZPZV<223»;
      };  // NOLINT
04052     template<> struct ConwayPolynomial<229, 10> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<185>, ZPZV<135>, ZPZV<158>, ZPZV<167>,
      ZPZV<98>, ZPZV<6»; };  // NOLINT
04053     template<> struct ConwayPolynomial<229, 11> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<2>, ZPZV<223»; };  // NOLINT
04054     template<> struct ConwayPolynomial<229, 12> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<131>, ZPZV<140>, ZPZV<25>, ZPZV<6>, ZPZV<172>,
      ZPZV<9>, ZPZV<145>, ZPZV<6»; };  // NOLINT
04055     template<> struct ConwayPolynomial<229, 13> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<47>, ZPZV<223»; };  // NOLINT
04056     template<> struct ConwayPolynomial<229, 17> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<223»; };  // NOLINT
04057     template<> struct ConwayPolynomial<229, 19> { using ZPZ = aerobus::zpz<229>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<228>, ZPZV<15>, ZPZV<223»; };  //
      NOLINT
04058     template<> struct ConwayPolynomial<233, 1> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<230»; };  // NOLINT
04059     template<> struct ConwayPolynomial<233, 2> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<232>, ZPZV<3»; };  // NOLINT
04060     template<> struct ConwayPolynomial<233, 3> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<230»; };  // NOLINT
04061     template<> struct ConwayPolynomial<233, 4> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<158>, ZPZV<3»; };  // NOLINT
04062     template<> struct ConwayPolynomial<233, 5> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<17>, ZPZV<230»; };  // NOLINT
04063     template<> struct ConwayPolynomial<233, 6> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<122>, ZPZV<215>, ZPZV<32>, ZPZV<3»; };  // NOLINT
04064     template<> struct ConwayPolynomial<233, 7> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<230»; };  // NOLINT
04065     template<> struct ConwayPolynomial<233, 8> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<202>, ZPZV<135>, ZPZV<181>, ZPZV<3»; };  //
      NOLINT
04066     template<> struct ConwayPolynomial<233, 9> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<56>, ZPZV<146>, ZPZV<230»;
      };  // NOLINT
04067     template<> struct ConwayPolynomial<233, 10> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<28>, ZPZV<71>, ZPZV<102>, ZPZV<3>, ZPZV<48>,
      ZPZV<3»; };  // NOLINT
04068     template<> struct ConwayPolynomial<233, 11> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<5>, ZPZV<230»; };  // NOLINT
04069     template<> struct ConwayPolynomial<233, 12> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<96>, ZPZV<21>, ZPZV<114>, ZPZV<31>, ZPZV<19>,
      ZPZV<216>, ZPZV<20>, ZPZV<3»; };  // NOLINT
04070     template<> struct ConwayPolynomial<233, 13> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<230»; };  // NOLINT
04071     template<> struct ConwayPolynomial<233, 17> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<230»; };  // NOLINT
04072     template<> struct ConwayPolynomial<233, 19> { using ZPZ = aerobus::zpz<233>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<25>, ZPZV<230»; };  //
      NOLINT
04073     template<> struct ConwayPolynomial<239, 1> { using ZPZ = aerobus::zpz<239>; using type =
      POLYV<ZPZV<1>, ZPZV<232»; };  // NOLINT
04074     template<> struct ConwayPolynomial<239, 2> { using ZPZ = aerobus::zpz<239>; using type =
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    POLYV<ZPZV<1>, ZPZV<237>, ZPZV<7»; };  // NOLINT
04075     template<> struct ConwayPolynomial<239, 3> { using ZPZ = aerobus::zpz<239>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<11>, ZPZV<232»; };  // NOLINT
04076     template<> struct ConwayPolynomial<239, 4> { using ZPZ = aerobus::zpz<239>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<11>, ZPZV<132>, ZPZV<7»; };  // NOLINT
04077     template<> struct ConwayPolynomial<239, 5> { using ZPZ = aerobus::zpz<239>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<232»; };  // NOLINT
04078     template<> struct ConwayPolynomial<239, 6> { using ZPZ = aerobus::zpz<239>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<237>, ZPZV<60>, ZPZV<200>, ZPZV<7»; };  // NOLINT
04079     template<> struct ConwayPolynomial<239, 7> { using ZPZ = aerobus::zpz<239>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<17>, ZPZV<232»; };  // NOLINT
04080     template<> struct ConwayPolynomial<239, 8> { using ZPZ = aerobus::zpz<239>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<201>, ZPZV<202>, ZPZV<54>, ZPZV<7»; };  //
    NOLINT
04081     template<> struct ConwayPolynomial<239, 9> { using ZPZ = aerobus::zpz<239>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<2>, ZPZV<88>, ZPZV<232»; };
    // NOLINT
04082     template<> struct ConwayPolynomial<239, 10> { using ZPZ = aerobus::zpz<239>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<57>, ZPZV<68>, ZPZV<226>, ZPZV<127>,
    ZPZV<108>, ZPZV<7»; };  // NOLINT
04083     template<> struct ConwayPolynomial<239, 11> { using ZPZ = aerobus::zpz<239>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<8>, ZPZV<232»; };  // NOLINT
04084     template<> struct ConwayPolynomial<239, 12> { using ZPZ = aerobus::zpz<239>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<235>, ZPZV<14>, ZPZV<113>, ZPZV<182>,
    ZPZV<101>, ZPZV<81>, ZPZV<216>, ZPZV<7»; };  // NOLINT
04085     template<> struct ConwayPolynomial<239, 13> { using ZPZ = aerobus::zpz<239>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<232»; };  // NOLINT
04086     template<> struct ConwayPolynomial<239, 17> { using ZPZ = aerobus::zpz<239>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<232»; };  // NOLINT
04087     template<> struct ConwayPolynomial<239, 19> { using ZPZ = aerobus::zpz<239>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<24>, ZPZV<232»; };  //
    NOLINT
04088     template<> struct ConwayPolynomial<241, 1> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<234»; };  // NOLINT
04089     template<> struct ConwayPolynomial<241, 2> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<238>, ZPZV<7»; };  // NOLINT
04090     template<> struct ConwayPolynomial<241, 3> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<234»; };  // NOLINT
04091     template<> struct ConwayPolynomial<241, 4> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<14>, ZPZV<152>, ZPZV<7»; };  // NOLINT
04092     template<> struct ConwayPolynomial<241, 5> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<234»; };  // NOLINT
04093     template<> struct ConwayPolynomial<241, 6> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<83>, ZPZV<6>, ZPZV<5>, ZPZV<7»; };  // NOLINT
04094     template<> struct ConwayPolynomial<241, 7> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<234»; };  // NOLINT
04095     template<> struct ConwayPolynomial<241, 8> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<173>, ZPZV<212>, ZPZV<153>, ZPZV<7»; };  //
    NOLINT
04096     template<> struct ConwayPolynomial<241, 9> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<236>, ZPZV<125>, ZPZV<234»;
    };  // NOLINT
04097     template<> struct ConwayPolynomial<241, 10> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<29>, ZPZV<27>, ZPZV<145>, ZPZV<208>, ZPZV<55>,
    ZPZV<7»; };  // NOLINT
04098     template<> struct ConwayPolynomial<241, 11> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<3>, ZPZV<234»; };  // NOLINT
04099     template<> struct ConwayPolynomial<241, 12> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<42>, ZPZV<10>, ZPZV<109>, ZPZV<168>, ZPZV<22>,
    ZPZV<197>, ZPZV<17>, ZPZV<7»; };  // NOLINT
04100     template<> struct ConwayPolynomial<241, 13> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<234»; };  // NOLINT
04101     template<> struct ConwayPolynomial<241, 17> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<234»; };  // NOLINT
04102     template<> struct ConwayPolynomial<241, 19> { using ZPZ = aerobus::zpz<241>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
    ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<234»; };  //
    NOLINT
04103     template<> struct ConwayPolynomial<251, 1> { using ZPZ = aerobus::zpz<251>; using type =
    POLYV<ZPZV<1>, ZPZV<245»; };  // NOLINT
04104     template<> struct ConwayPolynomial<251, 2> { using ZPZ = aerobus::zpz<251>; using type =
    POLYV<ZPZV<1>, ZPZV<242>, ZPZV<6»; };  // NOLINT
04105     template<> struct ConwayPolynomial<251, 3> { using ZPZ = aerobus::zpz<251>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<245»; };  // NOLINT
04106     template<> struct ConwayPolynomial<251, 4> { using ZPZ = aerobus::zpz<251>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<200>, ZPZV<6»; };  // NOLINT
04107     template<> struct ConwayPolynomial<251, 5> { using ZPZ = aerobus::zpz<251>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<245»; };  // NOLINT
04108     template<> struct ConwayPolynomial<251, 6> { using ZPZ = aerobus::zpz<251>; using type =
    POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<247>, ZPZV<151>, ZPZV<179>, ZPZV<6»; };  // NOLINT
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04109     template<> struct ConwayPolynomial<251, 7> { using ZPZ = aerobus::zpz<251>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<245>>; };  // NOLINT
04110     template<> struct ConwayPolynomial<251, 8> { using ZPZ = aerobus::zpz<251>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<142>, ZPZV<215>, ZPZV<173>, ZPZV<6>>; };  //
      NOLINT
04111     template<> struct ConwayPolynomial<251, 9> { using ZPZ = aerobus::zpz<251>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<187>, ZPZV<106>, ZPZV<245>>;
      };  // NOLINT
04112     template<> struct ConwayPolynomial<251, 10> { using ZPZ = aerobus::zpz<251>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<138>, ZPZV<110>, ZPZV<45>, ZPZV<34>,
      ZPZV<149>, ZPZV<6>>; };  // NOLINT
04113     template<> struct ConwayPolynomial<251, 11> { using ZPZ = aerobus::zpz<251>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<26>, ZPZV<245>>; };  // NOLINT
04114     template<> struct ConwayPolynomial<251, 12> { using ZPZ = aerobus::zpz<251>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<192>, ZPZV<53>, ZPZV<20>, ZPZV<20>, ZPZV<15>,
      ZPZV<201>, ZPZV<232>, ZPZV<6>>; };  // NOLINT
04115     template<> struct ConwayPolynomial<251, 13> { using ZPZ = aerobus::zpz<251>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<245>>; };  // NOLINT
04116     template<> struct ConwayPolynomial<251, 17> { using ZPZ = aerobus::zpz<251>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<245>>; };  // NOLINT
04117     template<> struct ConwayPolynomial<251, 19> { using ZPZ = aerobus::zpz<251>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<245>>; };  //
      NOLINT
04118     template<> struct ConwayPolynomial<257, 1> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<254>>; };  // NOLINT
04119     template<> struct ConwayPolynomial<257, 2> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<251>, ZPZV<3>>; };  // NOLINT
04120     template<> struct ConwayPolynomial<257, 3> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<254>>; };  // NOLINT
04121     template<> struct ConwayPolynomial<257, 4> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<16>, ZPZV<187>, ZPZV<3>>; };  // NOLINT
04122     template<> struct ConwayPolynomial<257, 5> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<254>>; };  // NOLINT
04123     template<> struct ConwayPolynomial<257, 6> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<62>, ZPZV<18>, ZPZV<138>, ZPZV<3>>; };  // NOLINT
04124     template<> struct ConwayPolynomial<257, 7> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<31>, ZPZV<254>>; };  // NOLINT
04125     template<> struct ConwayPolynomial<257, 8> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<179>, ZPZV<140>, ZPZV<162>, ZPZV<3>>; };  //
      NOLINT
04126     template<> struct ConwayPolynomial<257, 9> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<201>, ZPZV<50>, ZPZV<254>>;
      };  // NOLINT
04127     template<> struct ConwayPolynomial<257, 10> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<97>, ZPZV<12>, ZPZV<225>, ZPZV<180>, ZPZV<20>,
      ZPZV<3>>; };  // NOLINT
04128     template<> struct ConwayPolynomial<257, 11> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<40>, ZPZV<254>>; };  // NOLINT
04129     template<> struct ConwayPolynomial<257, 12> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<13>, ZPZV<225>, ZPZV<215>, ZPZV<173>,
      ZPZV<249>, ZPZV<148>, ZPZV<20>, ZPZV<3>>; };  // NOLINT
04130     template<> struct ConwayPolynomial<257, 13> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<254>>; };  // NOLINT
04131     template<> struct ConwayPolynomial<257, 17> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<254>>; };  // NOLINT
04132     template<> struct ConwayPolynomial<257, 19> { using ZPZ = aerobus::zpz<257>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<254>>; };  //
      NOLINT
04133     template<> struct ConwayPolynomial<263, 1> { using ZPZ = aerobus::zpz<263>; using type =
      POLYV<ZPZV<1>, ZPZV<258>>; };  // NOLINT
04134     template<> struct ConwayPolynomial<263, 2> { using ZPZ = aerobus::zpz<263>; using type =
      POLYV<ZPZV<1>, ZPZV<261>, ZPZV<5>>; };  // NOLINT
04135     template<> struct ConwayPolynomial<263, 3> { using ZPZ = aerobus::zpz<263>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<14>, ZPZV<258>>; };  // NOLINT
04136     template<> struct ConwayPolynomial<263, 4> { using ZPZ = aerobus::zpz<263>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<171>, ZPZV<5>>; };  // NOLINT
04137     template<> struct ConwayPolynomial<263, 5> { using ZPZ = aerobus::zpz<263>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<258>>; };  // NOLINT
04138     template<> struct ConwayPolynomial<263, 6> { using ZPZ = aerobus::zpz<263>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<222>, ZPZV<250>, ZPZV<225>, ZPZV<5>>; };  // NOLINT
04139     template<> struct ConwayPolynomial<263, 7> { using ZPZ = aerobus::zpz<263>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<258>>; };  // NOLINT
04140     template<> struct ConwayPolynomial<263, 8> { using ZPZ = aerobus::zpz<263>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<227>, ZPZV<170>, ZPZV<7>, ZPZV<5>>; };  //
      NOLINT
04141     template<> struct ConwayPolynomial<263, 9> { using ZPZ = aerobus::zpz<263>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<261>, ZPZV<29>, ZPZV<258>>;
      };  // NOLINT
04142     template<> struct ConwayPolynomial<263, 10> { using ZPZ = aerobus::zpz<263>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<245>, ZPZV<231>, ZPZV<198>, ZPZV<145>,
      ZPZV<119>, ZPZV<5>>; };  // NOLINT
04143     template<> struct ConwayPolynomial<263, 11> { using ZPZ = aerobus::zpz<263>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<2>, ZPZV<258>>; };  // NOLINT
04144     template<> struct ConwayPolynomial<263, 12> { using ZPZ = aerobus::zpz<263>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<172>, ZPZV<174>, ZPZV<162>, ZPZV<252>,
      ZPZV<47>, ZPZV<45>, ZPZV<180>, ZPZV<5>>; };  // NOLINT
04145     template<> struct ConwayPolynomial<269, 1> { using ZPZ = aerobus::zpz<269>; using type =
      POLYV<ZPZV<1>, ZPZV<267>>; };  // NOLINT
04146     template<> struct ConwayPolynomial<269, 2> { using ZPZ = aerobus::zpz<269>; using type =
      POLYV<ZPZV<1>, ZPZV<268>, ZPZV<2>>; };  // NOLINT
04147     template<> struct ConwayPolynomial<269, 3> { using ZPZ = aerobus::zpz<269>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<9>, ZPZV<267>>; };  // NOLINT
04148     template<> struct ConwayPolynomial<269, 4> { using ZPZ = aerobus::zpz<269>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<262>, ZPZV<2>>; };  // NOLINT
04149     template<> struct ConwayPolynomial<269, 5> { using ZPZ = aerobus::zpz<269>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<267>>; };  // NOLINT
04150     template<> struct ConwayPolynomial<269, 6> { using ZPZ = aerobus::zpz<269>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<120>, ZPZV<101>, ZPZV<206>, ZPZV<2>>; };  // NOLINT
04151     template<> struct ConwayPolynomial<269, 7> { using ZPZ = aerobus::zpz<269>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<267>>; };  // NOLINT
04152     template<> struct ConwayPolynomial<269, 8> { using ZPZ = aerobus::zpz<269>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<220>, ZPZV<131>, ZPZV<232>, ZPZV<2>>; };  //
      NOLINT
04153     template<> struct ConwayPolynomial<269, 9> { using ZPZ = aerobus::zpz<269>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<214>, ZPZV<267>, ZPZV<267>>;
      };  // NOLINT
04154     template<> struct ConwayPolynomial<269, 10> { using ZPZ = aerobus::zpz<269>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<264>, ZPZV<243>, ZPZV<186>, ZPZV<61>,
      ZPZV<10>, ZPZV<2>>; };  // NOLINT
04155     template<> struct ConwayPolynomial<269, 11> { using ZPZ = aerobus::zpz<269>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<20>, ZPZV<267>>; };  // NOLINT
04156     template<> struct ConwayPolynomial<269, 12> { using ZPZ = aerobus::zpz<269>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<126>, ZPZV<165>, ZPZV<63>, ZPZV<215>,
      ZPZV<132>, ZPZV<180>, ZPZV<150>, ZPZV<2>>; };  // NOLINT
04157     template<> struct ConwayPolynomial<271, 1> { using ZPZ = aerobus::zpz<271>; using type =
      POLYV<ZPZV<1>, ZPZV<265>>; };  // NOLINT
04158     template<> struct ConwayPolynomial<271, 2> { using ZPZ = aerobus::zpz<271>; using type =
      POLYV<ZPZV<1>, ZPZV<269>, ZPZV<6>>; };  // NOLINT
04159     template<> struct ConwayPolynomial<271, 3> { using ZPZ = aerobus::zpz<271>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<265>>; };  // NOLINT
04160     template<> struct ConwayPolynomial<271, 4> { using ZPZ = aerobus::zpz<271>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<205>, ZPZV<6>>; };  // NOLINT
04161     template<> struct ConwayPolynomial<271, 5> { using ZPZ = aerobus::zpz<271>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<265>>; };  // NOLINT
04162     template<> struct ConwayPolynomial<271, 6> { using ZPZ = aerobus::zpz<271>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<207>, ZPZV<207>, ZPZV<81>, ZPZV<6>>; };  // NOLINT
04163     template<> struct ConwayPolynomial<271, 7> { using ZPZ = aerobus::zpz<271>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<22>, ZPZV<265>>; };  // NOLINT
04164     template<> struct ConwayPolynomial<271, 8> { using ZPZ = aerobus::zpz<271>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<199>, ZPZV<114>, ZPZV<69>, ZPZV<6>>; };  //
      NOLINT
04165     template<> struct ConwayPolynomial<271, 9> { using ZPZ = aerobus::zpz<271>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<266>, ZPZV<186>, ZPZV<265>>;
      };  // NOLINT
04166     template<> struct ConwayPolynomial<271, 10> { using ZPZ = aerobus::zpz<271>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<133>, ZPZV<10>, ZPZV<256>, ZPZV<74>,
      ZPZV<126>, ZPZV<6>>; };  // NOLINT
04167     template<> struct ConwayPolynomial<271, 11> { using ZPZ = aerobus::zpz<271>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<10>, ZPZV<265>>; };  // NOLINT
04168     template<> struct ConwayPolynomial<271, 12> { using ZPZ = aerobus::zpz<271>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<162>, ZPZV<210>, ZPZV<116>, ZPZV<205>,
      ZPZV<237>, ZPZV<256>, ZPZV<130>, ZPZV<6>>; };  // NOLINT
04169     template<> struct ConwayPolynomial<277, 1> { using ZPZ = aerobus::zpz<277>; using type =
      POLYV<ZPZV<1>, ZPZV<272>>; };  // NOLINT
04170     template<> struct ConwayPolynomial<277, 2> { using ZPZ = aerobus::zpz<277>; using type =
      POLYV<ZPZV<1>, ZPZV<274>, ZPZV<5>>; };  // NOLINT
04171     template<> struct ConwayPolynomial<277, 3> { using ZPZ = aerobus::zpz<277>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<272>>; };  // NOLINT
04172     template<> struct ConwayPolynomial<277, 4> { using ZPZ = aerobus::zpz<277>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<222>, ZPZV<5>>; };  // NOLINT
04173     template<> struct ConwayPolynomial<277, 5> { using ZPZ = aerobus::zpz<277>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<272>>; };  // NOLINT
04174     template<> struct ConwayPolynomial<277, 6> { using ZPZ = aerobus::zpz<277>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<33>, ZPZV<9>, ZPZV<118>, ZPZV<5>>; };  // NOLINT
04175     template<> struct ConwayPolynomial<277, 7> { using ZPZ = aerobus::zpz<277>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<272>>; };  // NOLINT
04176     template<> struct ConwayPolynomial<277, 8> { using ZPZ = aerobus::zpz<277>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<187>, ZPZV<159>, ZPZV<176>, ZPZV<5>>; };  //
      NOLINT
04177     template<> struct ConwayPolynomial<277, 9> { using ZPZ = aerobus::zpz<277>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<177>, ZPZV<110>, ZPZV<272>>;
      };  // NOLINT
04178     template<> struct ConwayPolynomial<277, 10> { using ZPZ = aerobus::zpz<277>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<206>, ZPZV<253>, ZPZV<237>, ZPZV<241>,
      ZPZV<260>, ZPZV<5»; };  // NOLINT
04179     template<> struct ConwayPolynomial<277, 11> { using ZPZ = aerobus::zpz<277>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<5>, ZPZV<272»; };  // NOLINT
04180     template<> struct ConwayPolynomial<277, 12> { using ZPZ = aerobus::zpz<277>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<183>, ZPZV<218>, ZPZV<240>, ZPZV<40>,
      ZPZV<180>, ZPZV<115>, ZPZV<202>, ZPZV<5»; };  // NOLINT
04181     template<> struct ConwayPolynomial<281, 1> { using ZPZ = aerobus::zpz<281>; using type =
      POLYV<ZPZV<1>, ZPZV<278»; };  // NOLINT
04182     template<> struct ConwayPolynomial<281, 2> { using ZPZ = aerobus::zpz<281>; using type =
      POLYV<ZPZV<1>, ZPZV<280>, ZPZV<3»; };  // NOLINT
04183     template<> struct ConwayPolynomial<281, 3> { using ZPZ = aerobus::zpz<281>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<278»; };  // NOLINT
04184     template<> struct ConwayPolynomial<281, 4> { using ZPZ = aerobus::zpz<281>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<176>, ZPZV<3»; };  // NOLINT
04185     template<> struct ConwayPolynomial<281, 5> { using ZPZ = aerobus::zpz<281>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<278»; };  // NOLINT
04186     template<> struct ConwayPolynomial<281, 6> { using ZPZ = aerobus::zpz<281>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<151>, ZPZV<13>, ZPZV<27>, ZPZV<3»; };  // NOLINT
04187     template<> struct ConwayPolynomial<281, 7> { using ZPZ = aerobus::zpz<281>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<19>, ZPZV<278»; };  // NOLINT
04188     template<> struct ConwayPolynomial<281, 8> { using ZPZ = aerobus::zpz<281>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<195>, ZPZV<279>, ZPZV<140>, ZPZV<3»; };  //
      NOLINT
04189     template<> struct ConwayPolynomial<281, 9> { using ZPZ = aerobus::zpz<281>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<148>, ZPZV<70>, ZPZV<278»;
      };  // NOLINT
04190     template<> struct ConwayPolynomial<281, 10> { using ZPZ = aerobus::zpz<281>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<258>, ZPZV<145>, ZPZV<13>, ZPZV<138>,
      ZPZV<191>, ZPZV<3»; };  // NOLINT
04191     template<> struct ConwayPolynomial<281, 11> { using ZPZ = aerobus::zpz<281>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<36>, ZPZV<278»; };  // NOLINT
04192     template<> struct ConwayPolynomial<281, 12> { using ZPZ = aerobus::zpz<281>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<202>, ZPZV<68>, ZPZV<103>, ZPZV<116>,
      ZPZV<58>, ZPZV<28>, ZPZV<191>, ZPZV<3»; };  // NOLINT
04193     template<> struct ConwayPolynomial<283, 1> { using ZPZ = aerobus::zpz<283>; using type =
      POLYV<ZPZV<1>, ZPZV<280»; };  // NOLINT
04194     template<> struct ConwayPolynomial<283, 2> { using ZPZ = aerobus::zpz<283>; using type =
      POLYV<ZPZV<1>, ZPZV<282>, ZPZV<3»; };  // NOLINT
04195     template<> struct ConwayPolynomial<283, 3> { using ZPZ = aerobus::zpz<283>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<280»; };  // NOLINT
04196     template<> struct ConwayPolynomial<283, 4> { using ZPZ = aerobus::zpz<283>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<238>, ZPZV<3»; };  // NOLINT
04197     template<> struct ConwayPolynomial<283, 5> { using ZPZ = aerobus::zpz<283>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<280»; };  // NOLINT
04198     template<> struct ConwayPolynomial<283, 6> { using ZPZ = aerobus::zpz<283>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<199>, ZPZV<68>, ZPZV<73>, ZPZV<3»; };  // NOLINT
04199     template<> struct ConwayPolynomial<283, 7> { using ZPZ = aerobus::zpz<283>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<280»; };  // NOLINT
04200     template<> struct ConwayPolynomial<283, 8> { using ZPZ = aerobus::zpz<283>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<179>, ZPZV<32>, ZPZV<232>, ZPZV<3»; };  //
      NOLINT
04201     template<> struct ConwayPolynomial<283, 9> { using ZPZ = aerobus::zpz<283>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<136>, ZPZV<65>, ZPZV<280»;
      };  // NOLINT
04202     template<> struct ConwayPolynomial<283, 10> { using ZPZ = aerobus::zpz<283>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<271>, ZPZV<185>, ZPZV<68>, ZPZV<100>,
      ZPZV<219>, ZPZV<3»; };  // NOLINT
04203     template<> struct ConwayPolynomial<283, 11> { using ZPZ = aerobus::zpz<283>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<4>, ZPZV<280»; };  // NOLINT
04204     template<> struct ConwayPolynomial<283, 12> { using ZPZ = aerobus::zpz<283>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<20>, ZPZV<8>, ZPZV<96>, ZPZV<229>, ZPZV<49>,
      ZPZV<14>, ZPZV<56>, ZPZV<3»; };  // NOLINT
04205     template<> struct ConwayPolynomial<293, 1> { using ZPZ = aerobus::zpz<293>; using type =
      POLYV<ZPZV<1>, ZPZV<291»; };  // NOLINT
04206     template<> struct ConwayPolynomial<293, 2> { using ZPZ = aerobus::zpz<293>; using type =
      POLYV<ZPZV<1>, ZPZV<292>, ZPZV<2»; };  // NOLINT
04207     template<> struct ConwayPolynomial<293, 3> { using ZPZ = aerobus::zpz<293>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<291»; };  // NOLINT
04208     template<> struct ConwayPolynomial<293, 4> { using ZPZ = aerobus::zpz<293>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<166>, ZPZV<2»; };  // NOLINT
04209     template<> struct ConwayPolynomial<293, 5> { using ZPZ = aerobus::zpz<293>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<291»; };  // NOLINT
04210     template<> struct ConwayPolynomial<293, 6> { using ZPZ = aerobus::zpz<293>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<128>, ZPZV<210>, ZPZV<260>, ZPZV<2»; };  // NOLINT
04211     template<> struct ConwayPolynomial<293, 7> { using ZPZ = aerobus::zpz<293>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<291»; };  // NOLINT
04212     template<> struct ConwayPolynomial<293, 8> { using ZPZ = aerobus::zpz<293>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<29>, ZPZV<175>, ZPZV<195>, ZPZV<239>, ZPZV<2»; };  //
      NOLINT
04213     template<> struct ConwayPolynomial<293, 9> { using ZPZ = aerobus::zpz<293>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<208>, ZPZV<190>, ZPZV<291»;
      };  // NOLINT
04214     template<> struct ConwayPolynomial<293, 10> { using ZPZ = aerobus::zpz<293>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<186>, ZPZV<28>, ZPZV<46>, ZPZV<184>, ZPZV<24>,
      ZPZV<2»; };  // NOLINT
04215     template<> struct ConwayPolynomial<293, 11> { using ZPZ = aerobus::zpz<293>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>,
      ZPZV<3>, ZPZV<291»; };  // NOLINT
04216     template<> struct ConwayPolynomial<293, 12> { using ZPZ = aerobus::zpz<293>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<159>, ZPZV<210>, ZPZV<125>, ZPZV<212>,
      ZPZV<167>, ZPZV<144>, ZPZV<157>, ZPZV<2»; };  // NOLINT
04217     template<> struct ConwayPolynomial<307, 1> { using ZPZ = aerobus::zpz<307>; using type =
      POLYV<ZPZV<1>, ZPZV<302»; };  // NOLINT
04218     template<> struct ConwayPolynomial<307, 2> { using ZPZ = aerobus::zpz<307>; using type =
      POLYV<ZPZV<1>, ZPZV<306>, ZPZV<5»; };  // NOLINT
04219     template<> struct ConwayPolynomial<307, 3> { using ZPZ = aerobus::zpz<307>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<302»; };  // NOLINT
04220     template<> struct ConwayPolynomial<307, 4> { using ZPZ = aerobus::zpz<307>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<239>, ZPZV<5»; };  // NOLINT
04221     template<> struct ConwayPolynomial<307, 5> { using ZPZ = aerobus::zpz<307>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<302»; };  // NOLINT
04222     template<> struct ConwayPolynomial<307, 6> { using ZPZ = aerobus::zpz<307>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<213>, ZPZV<172>, ZPZV<61>, ZPZV<5»; };  // NOLINT
04223     template<> struct ConwayPolynomial<307, 7> { using ZPZ = aerobus::zpz<307>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<302»; };  // NOLINT
04224     template<> struct ConwayPolynomial<307, 8> { using ZPZ = aerobus::zpz<307>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<283>, ZPZV<232>, ZPZV<131>, ZPZV<5»; };  //
      NOLINT
04225     template<> struct ConwayPolynomial<307, 9> { using ZPZ = aerobus::zpz<307>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<165>, ZPZV<70>, ZPZV<302»;
      };  // NOLINT
04226     template<> struct ConwayPolynomial<311, 1> { using ZPZ = aerobus::zpz<311>; using type =
      POLYV<ZPZV<1>, ZPZV<294»; };  // NOLINT
04227     template<> struct ConwayPolynomial<311, 2> { using ZPZ = aerobus::zpz<311>; using type =
      POLYV<ZPZV<1>, ZPZV<310>, ZPZV<17»; };  // NOLINT
04228     template<> struct ConwayPolynomial<311, 3> { using ZPZ = aerobus::zpz<311>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<294»; };  // NOLINT
04229     template<> struct ConwayPolynomial<311, 4> { using ZPZ = aerobus::zpz<311>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<163>, ZPZV<17»; };  // NOLINT
04230     template<> struct ConwayPolynomial<311, 5> { using ZPZ = aerobus::zpz<311>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<294»; };  // NOLINT
04231     template<> struct ConwayPolynomial<311, 6> { using ZPZ = aerobus::zpz<311>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<27>, ZPZV<167>, ZPZV<152>, ZPZV<17»; };  // NOLINT
04232     template<> struct ConwayPolynomial<311, 7> { using ZPZ = aerobus::zpz<311>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<294»; };  // NOLINT
04233     template<> struct ConwayPolynomial<311, 8> { using ZPZ = aerobus::zpz<311>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<19>, ZPZV<162>, ZPZV<118>, ZPZV<2>, ZPZV<17»; };  //
      NOLINT
04234     template<> struct ConwayPolynomial<311, 9> { using ZPZ = aerobus::zpz<311>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<287>, ZPZV<74>, ZPZV<294»;
      };  // NOLINT
04235     template<> struct ConwayPolynomial<313, 1> { using ZPZ = aerobus::zpz<313>; using type =
      POLYV<ZPZV<1>, ZPZV<303»; };  // NOLINT
04236     template<> struct ConwayPolynomial<313, 2> { using ZPZ = aerobus::zpz<313>; using type =
      POLYV<ZPZV<1>, ZPZV<310>, ZPZV<10»; };  // NOLINT
04237     template<> struct ConwayPolynomial<313, 3> { using ZPZ = aerobus::zpz<313>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<303»; };  // NOLINT
04238     template<> struct ConwayPolynomial<313, 4> { using ZPZ = aerobus::zpz<313>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<239>, ZPZV<10»; };  // NOLINT
04239     template<> struct ConwayPolynomial<313, 5> { using ZPZ = aerobus::zpz<313>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<303»; };  // NOLINT
04240     template<> struct ConwayPolynomial<313, 6> { using ZPZ = aerobus::zpz<313>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<196>, ZPZV<213>, ZPZV<253>, ZPZV<10»; };  // NOLINT
04241     template<> struct ConwayPolynomial<313, 7> { using ZPZ = aerobus::zpz<313>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<303»; };  // NOLINT
04242     template<> struct ConwayPolynomial<313, 8> { using ZPZ = aerobus::zpz<313>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<306>, ZPZV<99>, ZPZV<106>, ZPZV<10»; };  //
      NOLINT
04243     template<> struct ConwayPolynomial<313, 9> { using ZPZ = aerobus::zpz<313>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<267>, ZPZV<300>, ZPZV<303»;
      };  // NOLINT
04244     template<> struct ConwayPolynomial<317, 1> { using ZPZ = aerobus::zpz<317>; using type =
      POLYV<ZPZV<1>, ZPZV<315»; };  // NOLINT
04245     template<> struct ConwayPolynomial<317, 2> { using ZPZ = aerobus::zpz<317>; using type =
      POLYV<ZPZV<1>, ZPZV<313>, ZPZV<2»; };  // NOLINT
04246     template<> struct ConwayPolynomial<317, 3> { using ZPZ = aerobus::zpz<317>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<315»; };  // NOLINT
04247     template<> struct ConwayPolynomial<317, 4> { using ZPZ = aerobus::zpz<317>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<178>, ZPZV<2»; };  // NOLINT
04248     template<> struct ConwayPolynomial<317, 5> { using ZPZ = aerobus::zpz<317>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<315»; };  // NOLINT
04249     template<> struct ConwayPolynomial<317, 6> { using ZPZ = aerobus::zpz<317>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<195>, ZPZV<156>, ZPZV<4>, ZPZV<2»; };  // NOLINT
04250     template<> struct ConwayPolynomial<317, 7> { using ZPZ = aerobus::zpz<317>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<315»; };  // NOLINT
04251     template<> struct ConwayPolynomial<317, 8> { using ZPZ = aerobus::zpz<317>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<207>, ZPZV<85>, ZPZV<31>, ZPZV<2»; };  //
      NOLINT
04252     template<> struct ConwayPolynomial<317, 9> { using ZPZ = aerobus::zpz<317>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<284>, ZPZV<296>, ZPZV<315»;
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      };  // NOLINT
04253     template<> struct ConwayPolynomial<331, 1> { using ZPZ = aerobus::zpz<331>; using type =
      POLYV<ZPZV<1>, ZPZV<328>>; };  // NOLINT
04254     template<> struct ConwayPolynomial<331, 2> { using ZPZ = aerobus::zpz<331>; using type =
      POLYV<ZPZV<1>, ZPZV<326>, ZPZV<3>>; };  // NOLINT
04255     template<> struct ConwayPolynomial<331, 3> { using ZPZ = aerobus::zpz<331>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<328>>; };  // NOLINT
04256     template<> struct ConwayPolynomial<331, 4> { using ZPZ = aerobus::zpz<331>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<290>, ZPZV<3>>; };  // NOLINT
04257     template<> struct ConwayPolynomial<331, 5> { using ZPZ = aerobus::zpz<331>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<328>>; };  // NOLINT
04258     template<> struct ConwayPolynomial<331, 6> { using ZPZ = aerobus::zpz<331>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<283>, ZPZV<205>, ZPZV<159>, ZPZV<3>>; };  // NOLINT
04259     template<> struct ConwayPolynomial<331, 7> { using ZPZ = aerobus::zpz<331>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<328>>; };  // NOLINT
04260     template<> struct ConwayPolynomial<331, 8> { using ZPZ = aerobus::zpz<331>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<249>, ZPZV<308>, ZPZV<78>, ZPZV<3>>; };  //
      NOLINT
04261     template<> struct ConwayPolynomial<331, 9> { using ZPZ = aerobus::zpz<331>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<194>, ZPZV<210>, ZPZV<328>>;
      };  // NOLINT
04262     template<> struct ConwayPolynomial<337, 1> { using ZPZ = aerobus::zpz<337>; using type =
      POLYV<ZPZV<1>, ZPZV<327>>; };  // NOLINT
04263     template<> struct ConwayPolynomial<337, 2> { using ZPZ = aerobus::zpz<337>; using type =
      POLYV<ZPZV<1>, ZPZV<332>, ZPZV<10>>; };  // NOLINT
04264     template<> struct ConwayPolynomial<337, 3> { using ZPZ = aerobus::zpz<337>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<327>>; };  // NOLINT
04265     template<> struct ConwayPolynomial<337, 4> { using ZPZ = aerobus::zpz<337>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<25>, ZPZV<224>, ZPZV<10>>; };  // NOLINT
04266     template<> struct ConwayPolynomial<337, 5> { using ZPZ = aerobus::zpz<337>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<327>>; };  // NOLINT
04267     template<> struct ConwayPolynomial<337, 6> { using ZPZ = aerobus::zpz<337>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<216>, ZPZV<127>, ZPZV<109>, ZPZV<10>>; };  // NOLINT
04268     template<> struct ConwayPolynomial<337, 7> { using ZPZ = aerobus::zpz<337>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<327>>; };  // NOLINT
04269     template<> struct ConwayPolynomial<337, 8> { using ZPZ = aerobus::zpz<337>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<331>, ZPZV<246>, ZPZV<251>, ZPZV<10>>; };  //
      NOLINT
04270     template<> struct ConwayPolynomial<337, 9> { using ZPZ = aerobus::zpz<337>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<148>, ZPZV<98>, ZPZV<327>>;
      };  // NOLINT
04271     template<> struct ConwayPolynomial<347, 1> { using ZPZ = aerobus::zpz<347>; using type =
      POLYV<ZPZV<1>, ZPZV<345>>; };  // NOLINT
04272     template<> struct ConwayPolynomial<347, 2> { using ZPZ = aerobus::zpz<347>; using type =
      POLYV<ZPZV<1>, ZPZV<343>, ZPZV<2>>; };  // NOLINT
04273     template<> struct ConwayPolynomial<347, 3> { using ZPZ = aerobus::zpz<347>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<9>, ZPZV<345>>; };  // NOLINT
04274     template<> struct ConwayPolynomial<347, 4> { using ZPZ = aerobus::zpz<347>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<13>, ZPZV<295>, ZPZV<2>>; };  // NOLINT
04275     template<> struct ConwayPolynomial<347, 5> { using ZPZ = aerobus::zpz<347>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<345>>; };  // NOLINT
04276     template<> struct ConwayPolynomial<347, 6> { using ZPZ = aerobus::zpz<347>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<343>, ZPZV<26>, ZPZV<56>, ZPZV<2>>; };  // NOLINT
04277     template<> struct ConwayPolynomial<347, 7> { using ZPZ = aerobus::zpz<347>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<345>>; };  // NOLINT
04278     template<> struct ConwayPolynomial<347, 8> { using ZPZ = aerobus::zpz<347>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<187>, ZPZV<213>, ZPZV<117>, ZPZV<2>>; };  //
      NOLINT
04279     template<> struct ConwayPolynomial<347, 9> { using ZPZ = aerobus::zpz<347>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<235>, ZPZV<252>, ZPZV<345>>;
      };  // NOLINT
04280     template<> struct ConwayPolynomial<349, 1> { using ZPZ = aerobus::zpz<349>; using type =
      POLYV<ZPZV<1>, ZPZV<347>>; };  // NOLINT
04281     template<> struct ConwayPolynomial<349, 2> { using ZPZ = aerobus::zpz<349>; using type =
      POLYV<ZPZV<1>, ZPZV<348>, ZPZV<2>>; };  // NOLINT
04282     template<> struct ConwayPolynomial<349, 3> { using ZPZ = aerobus::zpz<349>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<347>>; };  // NOLINT
04283     template<> struct ConwayPolynomial<349, 4> { using ZPZ = aerobus::zpz<349>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<279>, ZPZV<2>>; };  // NOLINT
04284     template<> struct ConwayPolynomial<349, 5> { using ZPZ = aerobus::zpz<349>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<347>>; };  // NOLINT
04285     template<> struct ConwayPolynomial<349, 6> { using ZPZ = aerobus::zpz<349>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<135>, ZPZV<177>, ZPZV<316>, ZPZV<2>>; };  // NOLINT
04286     template<> struct ConwayPolynomial<349, 7> { using ZPZ = aerobus::zpz<349>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<347>>; };  // NOLINT
04287     template<> struct ConwayPolynomial<349, 8> { using ZPZ = aerobus::zpz<349>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<308>, ZPZV<328>, ZPZV<268>, ZPZV<2>>; };  //
      NOLINT
04288     template<> struct ConwayPolynomial<349, 9> { using ZPZ = aerobus::zpz<349>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<36>, ZPZV<290>, ZPZV<130>, ZPZV<347>>;
      };  // NOLINT
04289     template<> struct ConwayPolynomial<353, 1> { using ZPZ = aerobus::zpz<353>; using type =
      POLYV<ZPZV<1>, ZPZV<350>>; };  // NOLINT
04290     template<> struct ConwayPolynomial<353, 2> { using ZPZ = aerobus::zpz<353>; using type =
      POLYV<ZPZV<1>, ZPZV<348>, ZPZV<3>>; };  // NOLINT
04291     template<> struct ConwayPolynomial<353, 3> { using ZPZ = aerobus::zpz<353>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<350>>; };  // NOLINT
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04292     template<> struct ConwayPolynomial<353, 4> { using ZPZ = aerobus::zpz<353>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<199>, ZPZV<3»; };  // NOLINT
04293     template<> struct ConwayPolynomial<353, 5> { using ZPZ = aerobus::zpz<353>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<350»; };  // NOLINT
04294     template<> struct ConwayPolynomial<353, 6> { using ZPZ = aerobus::zpz<353>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<215>, ZPZV<226>, ZPZV<295>, ZPZV<3»; };  // NOLINT
04295     template<> struct ConwayPolynomial<353, 7> { using ZPZ = aerobus::zpz<353>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<16>, ZPZV<350»; };  // NOLINT
04296     template<> struct ConwayPolynomial<353, 8> { using ZPZ = aerobus::zpz<353>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<182>, ZPZV<26>, ZPZV<37>, ZPZV<3»; };  //
      NOLINT
04297     template<> struct ConwayPolynomial<353, 9> { using ZPZ = aerobus::zpz<353>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<319>, ZPZV<49>, ZPZV<350»;
      };  // NOLINT
04298     template<> struct ConwayPolynomial<359, 1> { using ZPZ = aerobus::zpz<359>; using type =
      POLYV<ZPZV<1>, ZPZV<352»; };  // NOLINT
04299     template<> struct ConwayPolynomial<359, 2> { using ZPZ = aerobus::zpz<359>; using type =
      POLYV<ZPZV<1>, ZPZV<358>, ZPZV<7»; };  // NOLINT
04300     template<> struct ConwayPolynomial<359, 3> { using ZPZ = aerobus::zpz<359>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<352»; };  // NOLINT
04301     template<> struct ConwayPolynomial<359, 4> { using ZPZ = aerobus::zpz<359>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<229>, ZPZV<7»; };  // NOLINT
04302     template<> struct ConwayPolynomial<359, 5> { using ZPZ = aerobus::zpz<359>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<352»; };  // NOLINT
04303     template<> struct ConwayPolynomial<359, 6> { using ZPZ = aerobus::zpz<359>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<309>, ZPZV<327>, ZPZV<327>, ZPZV<7»; };  // NOLINT
04304     template<> struct ConwayPolynomial<359, 7> { using ZPZ = aerobus::zpz<359>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<352»; };  // NOLINT
04305     template<> struct ConwayPolynomial<359, 8> { using ZPZ = aerobus::zpz<359>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<301>, ZPZV<143>, ZPZV<271>, ZPZV<7»; };  //
      NOLINT
04306     template<> struct ConwayPolynomial<359, 9> { using ZPZ = aerobus::zpz<359>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<356>, ZPZV<165>, ZPZV<352»;
      };  // NOLINT
04307     template<> struct ConwayPolynomial<367, 1> { using ZPZ = aerobus::zpz<367>; using type =
      POLYV<ZPZV<1>, ZPZV<361»; };  // NOLINT
04308     template<> struct ConwayPolynomial<367, 2> { using ZPZ = aerobus::zpz<367>; using type =
      POLYV<ZPZV<1>, ZPZV<366>, ZPZV<6»; };  // NOLINT
04309     template<> struct ConwayPolynomial<367, 3> { using ZPZ = aerobus::zpz<367>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<10>, ZPZV<361»; };  // NOLINT
04310     template<> struct ConwayPolynomial<367, 4> { using ZPZ = aerobus::zpz<367>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<295>, ZPZV<6»; };  // NOLINT
04311     template<> struct ConwayPolynomial<367, 5> { using ZPZ = aerobus::zpz<367>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<361»; };  // NOLINT
04312     template<> struct ConwayPolynomial<367, 6> { using ZPZ = aerobus::zpz<367>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<222>, ZPZV<321>, ZPZV<324>, ZPZV<6»; };  // NOLINT
04313     template<> struct ConwayPolynomial<367, 7> { using ZPZ = aerobus::zpz<367>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<361»; };  // NOLINT
04314     template<> struct ConwayPolynomial<367, 8> { using ZPZ = aerobus::zpz<367>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<335>, ZPZV<282>, ZPZV<50>, ZPZV<6»; };  //
      NOLINT
04315     template<> struct ConwayPolynomial<367, 9> { using ZPZ = aerobus::zpz<367>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<213>, ZPZV<268>, ZPZV<361»;
      };  // NOLINT
04316     template<> struct ConwayPolynomial<373, 1> { using ZPZ = aerobus::zpz<373>; using type =
      POLYV<ZPZV<1>, ZPZV<371»; };  // NOLINT
04317     template<> struct ConwayPolynomial<373, 2> { using ZPZ = aerobus::zpz<373>; using type =
      POLYV<ZPZV<1>, ZPZV<369>, ZPZV<2»; };  // NOLINT
04318     template<> struct ConwayPolynomial<373, 3> { using ZPZ = aerobus::zpz<373>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<371»; };  // NOLINT
04319     template<> struct ConwayPolynomial<373, 4> { using ZPZ = aerobus::zpz<373>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<15>, ZPZV<304>, ZPZV<2»; };  // NOLINT
04320     template<> struct ConwayPolynomial<373, 5> { using ZPZ = aerobus::zpz<373>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<371»; };  // NOLINT
04321     template<> struct ConwayPolynomial<373, 6> { using ZPZ = aerobus::zpz<373>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<126>, ZPZV<83>, ZPZV<108>, ZPZV<2»; };  // NOLINT
04322     template<> struct ConwayPolynomial<373, 7> { using ZPZ = aerobus::zpz<373>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<371»; };  // NOLINT
04323     template<> struct ConwayPolynomial<373, 8> { using ZPZ = aerobus::zpz<373>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<203>, ZPZV<219>, ZPZV<66>, ZPZV<2»; };  //
      NOLINT
04324     template<> struct ConwayPolynomial<373, 9> { using ZPZ = aerobus::zpz<373>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<238>, ZPZV<370>, ZPZV<371»;
      };  // NOLINT
04325     template<> struct ConwayPolynomial<379, 1> { using ZPZ = aerobus::zpz<379>; using type =
      POLYV<ZPZV<1>, ZPZV<377»; };  // NOLINT
04326     template<> struct ConwayPolynomial<379, 2> { using ZPZ = aerobus::zpz<379>; using type =
      POLYV<ZPZV<1>, ZPZV<374>, ZPZV<2»; };  // NOLINT
04327     template<> struct ConwayPolynomial<379, 3> { using ZPZ = aerobus::zpz<379>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<377»; };  // NOLINT
04328     template<> struct ConwayPolynomial<379, 4> { using ZPZ = aerobus::zpz<379>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<327>, ZPZV<2»; };  // NOLINT
04329     template<> struct ConwayPolynomial<379, 5> { using ZPZ = aerobus::zpz<379>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<377»; };  // NOLINT
04330     template<> struct ConwayPolynomial<379, 6> { using ZPZ = aerobus::zpz<379>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<374>, ZPZV<364>, ZPZV<246>, ZPZV<2»; };  // NOLINT
04331     template<> struct ConwayPolynomial<379, 7> { using ZPZ = aerobus::zpz<379>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<377»; };  // NOLINT
04332     template<> struct ConwayPolynomial<379, 8> { using ZPZ = aerobus::zpz<379>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<210>, ZPZV<194>, ZPZV<173>, ZPZV<2»; };  //
      NOLINT
04333     template<> struct ConwayPolynomial<379, 9> { using ZPZ = aerobus::zpz<379>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<362>, ZPZV<369>, ZPZV<377»;
      };  // NOLINT
04334     template<> struct ConwayPolynomial<383, 1> { using ZPZ = aerobus::zpz<383>; using type =
      POLYV<ZPZV<1>, ZPZV<378»; };  // NOLINT
04335     template<> struct ConwayPolynomial<383, 2> { using ZPZ = aerobus::zpz<383>; using type =
      POLYV<ZPZV<1>, ZPZV<382>, ZPZV<5»; };  // NOLINT
04336     template<> struct ConwayPolynomial<383, 3> { using ZPZ = aerobus::zpz<383>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<378»; };  // NOLINT
04337     template<> struct ConwayPolynomial<383, 4> { using ZPZ = aerobus::zpz<383>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<309>, ZPZV<5»; };  // NOLINT
04338     template<> struct ConwayPolynomial<383, 5> { using ZPZ = aerobus::zpz<383>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<378»; };  // NOLINT
04339     template<> struct ConwayPolynomial<383, 6> { using ZPZ = aerobus::zpz<383>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<69>, ZPZV<8>, ZPZV<158>, ZPZV<5»; };  // NOLINT
04340     template<> struct ConwayPolynomial<383, 7> { using ZPZ = aerobus::zpz<383>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<378»; };  // NOLINT
04341     template<> struct ConwayPolynomial<383, 8> { using ZPZ = aerobus::zpz<383>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<281>, ZPZV<332>, ZPZV<296>, ZPZV<5»; };  //
      NOLINT
04342     template<> struct ConwayPolynomial<383, 9> { using ZPZ = aerobus::zpz<383>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<137>, ZPZV<76>, ZPZV<378»;
      };  // NOLINT
04343     template<> struct ConwayPolynomial<389, 1> { using ZPZ = aerobus::zpz<389>; using type =
      POLYV<ZPZV<1>, ZPZV<387»; };  // NOLINT
04344     template<> struct ConwayPolynomial<389, 2> { using ZPZ = aerobus::zpz<389>; using type =
      POLYV<ZPZV<1>, ZPZV<379>, ZPZV<2»; };  // NOLINT
04345     template<> struct ConwayPolynomial<389, 3> { using ZPZ = aerobus::zpz<389>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<387»; };  // NOLINT
04346     template<> struct ConwayPolynomial<389, 4> { using ZPZ = aerobus::zpz<389>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<266>, ZPZV<2»; };  // NOLINT
04347     template<> struct ConwayPolynomial<389, 5> { using ZPZ = aerobus::zpz<389>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<387»; };  // NOLINT
04348     template<> struct ConwayPolynomial<389, 6> { using ZPZ = aerobus::zpz<389>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<218>, ZPZV<339>, ZPZV<255>, ZPZV<2»; };  // NOLINT
04349     template<> struct ConwayPolynomial<389, 7> { using ZPZ = aerobus::zpz<389>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<24>, ZPZV<387»; };  // NOLINT
04350     template<> struct ConwayPolynomial<389, 8> { using ZPZ = aerobus::zpz<389>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<351>, ZPZV<19>, ZPZV<290>, ZPZV<2»; };  //
      NOLINT
04351     template<> struct ConwayPolynomial<389, 9> { using ZPZ = aerobus::zpz<389>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<258>, ZPZV<308>, ZPZV<387»;
      };  // NOLINT
04352     template<> struct ConwayPolynomial<397, 1> { using ZPZ = aerobus::zpz<397>; using type =
      POLYV<ZPZV<1>, ZPZV<392»; };  // NOLINT
04353     template<> struct ConwayPolynomial<397, 2> { using ZPZ = aerobus::zpz<397>; using type =
      POLYV<ZPZV<1>, ZPZV<392>, ZPZV<5»; };  // NOLINT
04354     template<> struct ConwayPolynomial<397, 3> { using ZPZ = aerobus::zpz<397>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<392»; };  // NOLINT
04355     template<> struct ConwayPolynomial<397, 4> { using ZPZ = aerobus::zpz<397>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<12>, ZPZV<363>, ZPZV<5»; };  // NOLINT
04356     template<> struct ConwayPolynomial<397, 5> { using ZPZ = aerobus::zpz<397>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<392»; };  // NOLINT
04357     template<> struct ConwayPolynomial<397, 6> { using ZPZ = aerobus::zpz<397>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<382>, ZPZV<274>, ZPZV<287>, ZPZV<5»; };  // NOLINT
04358     template<> struct ConwayPolynomial<397, 7> { using ZPZ = aerobus::zpz<397>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<392»; };  // NOLINT
04359     template<> struct ConwayPolynomial<397, 8> { using ZPZ = aerobus::zpz<397>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<375>, ZPZV<255>, ZPZV<203>, ZPZV<5»; };  //
      NOLINT
04360     template<> struct ConwayPolynomial<397, 9> { using ZPZ = aerobus::zpz<397>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<166>, ZPZV<252>, ZPZV<392»;
      };  // NOLINT
04361     template<> struct ConwayPolynomial<401, 1> { using ZPZ = aerobus::zpz<401>; using type =
      POLYV<ZPZV<1>, ZPZV<398»; };  // NOLINT
04362     template<> struct ConwayPolynomial<401, 2> { using ZPZ = aerobus::zpz<401>; using type =
      POLYV<ZPZV<1>, ZPZV<396>, ZPZV<3»; };  // NOLINT
04363     template<> struct ConwayPolynomial<401, 3> { using ZPZ = aerobus::zpz<401>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<398»; };  // NOLINT
04364     template<> struct ConwayPolynomial<401, 4> { using ZPZ = aerobus::zpz<401>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<372>, ZPZV<3»; };  // NOLINT
04365     template<> struct ConwayPolynomial<401, 5> { using ZPZ = aerobus::zpz<401>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<398»; };  // NOLINT
04366     template<> struct ConwayPolynomial<401, 6> { using ZPZ = aerobus::zpz<401>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<115>, ZPZV<81>, ZPZV<51>, ZPZV<3»; };  // NOLINT
04367     template<> struct ConwayPolynomial<401, 7> { using ZPZ = aerobus::zpz<401>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<398»; };  // NOLINT
04368     template<> struct ConwayPolynomial<401, 8> { using ZPZ = aerobus::zpz<401>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<380>, ZPZV<113>, ZPZV<164>, ZPZV<3»; };  //
      NOLINT
04369     template<> struct ConwayPolynomial<401, 9> { using ZPZ = aerobus::zpz<401>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<199>, ZPZV<158>, ZPZV<398»;
      };  // NOLINT
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04370     template<> struct ConwayPolynomial<409, 1> { using ZPZ = aerobus::zpz<409>; using type =
      POLYV<ZPZV<1>, ZPZV<388>>; };  // NOLINT
04371     template<> struct ConwayPolynomial<409, 2> { using ZPZ = aerobus::zpz<409>; using type =
      POLYV<ZPZV<1>, ZPZV<404>, ZPZV<21>>; };  // NOLINT
04372     template<> struct ConwayPolynomial<409, 3> { using ZPZ = aerobus::zpz<409>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<388>>; };  // NOLINT
04373     template<> struct ConwayPolynomial<409, 4> { using ZPZ = aerobus::zpz<409>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<12>, ZPZV<407>, ZPZV<21>>; };  // NOLINT
04374     template<> struct ConwayPolynomial<409, 5> { using ZPZ = aerobus::zpz<409>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<388>>; };  // NOLINT
04375     template<> struct ConwayPolynomial<409, 6> { using ZPZ = aerobus::zpz<409>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<372>, ZPZV<53>, ZPZV<364>, ZPZV<21>>; };  // NOLINT
04376     template<> struct ConwayPolynomial<409, 7> { using ZPZ = aerobus::zpz<409>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<388>>; };  // NOLINT
04377     template<> struct ConwayPolynomial<409, 8> { using ZPZ = aerobus::zpz<409>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<256>, ZPZV<69>, ZPZV<396>, ZPZV<21>>; };  //
      NOLINT
04378     template<> struct ConwayPolynomial<409, 9> { using ZPZ = aerobus::zpz<409>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<318>, ZPZV<211>, ZPZV<388>>;
      };  // NOLINT
04379     template<> struct ConwayPolynomial<419, 1> { using ZPZ = aerobus::zpz<419>; using type =
      POLYV<ZPZV<1>, ZPZV<417>>; };  // NOLINT
04380     template<> struct ConwayPolynomial<419, 2> { using ZPZ = aerobus::zpz<419>; using type =
      POLYV<ZPZV<1>, ZPZV<418>, ZPZV<2>>; };  // NOLINT
04381     template<> struct ConwayPolynomial<419, 3> { using ZPZ = aerobus::zpz<419>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<11>, ZPZV<417>>; };  // NOLINT
04382     template<> struct ConwayPolynomial<419, 4> { using ZPZ = aerobus::zpz<419>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<373>, ZPZV<2>>; };  // NOLINT
04383     template<> struct ConwayPolynomial<419, 5> { using ZPZ = aerobus::zpz<419>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<417>>; };  // NOLINT
04384     template<> struct ConwayPolynomial<419, 6> { using ZPZ = aerobus::zpz<419>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<411>, ZPZV<33>, ZPZV<257>, ZPZV<2>>; };  // NOLINT
04385     template<> struct ConwayPolynomial<419, 7> { using ZPZ = aerobus::zpz<419>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<417>>; };  // NOLINT
04386     template<> struct ConwayPolynomial<419, 8> { using ZPZ = aerobus::zpz<419>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<234>, ZPZV<388>, ZPZV<151>, ZPZV<2>>; };  //
      NOLINT
04387     template<> struct ConwayPolynomial<419, 9> { using ZPZ = aerobus::zpz<419>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<93>, ZPZV<386>, ZPZV<417>>;
      };  // NOLINT
04388     template<> struct ConwayPolynomial<421, 1> { using ZPZ = aerobus::zpz<421>; using type =
      POLYV<ZPZV<1>, ZPZV<419>>; };  // NOLINT
04389     template<> struct ConwayPolynomial<421, 2> { using ZPZ = aerobus::zpz<421>; using type =
      POLYV<ZPZV<1>, ZPZV<417>, ZPZV<2>>; };  // NOLINT
04390     template<> struct ConwayPolynomial<421, 3> { using ZPZ = aerobus::zpz<421>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<419>>; };  // NOLINT
04391     template<> struct ConwayPolynomial<421, 4> { using ZPZ = aerobus::zpz<421>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<10>, ZPZV<257>, ZPZV<2>>; };  // NOLINT
04392     template<> struct ConwayPolynomial<421, 5> { using ZPZ = aerobus::zpz<421>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<419>>; };  // NOLINT
04393     template<> struct ConwayPolynomial<421, 6> { using ZPZ = aerobus::zpz<421>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<111>, ZPZV<342>, ZPZV<41>, ZPZV<2>>; };  // NOLINT
04394     template<> struct ConwayPolynomial<421, 7> { using ZPZ = aerobus::zpz<421>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<21>, ZPZV<419>>; };  // NOLINT
04395     template<> struct ConwayPolynomial<421, 8> { using ZPZ = aerobus::zpz<421>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<389>, ZPZV<32>, ZPZV<77>, ZPZV<2>>; };  //
      NOLINT
04396     template<> struct ConwayPolynomial<421, 9> { using ZPZ = aerobus::zpz<421>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<18>, ZPZV<394>, ZPZV<145>, ZPZV<419>>;
      };  // NOLINT
04397     template<> struct ConwayPolynomial<431, 1> { using ZPZ = aerobus::zpz<431>; using type =
      POLYV<ZPZV<1>, ZPZV<424>>; };  // NOLINT
04398     template<> struct ConwayPolynomial<431, 2> { using ZPZ = aerobus::zpz<431>; using type =
      POLYV<ZPZV<1>, ZPZV<430>, ZPZV<7>>; };  // NOLINT
04399     template<> struct ConwayPolynomial<431, 3> { using ZPZ = aerobus::zpz<431>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<424>>; };  // NOLINT
04400     template<> struct ConwayPolynomial<431, 4> { using ZPZ = aerobus::zpz<431>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<323>, ZPZV<7>>; };  // NOLINT
04401     template<> struct ConwayPolynomial<431, 5> { using ZPZ = aerobus::zpz<431>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<424>>; };  // NOLINT
04402     template<> struct ConwayPolynomial<431, 6> { using ZPZ = aerobus::zpz<431>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<161>, ZPZV<202>, ZPZV<182>, ZPZV<7>>; };  // NOLINT
04403     template<> struct ConwayPolynomial<431, 7> { using ZPZ = aerobus::zpz<431>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<424>>; };  // NOLINT
04404     template<> struct ConwayPolynomial<431, 8> { using ZPZ = aerobus::zpz<431>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<243>, ZPZV<286>, ZPZV<115>, ZPZV<7>>; };  //
      NOLINT
04405     template<> struct ConwayPolynomial<431, 9> { using ZPZ = aerobus::zpz<431>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<71>, ZPZV<329>, ZPZV<424>>;
      };  // NOLINT
04406     template<> struct ConwayPolynomial<433, 1> { using ZPZ = aerobus::zpz<433>; using type =
      POLYV<ZPZV<1>, ZPZV<428>>; };  // NOLINT
04407     template<> struct ConwayPolynomial<433, 2> { using ZPZ = aerobus::zpz<433>; using type =
      POLYV<ZPZV<1>, ZPZV<432>, ZPZV<5>>; };  // NOLINT
04408     template<> struct ConwayPolynomial<433, 3> { using ZPZ = aerobus::zpz<433>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<428>>; };  // NOLINT
04409     template<> struct ConwayPolynomial<433, 4> { using ZPZ = aerobus::zpz<433>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<402>, ZPZV<5»; };  // NOLINT
04410     template<> struct ConwayPolynomial<433, 5> { using ZPZ = aerobus::zpz<433>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<428»; };  // NOLINT
04411     template<> struct ConwayPolynomial<433, 6> { using ZPZ = aerobus::zpz<433>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<244>, ZPZV<353>, ZPZV<360>, ZPZV<5»; };  // NOLINT
04412     template<> struct ConwayPolynomial<433, 7> { using ZPZ = aerobus::zpz<433>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<428»; };  // NOLINT
04413     template<> struct ConwayPolynomial<433, 8> { using ZPZ = aerobus::zpz<433>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<347>, ZPZV<32>, ZPZV<39>, ZPZV<5»; };  //
      NOLINT
04414     template<> struct ConwayPolynomial<433, 9> { using ZPZ = aerobus::zpz<433>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<27>, ZPZV<232>, ZPZV<45>, ZPZV<428»;
      };  // NOLINT
04415     template<> struct ConwayPolynomial<439, 1> { using ZPZ = aerobus::zpz<439>; using type =
      POLYV<ZPZV<1>, ZPZV<424»; };  // NOLINT
04416     template<> struct ConwayPolynomial<439, 2> { using ZPZ = aerobus::zpz<439>; using type =
      POLYV<ZPZV<1>, ZPZV<436>, ZPZV<15»; };  // NOLINT
04417     template<> struct ConwayPolynomial<439, 3> { using ZPZ = aerobus::zpz<439>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<424»; };  // NOLINT
04418     template<> struct ConwayPolynomial<439, 4> { using ZPZ = aerobus::zpz<439>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<323>, ZPZV<15»; };  // NOLINT
04419     template<> struct ConwayPolynomial<439, 5> { using ZPZ = aerobus::zpz<439>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<424»; };  // NOLINT
04420     template<> struct ConwayPolynomial<439, 6> { using ZPZ = aerobus::zpz<439>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<324>, ZPZV<190>, ZPZV<15»; };  // NOLINT
04421     template<> struct ConwayPolynomial<439, 7> { using ZPZ = aerobus::zpz<439>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<424»; };  // NOLINT
04422     template<> struct ConwayPolynomial<439, 8> { using ZPZ = aerobus::zpz<439>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<359>, ZPZV<296>, ZPZV<266>, ZPZV<15»; };  //
      NOLINT
04423     template<> struct ConwayPolynomial<439, 9> { using ZPZ = aerobus::zpz<439>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<16>, ZPZV<342>, ZPZV<254>, ZPZV<424»;
      };  // NOLINT
04424     template<> struct ConwayPolynomial<443, 1> { using ZPZ = aerobus::zpz<443>; using type =
      POLYV<ZPZV<1>, ZPZV<441»; };  // NOLINT
04425     template<> struct ConwayPolynomial<443, 2> { using ZPZ = aerobus::zpz<443>; using type =
      POLYV<ZPZV<1>, ZPZV<437>, ZPZV<2»; };  // NOLINT
04426     template<> struct ConwayPolynomial<443, 3> { using ZPZ = aerobus::zpz<443>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<441»; };  // NOLINT
04427     template<> struct ConwayPolynomial<443, 4> { using ZPZ = aerobus::zpz<443>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<383>, ZPZV<2»; };  // NOLINT
04428     template<> struct ConwayPolynomial<443, 5> { using ZPZ = aerobus::zpz<443>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<441»; };  // NOLINT
04429     template<> struct ConwayPolynomial<443, 6> { using ZPZ = aerobus::zpz<443>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<298>, ZPZV<218>, ZPZV<41>, ZPZV<2»; };  // NOLINT
04430     template<> struct ConwayPolynomial<443, 7> { using ZPZ = aerobus::zpz<443>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<441»; };  // NOLINT
04431     template<> struct ConwayPolynomial<443, 8> { using ZPZ = aerobus::zpz<443>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<437>, ZPZV<217>, ZPZV<290>, ZPZV<2»; };  //
      NOLINT
04432     template<> struct ConwayPolynomial<443, 9> { using ZPZ = aerobus::zpz<443>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<125>, ZPZV<109>, ZPZV<441»;
      };  // NOLINT
04433     template<> struct ConwayPolynomial<449, 1> { using ZPZ = aerobus::zpz<449>; using type =
      POLYV<ZPZV<1>, ZPZV<446»; };  // NOLINT
04434     template<> struct ConwayPolynomial<449, 2> { using ZPZ = aerobus::zpz<449>; using type =
      POLYV<ZPZV<1>, ZPZV<444>, ZPZV<3»; };  // NOLINT
04435     template<> struct ConwayPolynomial<449, 3> { using ZPZ = aerobus::zpz<449>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<446»; };  // NOLINT
04436     template<> struct ConwayPolynomial<449, 4> { using ZPZ = aerobus::zpz<449>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<249>, ZPZV<3»; };  // NOLINT
04437     template<> struct ConwayPolynomial<449, 5> { using ZPZ = aerobus::zpz<449>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<446»; };  // NOLINT
04438     template<> struct ConwayPolynomial<449, 6> { using ZPZ = aerobus::zpz<449>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<437>, ZPZV<293>, ZPZV<69>, ZPZV<3»; };  // NOLINT
04439     template<> struct ConwayPolynomial<449, 7> { using ZPZ = aerobus::zpz<449>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<28>, ZPZV<446»; };  // NOLINT
04440     template<> struct ConwayPolynomial<449, 8> { using ZPZ = aerobus::zpz<449>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<361>, ZPZV<348>, ZPZV<124>, ZPZV<3»; };  //
      NOLINT
04441     template<> struct ConwayPolynomial<449, 9> { using ZPZ = aerobus::zpz<449>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<226>, ZPZV<9>, ZPZV<446»; };
      // NOLINT
04442     template<> struct ConwayPolynomial<457, 1> { using ZPZ = aerobus::zpz<457>; using type =
      POLYV<ZPZV<1>, ZPZV<444»; };  // NOLINT
04443     template<> struct ConwayPolynomial<457, 2> { using ZPZ = aerobus::zpz<457>; using type =
      POLYV<ZPZV<1>, ZPZV<454>, ZPZV<13»; };  // NOLINT
04444     template<> struct ConwayPolynomial<457, 3> { using ZPZ = aerobus::zpz<457>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<444»; };  // NOLINT
04445     template<> struct ConwayPolynomial<457, 4> { using ZPZ = aerobus::zpz<457>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<407>, ZPZV<13»; };  // NOLINT
04446     template<> struct ConwayPolynomial<457, 5> { using ZPZ = aerobus::zpz<457>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<444»; };  // NOLINT
04447     template<> struct ConwayPolynomial<457, 6> { using ZPZ = aerobus::zpz<457>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<205>, ZPZV<389>, ZPZV<266>, ZPZV<13»; };  // NOLINT
04448     template<> struct ConwayPolynomial<457, 7> { using ZPZ = aerobus::zpz<457>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<444»; };  // NOLINT
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04449     template<> struct ConwayPolynomial<457, 8> { using ZPZ = aerobus::zpz<457>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<365>, ZPZV<296>, ZPZV<412>, ZPZV<13>>; };  //
      NOLINT
04450     template<> struct ConwayPolynomial<457, 9> { using ZPZ = aerobus::zpz<457>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<354>, ZPZV<84>, ZPZV<444>>;
      };  // NOLINT
04451     template<> struct ConwayPolynomial<461, 1> { using ZPZ = aerobus::zpz<461>; using type =
      POLYV<ZPZV<1>, ZPZV<459>>; };  // NOLINT
04452     template<> struct ConwayPolynomial<461, 2> { using ZPZ = aerobus::zpz<461>; using type =
      POLYV<ZPZV<1>, ZPZV<460>, ZPZV<2>>; };  // NOLINT
04453     template<> struct ConwayPolynomial<461, 3> { using ZPZ = aerobus::zpz<461>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<459>>; };  // NOLINT
04454     template<> struct ConwayPolynomial<461, 4> { using ZPZ = aerobus::zpz<461>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<393>, ZPZV<2>>; };  // NOLINT
04455     template<> struct ConwayPolynomial<461, 5> { using ZPZ = aerobus::zpz<461>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<459>>; };  // NOLINT
04456     template<> struct ConwayPolynomial<461, 6> { using ZPZ = aerobus::zpz<461>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<439>, ZPZV<432>, ZPZV<329>, ZPZV<2>>; };  // NOLINT
04457     template<> struct ConwayPolynomial<461, 7> { using ZPZ = aerobus::zpz<461>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<459>>; };  // NOLINT
04458     template<> struct ConwayPolynomial<461, 8> { using ZPZ = aerobus::zpz<461>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<388>, ZPZV<449>, ZPZV<321>, ZPZV<2>>; };  //
      NOLINT
04459     template<> struct ConwayPolynomial<461, 9> { using ZPZ = aerobus::zpz<461>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<210>, ZPZV<276>, ZPZV<459>>;
      };  // NOLINT
04460     template<> struct ConwayPolynomial<463, 1> { using ZPZ = aerobus::zpz<463>; using type =
      POLYV<ZPZV<1>, ZPZV<460>>; };  // NOLINT
04461     template<> struct ConwayPolynomial<463, 2> { using ZPZ = aerobus::zpz<463>; using type =
      POLYV<ZPZV<1>, ZPZV<461>, ZPZV<3>>; };  // NOLINT
04462     template<> struct ConwayPolynomial<463, 3> { using ZPZ = aerobus::zpz<463>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<10>, ZPZV<460>>; };  // NOLINT
04463     template<> struct ConwayPolynomial<463, 4> { using ZPZ = aerobus::zpz<463>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<17>, ZPZV<262>, ZPZV<3>>; };  // NOLINT
04464     template<> struct ConwayPolynomial<463, 5> { using ZPZ = aerobus::zpz<463>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<460>>; };  // NOLINT
04465     template<> struct ConwayPolynomial<463, 6> { using ZPZ = aerobus::zpz<463>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<462>, ZPZV<51>, ZPZV<110>, ZPZV<3>>; };  // NOLINT
04466     template<> struct ConwayPolynomial<463, 7> { using ZPZ = aerobus::zpz<463>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<460>>; };  // NOLINT
04467     template<> struct ConwayPolynomial<463, 8> { using ZPZ = aerobus::zpz<463>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<234>, ZPZV<414>, ZPZV<396>, ZPZV<3>>; };  //
      NOLINT
04468     template<> struct ConwayPolynomial<463, 9> { using ZPZ = aerobus::zpz<463>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<433>, ZPZV<227>, ZPZV<460>>;
      };  // NOLINT
04469     template<> struct ConwayPolynomial<467, 1> { using ZPZ = aerobus::zpz<467>; using type =
      POLYV<ZPZV<1>, ZPZV<465>>; };  // NOLINT
04470     template<> struct ConwayPolynomial<467, 2> { using ZPZ = aerobus::zpz<467>; using type =
      POLYV<ZPZV<1>, ZPZV<463>, ZPZV<2>>; };  // NOLINT
04471     template<> struct ConwayPolynomial<467, 3> { using ZPZ = aerobus::zpz<467>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<465>>; };  // NOLINT
04472     template<> struct ConwayPolynomial<467, 4> { using ZPZ = aerobus::zpz<467>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<14>, ZPZV<353>, ZPZV<2>>; };  // NOLINT
04473     template<> struct ConwayPolynomial<467, 5> { using ZPZ = aerobus::zpz<467>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<465>>; };  // NOLINT
04474     template<> struct ConwayPolynomial<467, 6> { using ZPZ = aerobus::zpz<467>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<123>, ZPZV<62>, ZPZV<237>, ZPZV<2>>; };  // NOLINT
04475     template<> struct ConwayPolynomial<467, 7> { using ZPZ = aerobus::zpz<467>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<465>>; };  // NOLINT
04476     template<> struct ConwayPolynomial<467, 8> { using ZPZ = aerobus::zpz<467>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<318>, ZPZV<413>, ZPZV<289>, ZPZV<2>>; };  //
      NOLINT
04477     template<> struct ConwayPolynomial<467, 9> { using ZPZ = aerobus::zpz<467>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<397>, ZPZV<447>, ZPZV<465>>;
      };  // NOLINT
04478     template<> struct ConwayPolynomial<479, 1> { using ZPZ = aerobus::zpz<479>; using type =
      POLYV<ZPZV<1>, ZPZV<466>>; };  // NOLINT
04479     template<> struct ConwayPolynomial<479, 2> { using ZPZ = aerobus::zpz<479>; using type =
      POLYV<ZPZV<1>, ZPZV<474>, ZPZV<13>>; };  // NOLINT
04480     template<> struct ConwayPolynomial<479, 3> { using ZPZ = aerobus::zpz<479>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<466>>; };  // NOLINT
04481     template<> struct ConwayPolynomial<479, 4> { using ZPZ = aerobus::zpz<479>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<386>, ZPZV<13>>; };  // NOLINT
04482     template<> struct ConwayPolynomial<479, 5> { using ZPZ = aerobus::zpz<479>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<466>>; };  // NOLINT
04483     template<> struct ConwayPolynomial<479, 6> { using ZPZ = aerobus::zpz<479>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<243>, ZPZV<287>, ZPZV<334>, ZPZV<13>>; };  // NOLINT
04484     template<> struct ConwayPolynomial<479, 7> { using ZPZ = aerobus::zpz<479>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<466>>; };  // NOLINT
04485     template<> struct ConwayPolynomial<479, 8> { using ZPZ = aerobus::zpz<479>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<247>, ZPZV<440>, ZPZV<17>, ZPZV<13>>; };  //
      NOLINT
04486     template<> struct ConwayPolynomial<479, 9> { using ZPZ = aerobus::zpz<479>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<3>, ZPZV<185>, ZPZV<466>>; };
      // NOLINT
04487     template<> struct ConwayPolynomial<487, 1> { using ZPZ = aerobus::zpz<487>; using type =
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      POLYV<ZPZV<1>, ZPZV<484»; };  // NOLINT
04488     template<> struct ConwayPolynomial<487, 2> { using ZPZ = aerobus::zpz<487>; using type =
      POLYV<ZPZV<1>, ZPZV<485>, ZPZV<3»; };  // NOLINT
04489     template<> struct ConwayPolynomial<487, 3> { using ZPZ = aerobus::zpz<487>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<484»; };  // NOLINT
04490     template<> struct ConwayPolynomial<487, 4> { using ZPZ = aerobus::zpz<487>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<483>, ZPZV<3»; };  // NOLINT
04491     template<> struct ConwayPolynomial<487, 5> { using ZPZ = aerobus::zpz<487>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<484»; };  // NOLINT
04492     template<> struct ConwayPolynomial<487, 6> { using ZPZ = aerobus::zpz<487>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<450>, ZPZV<427>, ZPZV<185>, ZPZV<3»; };  // NOLINT
04493     template<> struct ConwayPolynomial<487, 7> { using ZPZ = aerobus::zpz<487>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<484»; };  // NOLINT
04494     template<> struct ConwayPolynomial<487, 8> { using ZPZ = aerobus::zpz<487>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<283>, ZPZV<249>, ZPZV<137>, ZPZV<3»; };  //
      NOLINT
04495     template<> struct ConwayPolynomial<487, 9> { using ZPZ = aerobus::zpz<487>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<271>, ZPZV<447>, ZPZV<484»;
      };  // NOLINT
04496     template<> struct ConwayPolynomial<491, 1> { using ZPZ = aerobus::zpz<491>; using type =
      POLYV<ZPZV<1>, ZPZV<489»; };  // NOLINT
04497     template<> struct ConwayPolynomial<491, 2> { using ZPZ = aerobus::zpz<491>; using type =
      POLYV<ZPZV<1>, ZPZV<487>, ZPZV<2»; };  // NOLINT
04498     template<> struct ConwayPolynomial<491, 3> { using ZPZ = aerobus::zpz<491>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<489»; };  // NOLINT
04499     template<> struct ConwayPolynomial<491, 4> { using ZPZ = aerobus::zpz<491>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<360>, ZPZV<2»; };  // NOLINT
04500     template<> struct ConwayPolynomial<491, 5> { using ZPZ = aerobus::zpz<491>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<489»; };  // NOLINT
04501     template<> struct ConwayPolynomial<491, 6> { using ZPZ = aerobus::zpz<491>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<369>, ZPZV<402>, ZPZV<125>, ZPZV<2»; };  // NOLINT
04502     template<> struct ConwayPolynomial<491, 7> { using ZPZ = aerobus::zpz<491>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<489»; };  // NOLINT
04503     template<> struct ConwayPolynomial<491, 8> { using ZPZ = aerobus::zpz<491>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<378>, ZPZV<372>, ZPZV<216>, ZPZV<2»; };  //
      NOLINT
04504     template<> struct ConwayPolynomial<491, 9> { using ZPZ = aerobus::zpz<491>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<149>, ZPZV<453>, ZPZV<489»;
      };  // NOLINT
04505     template<> struct ConwayPolynomial<499, 1> { using ZPZ = aerobus::zpz<499>; using type =
      POLYV<ZPZV<1>, ZPZV<492»; };  // NOLINT
04506     template<> struct ConwayPolynomial<499, 2> { using ZPZ = aerobus::zpz<499>; using type =
      POLYV<ZPZV<1>, ZPZV<493>, ZPZV<7»; };  // NOLINT
04507     template<> struct ConwayPolynomial<499, 3> { using ZPZ = aerobus::zpz<499>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<492»; };  // NOLINT
04508     template<> struct ConwayPolynomial<499, 4> { using ZPZ = aerobus::zpz<499>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<495>, ZPZV<7»; };  // NOLINT
04509     template<> struct ConwayPolynomial<499, 5> { using ZPZ = aerobus::zpz<499>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<17>, ZPZV<492»; };  // NOLINT
04510     template<> struct ConwayPolynomial<499, 6> { using ZPZ = aerobus::zpz<499>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<407>, ZPZV<191>, ZPZV<78>, ZPZV<7»; };  // NOLINT
04511     template<> struct ConwayPolynomial<499, 7> { using ZPZ = aerobus::zpz<499>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<492»; };  // NOLINT
04512     template<> struct ConwayPolynomial<499, 8> { using ZPZ = aerobus::zpz<499>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<288>, ZPZV<309>, ZPZV<200>, ZPZV<7»; };  //
      NOLINT
04513     template<> struct ConwayPolynomial<499, 9> { using ZPZ = aerobus::zpz<499>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<491>, ZPZV<222>, ZPZV<492»;
      };  // NOLINT
04514     template<> struct ConwayPolynomial<503, 1> { using ZPZ = aerobus::zpz<503>; using type =
      POLYV<ZPZV<1>, ZPZV<498»; };  // NOLINT
04515     template<> struct ConwayPolynomial<503, 2> { using ZPZ = aerobus::zpz<503>; using type =
      POLYV<ZPZV<1>, ZPZV<498>, ZPZV<5»; };  // NOLINT
04516     template<> struct ConwayPolynomial<503, 3> { using ZPZ = aerobus::zpz<503>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<498»; };  // NOLINT
04517     template<> struct ConwayPolynomial<503, 4> { using ZPZ = aerobus::zpz<503>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<325>, ZPZV<5»; };  // NOLINT
04518     template<> struct ConwayPolynomial<503, 5> { using ZPZ = aerobus::zpz<503>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<498»; };  // NOLINT
04519     template<> struct ConwayPolynomial<503, 6> { using ZPZ = aerobus::zpz<503>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<380>, ZPZV<292>, ZPZV<255>, ZPZV<5»; };  // NOLINT
04520     template<> struct ConwayPolynomial<503, 7> { using ZPZ = aerobus::zpz<503>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<498»; };  // NOLINT
04521     template<> struct ConwayPolynomial<503, 8> { using ZPZ = aerobus::zpz<503>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<441>, ZPZV<203>, ZPZV<316>, ZPZV<5»; };  //
      NOLINT
04522     template<> struct ConwayPolynomial<503, 9> { using ZPZ = aerobus::zpz<503>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<158>, ZPZV<337>, ZPZV<498»;
      };  // NOLINT
04523     template<> struct ConwayPolynomial<509, 1> { using ZPZ = aerobus::zpz<509>; using type =
      POLYV<ZPZV<1>, ZPZV<507»; };  // NOLINT
04524     template<> struct ConwayPolynomial<509, 2> { using ZPZ = aerobus::zpz<509>; using type =
      POLYV<ZPZV<1>, ZPZV<508>, ZPZV<2»; };  // NOLINT
04525     template<> struct ConwayPolynomial<509, 3> { using ZPZ = aerobus::zpz<509>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<507»; };  // NOLINT
04526     template<> struct ConwayPolynomial<509, 4> { using ZPZ = aerobus::zpz<509>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<408>, ZPZV<2»; };  // NOLINT
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04527     template<> struct ConwayPolynomial<509, 5> { using ZPZ = aerobus::zpz<509>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<507»; };  // NOLINT
04528     template<> struct ConwayPolynomial<509, 6> { using ZPZ = aerobus::zpz<509>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<350>, ZPZV<232>, ZPZV<41>, ZPZV<2»; };  // NOLINT
04529     template<> struct ConwayPolynomial<509, 7> { using ZPZ = aerobus::zpz<509>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<507»; };  // NOLINT
04530     template<> struct ConwayPolynomial<509, 8> { using ZPZ = aerobus::zpz<509>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<420>, ZPZV<473>, ZPZV<382>, ZPZV<2»; };  //
      NOLINT
04531     template<> struct ConwayPolynomial<509, 9> { using ZPZ = aerobus::zpz<509>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<314>, ZPZV<28>, ZPZV<507»;
      };  // NOLINT
04532     template<> struct ConwayPolynomial<521, 1> { using ZPZ = aerobus::zpz<521>; using type =
      POLYV<ZPZV<1>, ZPZV<518»; };  // NOLINT
04533     template<> struct ConwayPolynomial<521, 2> { using ZPZ = aerobus::zpz<521>; using type =
      POLYV<ZPZV<1>, ZPZV<515>, ZPZV<3»; };  // NOLINT
04534     template<> struct ConwayPolynomial<521, 3> { using ZPZ = aerobus::zpz<521>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<518»; };  // NOLINT
04535     template<> struct ConwayPolynomial<521, 4> { using ZPZ = aerobus::zpz<521>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<509>, ZPZV<3»; };  // NOLINT
04536     template<> struct ConwayPolynomial<521, 5> { using ZPZ = aerobus::zpz<521>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<518»; };  // NOLINT
04537     template<> struct ConwayPolynomial<521, 6> { using ZPZ = aerobus::zpz<521>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<315>, ZPZV<153>, ZPZV<280>, ZPZV<3»; };  // NOLINT
04538     template<> struct ConwayPolynomial<521, 7> { using ZPZ = aerobus::zpz<521>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<518»; };  // NOLINT
04539     template<> struct ConwayPolynomial<521, 8> { using ZPZ = aerobus::zpz<521>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<462>, ZPZV<407>, ZPZV<312>, ZPZV<3»; };  //
      NOLINT
04540     template<> struct ConwayPolynomial<521, 9> { using ZPZ = aerobus::zpz<521>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<181>, ZPZV<483>, ZPZV<518»;
      };  // NOLINT
04541     template<> struct ConwayPolynomial<523, 1> { using ZPZ = aerobus::zpz<523>; using type =
      POLYV<ZPZV<1>, ZPZV<521»; };  // NOLINT
04542     template<> struct ConwayPolynomial<523, 2> { using ZPZ = aerobus::zpz<523>; using type =
      POLYV<ZPZV<1>, ZPZV<522>, ZPZV<2»; };  // NOLINT
04543     template<> struct ConwayPolynomial<523, 3> { using ZPZ = aerobus::zpz<523>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<521»; };  // NOLINT
04544     template<> struct ConwayPolynomial<523, 4> { using ZPZ = aerobus::zpz<523>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<382>, ZPZV<2»; };  // NOLINT
04545     template<> struct ConwayPolynomial<523, 5> { using ZPZ = aerobus::zpz<523>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<521»; };  // NOLINT
04546     template<> struct ConwayPolynomial<523, 6> { using ZPZ = aerobus::zpz<523>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<475>, ZPZV<371>, ZPZV<2»; };  // NOLINT
04547     template<> struct ConwayPolynomial<523, 7> { using ZPZ = aerobus::zpz<523>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<521»; };  // NOLINT
04548     template<> struct ConwayPolynomial<523, 8> { using ZPZ = aerobus::zpz<523>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<518>, ZPZV<184>, ZPZV<380>, ZPZV<2»; };  //
      NOLINT
04549     template<> struct ConwayPolynomial<523, 9> { using ZPZ = aerobus::zpz<523>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<19>, ZPZV<342>, ZPZV<145>, ZPZV<521»;
      };  // NOLINT
04550     template<> struct ConwayPolynomial<541, 1> { using ZPZ = aerobus::zpz<541>; using type =
      POLYV<ZPZV<1>, ZPZV<539»; };  // NOLINT
04551     template<> struct ConwayPolynomial<541, 2> { using ZPZ = aerobus::zpz<541>; using type =
      POLYV<ZPZV<1>, ZPZV<537>, ZPZV<2»; };  // NOLINT
04552     template<> struct ConwayPolynomial<541, 3> { using ZPZ = aerobus::zpz<541>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<539»; };  // NOLINT
04553     template<> struct ConwayPolynomial<541, 4> { using ZPZ = aerobus::zpz<541>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<333>, ZPZV<2»; };  // NOLINT
04554     template<> struct ConwayPolynomial<541, 5> { using ZPZ = aerobus::zpz<541>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<539»; };  // NOLINT
04555     template<> struct ConwayPolynomial<541, 6> { using ZPZ = aerobus::zpz<541>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<239>, ZPZV<320>, ZPZV<69>, ZPZV<2»; };  // NOLINT
04556     template<> struct ConwayPolynomial<541, 7> { using ZPZ = aerobus::zpz<541>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<539»; };  // NOLINT
04557     template<> struct ConwayPolynomial<541, 8> { using ZPZ = aerobus::zpz<541>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<376>, ZPZV<108>, ZPZV<113>, ZPZV<2»; };  //
      NOLINT
04558     template<> struct ConwayPolynomial<541, 9> { using ZPZ = aerobus::zpz<541>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<16>, ZPZV<340>, ZPZV<318>, ZPZV<539»;
      };  // NOLINT
04559     template<> struct ConwayPolynomial<547, 1> { using ZPZ = aerobus::zpz<547>; using type =
      POLYV<ZPZV<1>, ZPZV<545»; };  // NOLINT
04560     template<> struct ConwayPolynomial<547, 2> { using ZPZ = aerobus::zpz<547>; using type =
      POLYV<ZPZV<1>, ZPZV<543>, ZPZV<2»; };  // NOLINT
04561     template<> struct ConwayPolynomial<547, 3> { using ZPZ = aerobus::zpz<547>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<545»; };  // NOLINT
04562     template<> struct ConwayPolynomial<547, 4> { using ZPZ = aerobus::zpz<547>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<334>, ZPZV<2»; };  // NOLINT
04563     template<> struct ConwayPolynomial<547, 5> { using ZPZ = aerobus::zpz<547>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<545»; };  // NOLINT
04564     template<> struct ConwayPolynomial<547, 6> { using ZPZ = aerobus::zpz<547>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<334>, ZPZV<153>, ZPZV<423>, ZPZV<2»; };  // NOLINT
04565     template<> struct ConwayPolynomial<547, 7> { using ZPZ = aerobus::zpz<547>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<545»; };  // NOLINT
04566     template<> struct ConwayPolynomial<547, 8> { using ZPZ = aerobus::zpz<547>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<368>, ZPZV<20>, ZPZV<180>, ZPZV<2»; };  //
      NOLINT
04567     template<> struct ConwayPolynomial<547, 9> { using ZPZ = aerobus::zpz<547>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<238>, ZPZV<263>, ZPZV<545»;
      };  // NOLINT
04568     template<> struct ConwayPolynomial<557, 1> { using ZPZ = aerobus::zpz<557>; using type =
      POLYV<ZPZV<1>, ZPZV<555»; };  // NOLINT
04569     template<> struct ConwayPolynomial<557, 2> { using ZPZ = aerobus::zpz<557>; using type =
      POLYV<ZPZV<1>, ZPZV<553>, ZPZV<2»; };  // NOLINT
04570     template<> struct ConwayPolynomial<557, 3> { using ZPZ = aerobus::zpz<557>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<555»; };  // NOLINT
04571     template<> struct ConwayPolynomial<557, 4> { using ZPZ = aerobus::zpz<557>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<430>, ZPZV<2»; };  // NOLINT
04572     template<> struct ConwayPolynomial<557, 5> { using ZPZ = aerobus::zpz<557>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<555»; };  // NOLINT
04573     template<> struct ConwayPolynomial<557, 6> { using ZPZ = aerobus::zpz<557>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<202>, ZPZV<192>, ZPZV<253>, ZPZV<2»; };  // NOLINT
04574     template<> struct ConwayPolynomial<557, 7> { using ZPZ = aerobus::zpz<557>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<555»; };  // NOLINT
04575     template<> struct ConwayPolynomial<557, 8> { using ZPZ = aerobus::zpz<557>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<480>, ZPZV<384>, ZPZV<113>, ZPZV<2»; };  //
      NOLINT
04576     template<> struct ConwayPolynomial<557, 9> { using ZPZ = aerobus::zpz<557>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<456>, ZPZV<434>, ZPZV<555»;
      };  // NOLINT
04577     template<> struct ConwayPolynomial<563, 1> { using ZPZ = aerobus::zpz<563>; using type =
      POLYV<ZPZV<1>, ZPZV<561»; };  // NOLINT
04578     template<> struct ConwayPolynomial<563, 2> { using ZPZ = aerobus::zpz<563>; using type =
      POLYV<ZPZV<1>, ZPZV<559>, ZPZV<2»; };  // NOLINT
04579     template<> struct ConwayPolynomial<563, 3> { using ZPZ = aerobus::zpz<563>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<561»; };  // NOLINT
04580     template<> struct ConwayPolynomial<563, 4> { using ZPZ = aerobus::zpz<563>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<20>, ZPZV<399>, ZPZV<2»; };  // NOLINT
04581     template<> struct ConwayPolynomial<563, 5> { using ZPZ = aerobus::zpz<563>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<561»; };  // NOLINT
04582     template<> struct ConwayPolynomial<563, 6> { using ZPZ = aerobus::zpz<563>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<122>, ZPZV<303>, ZPZV<246>, ZPZV<2»; };  // NOLINT
04583     template<> struct ConwayPolynomial<563, 7> { using ZPZ = aerobus::zpz<563>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<561»; };  // NOLINT
04584     template<> struct ConwayPolynomial<563, 8> { using ZPZ = aerobus::zpz<563>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<503>, ZPZV<176>, ZPZV<509>, ZPZV<2»; };  //
      NOLINT
04585     template<> struct ConwayPolynomial<563, 9> { using ZPZ = aerobus::zpz<563>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<15>, ZPZV<19>, ZPZV<561»; };
      // NOLINT
04586     template<> struct ConwayPolynomial<569, 1> { using ZPZ = aerobus::zpz<569>; using type =
      POLYV<ZPZV<1>, ZPZV<566»; };  // NOLINT
04587     template<> struct ConwayPolynomial<569, 2> { using ZPZ = aerobus::zpz<569>; using type =
      POLYV<ZPZV<1>, ZPZV<568>, ZPZV<3»; };  // NOLINT
04588     template<> struct ConwayPolynomial<569, 3> { using ZPZ = aerobus::zpz<569>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<566»; };  // NOLINT
04589     template<> struct ConwayPolynomial<569, 4> { using ZPZ = aerobus::zpz<569>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<381>, ZPZV<3»; };  // NOLINT
04590     template<> struct ConwayPolynomial<569, 5> { using ZPZ = aerobus::zpz<569>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<566»; };  // NOLINT
04591     template<> struct ConwayPolynomial<569, 6> { using ZPZ = aerobus::zpz<569>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<50>, ZPZV<263>, ZPZV<480>, ZPZV<3»; };  // NOLINT
04592     template<> struct ConwayPolynomial<569, 7> { using ZPZ = aerobus::zpz<569>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<566»; };  // NOLINT
04593     template<> struct ConwayPolynomial<569, 8> { using ZPZ = aerobus::zpz<569>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<527>, ZPZV<173>, ZPZV<241>, ZPZV<3»; };  //
      NOLINT
04594     template<> struct ConwayPolynomial<569, 9> { using ZPZ = aerobus::zpz<569>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<478>, ZPZV<566>, ZPZV<566»;
      };  // NOLINT
04595     template<> struct ConwayPolynomial<571, 1> { using ZPZ = aerobus::zpz<571>; using type =
      POLYV<ZPZV<1>, ZPZV<568»; };  // NOLINT
04596     template<> struct ConwayPolynomial<571, 2> { using ZPZ = aerobus::zpz<571>; using type =
      POLYV<ZPZV<1>, ZPZV<570>, ZPZV<3»; };  // NOLINT
04597     template<> struct ConwayPolynomial<571, 3> { using ZPZ = aerobus::zpz<571>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<568»; };  // NOLINT
04598     template<> struct ConwayPolynomial<571, 4> { using ZPZ = aerobus::zpz<571>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<402>, ZPZV<3»; };  // NOLINT
04599     template<> struct ConwayPolynomial<571, 5> { using ZPZ = aerobus::zpz<571>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<568»; };  // NOLINT
04600     template<> struct ConwayPolynomial<571, 6> { using ZPZ = aerobus::zpz<571>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<221>, ZPZV<295>, ZPZV<33>, ZPZV<3»; };  // NOLINT
04601     template<> struct ConwayPolynomial<571, 7> { using ZPZ = aerobus::zpz<571>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<568»; };  // NOLINT
04602     template<> struct ConwayPolynomial<571, 8> { using ZPZ = aerobus::zpz<571>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<363>, ZPZV<119>, ZPZV<371>, ZPZV<3»; };  //
      NOLINT
04603     template<> struct ConwayPolynomial<571, 9> { using ZPZ = aerobus::zpz<571>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<34>, ZPZV<545>, ZPZV<179>, ZPZV<568»;
      };  // NOLINT
04604     template<> struct ConwayPolynomial<577, 1> { using ZPZ = aerobus::zpz<577>; using type =
      POLYV<ZPZV<1>, ZPZV<572»; };  // NOLINT
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04605     template<> struct ConwayPolynomial<577, 2> { using ZPZ = aerobus::zpz<577>; using type =
      POLYV<ZPZV<1>, ZPZV<572>, ZPZV<5»; };  // NOLINT
04606     template<> struct ConwayPolynomial<577, 3> { using ZPZ = aerobus::zpz<577>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<572»; };  // NOLINT
04607     template<> struct ConwayPolynomial<577, 4> { using ZPZ = aerobus::zpz<577>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<12>, ZPZV<494>, ZPZV<5»; };  // NOLINT
04608     template<> struct ConwayPolynomial<577, 5> { using ZPZ = aerobus::zpz<577>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<572»; };  // NOLINT
04609     template<> struct ConwayPolynomial<577, 6> { using ZPZ = aerobus::zpz<577>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<450>, ZPZV<25>, ZPZV<283>, ZPZV<5»; };  // NOLINT
04610     template<> struct ConwayPolynomial<577, 7> { using ZPZ = aerobus::zpz<577>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<572»; };  // NOLINT
04611     template<> struct ConwayPolynomial<577, 8> { using ZPZ = aerobus::zpz<577>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<450>, ZPZV<545>, ZPZV<321>, ZPZV<5»; };  //
      NOLINT
04612     template<> struct ConwayPolynomial<577, 9> { using ZPZ = aerobus::zpz<577>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<17>, ZPZV<576>, ZPZV<449>, ZPZV<572»;
      };  // NOLINT
04613     template<> struct ConwayPolynomial<587, 1> { using ZPZ = aerobus::zpz<587>; using type =
      POLYV<ZPZV<1>, ZPZV<585»; };  // NOLINT
04614     template<> struct ConwayPolynomial<587, 2> { using ZPZ = aerobus::zpz<587>; using type =
      POLYV<ZPZV<1>, ZPZV<583>, ZPZV<2»; };  // NOLINT
04615     template<> struct ConwayPolynomial<587, 3> { using ZPZ = aerobus::zpz<587>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<585»; };  // NOLINT
04616     template<> struct ConwayPolynomial<587, 4> { using ZPZ = aerobus::zpz<587>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<16>, ZPZV<444>, ZPZV<2»; };  // NOLINT
04617     template<> struct ConwayPolynomial<587, 5> { using ZPZ = aerobus::zpz<587>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<585»; };  // NOLINT
04618     template<> struct ConwayPolynomial<587, 6> { using ZPZ = aerobus::zpz<587>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<204>, ZPZV<121>, ZPZV<226>, ZPZV<2»; };  // NOLINT
04619     template<> struct ConwayPolynomial<587, 7> { using ZPZ = aerobus::zpz<587>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<585»; };  // NOLINT
04620     template<> struct ConwayPolynomial<587, 8> { using ZPZ = aerobus::zpz<587>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<492>, ZPZV<44>, ZPZV<91>, ZPZV<2»; };  //
      NOLINT
04621     template<> struct ConwayPolynomial<587, 9> { using ZPZ = aerobus::zpz<587>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<333>, ZPZV<55>, ZPZV<585»;
      };  // NOLINT
04622     template<> struct ConwayPolynomial<593, 1> { using ZPZ = aerobus::zpz<593>; using type =
      POLYV<ZPZV<1>, ZPZV<590»; };  // NOLINT
04623     template<> struct ConwayPolynomial<593, 2> { using ZPZ = aerobus::zpz<593>; using type =
      POLYV<ZPZV<1>, ZPZV<592>, ZPZV<3»; };  // NOLINT
04624     template<> struct ConwayPolynomial<593, 3> { using ZPZ = aerobus::zpz<593>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<590»; };  // NOLINT
04625     template<> struct ConwayPolynomial<593, 4> { using ZPZ = aerobus::zpz<593>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<419>, ZPZV<3»; };  // NOLINT
04626     template<> struct ConwayPolynomial<593, 5> { using ZPZ = aerobus::zpz<593>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<590»; };  // NOLINT
04627     template<> struct ConwayPolynomial<593, 6> { using ZPZ = aerobus::zpz<593>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<345>, ZPZV<65>, ZPZV<478>, ZPZV<3»; };  // NOLINT
04628     template<> struct ConwayPolynomial<593, 7> { using ZPZ = aerobus::zpz<593>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<590»; };  // NOLINT
04629     template<> struct ConwayPolynomial<593, 8> { using ZPZ = aerobus::zpz<593>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<350>, ZPZV<291>, ZPZV<495>, ZPZV<3»; };  //
      NOLINT
04630     template<> struct ConwayPolynomial<593, 9> { using ZPZ = aerobus::zpz<593>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<223>, ZPZV<523>, ZPZV<590»;
      };  // NOLINT
04631     template<> struct ConwayPolynomial<599, 1> { using ZPZ = aerobus::zpz<599>; using type =
      POLYV<ZPZV<1>, ZPZV<592»; };  // NOLINT
04632     template<> struct ConwayPolynomial<599, 2> { using ZPZ = aerobus::zpz<599>; using type =
      POLYV<ZPZV<1>, ZPZV<598>, ZPZV<7»; };  // NOLINT
04633     template<> struct ConwayPolynomial<599, 3> { using ZPZ = aerobus::zpz<599>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<592»; };  // NOLINT
04634     template<> struct ConwayPolynomial<599, 4> { using ZPZ = aerobus::zpz<599>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<419>, ZPZV<7»; };  // NOLINT
04635     template<> struct ConwayPolynomial<599, 5> { using ZPZ = aerobus::zpz<599>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<592»; };  // NOLINT
04636     template<> struct ConwayPolynomial<599, 6> { using ZPZ = aerobus::zpz<599>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<515>, ZPZV<274>, ZPZV<586>, ZPZV<7»; };  // NOLINT
04637     template<> struct ConwayPolynomial<599, 7> { using ZPZ = aerobus::zpz<599>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<592»; };  // NOLINT
04638     template<> struct ConwayPolynomial<599, 8> { using ZPZ = aerobus::zpz<599>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<440>, ZPZV<37>, ZPZV<124>, ZPZV<7»; };  //
      NOLINT
04639     template<> struct ConwayPolynomial<599, 9> { using ZPZ = aerobus::zpz<599>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<114>, ZPZV<98>, ZPZV<592»;
      };  // NOLINT
04640     template<> struct ConwayPolynomial<601, 1> { using ZPZ = aerobus::zpz<601>; using type =
      POLYV<ZPZV<1>, ZPZV<594»; };  // NOLINT
04641     template<> struct ConwayPolynomial<601, 2> { using ZPZ = aerobus::zpz<601>; using type =
      POLYV<ZPZV<1>, ZPZV<598>, ZPZV<7»; };  // NOLINT
04642     template<> struct ConwayPolynomial<601, 3> { using ZPZ = aerobus::zpz<601>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<594»; };  // NOLINT
04643     template<> struct ConwayPolynomial<601, 4> { using ZPZ = aerobus::zpz<601>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<14>, ZPZV<347>, ZPZV<7»; };  // NOLINT
04644     template<> struct ConwayPolynomial<601, 5> { using ZPZ = aerobus::zpz<601>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<594»; };  // NOLINT
04645     template<> struct ConwayPolynomial<601, 6> { using ZPZ = aerobus::zpz<601>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<128>, ZPZV<440>, ZPZV<49>, ZPZV<7»; };  // NOLINT
04646     template<> struct ConwayPolynomial<601, 7> { using ZPZ = aerobus::zpz<601>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<594»; };  // NOLINT
04647     template<> struct ConwayPolynomial<601, 8> { using ZPZ = aerobus::zpz<601>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<550>, ZPZV<241>, ZPZV<490>, ZPZV<7»; };  //
      NOLINT
04648     template<> struct ConwayPolynomial<601, 9> { using ZPZ = aerobus::zpz<601>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<487>, ZPZV<590>, ZPZV<594»;
      };  // NOLINT
04649     template<> struct ConwayPolynomial<607, 1> { using ZPZ = aerobus::zpz<607>; using type =
      POLYV<ZPZV<1>, ZPZV<604»; };  // NOLINT
04650     template<> struct ConwayPolynomial<607, 2> { using ZPZ = aerobus::zpz<607>; using type =
      POLYV<ZPZV<1>, ZPZV<606>, ZPZV<3»; };  // NOLINT
04651     template<> struct ConwayPolynomial<607, 3> { using ZPZ = aerobus::zpz<607>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<604»; };  // NOLINT
04652     template<> struct ConwayPolynomial<607, 4> { using ZPZ = aerobus::zpz<607>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<449>, ZPZV<3»; };  // NOLINT
04653     template<> struct ConwayPolynomial<607, 5> { using ZPZ = aerobus::zpz<607>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<604»; };  // NOLINT
04654     template<> struct ConwayPolynomial<607, 6> { using ZPZ = aerobus::zpz<607>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<45>, ZPZV<478>, ZPZV<3»; };  // NOLINT
04655     template<> struct ConwayPolynomial<607, 7> { using ZPZ = aerobus::zpz<607>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<604»; };  // NOLINT
04656     template<> struct ConwayPolynomial<607, 8> { using ZPZ = aerobus::zpz<607>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<468>, ZPZV<35>, ZPZV<449>, ZPZV<3»; };  //
      NOLINT
04657     template<> struct ConwayPolynomial<607, 9> { using ZPZ = aerobus::zpz<607>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<444>, ZPZV<129>, ZPZV<604»;
      };  // NOLINT
04658     template<> struct ConwayPolynomial<613, 1> { using ZPZ = aerobus::zpz<613>; using type =
      POLYV<ZPZV<1>, ZPZV<611»; };  // NOLINT
04659     template<> struct ConwayPolynomial<613, 2> { using ZPZ = aerobus::zpz<613>; using type =
      POLYV<ZPZV<1>, ZPZV<609>, ZPZV<2»; };  // NOLINT
04660     template<> struct ConwayPolynomial<613, 3> { using ZPZ = aerobus::zpz<613>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<611»; };  // NOLINT
04661     template<> struct ConwayPolynomial<613, 4> { using ZPZ = aerobus::zpz<613>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<12>, ZPZV<333>, ZPZV<2»; };  // NOLINT
04662     template<> struct ConwayPolynomial<613, 5> { using ZPZ = aerobus::zpz<613>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<32>, ZPZV<611»; };  // NOLINT
04663     template<> struct ConwayPolynomial<613, 6> { using ZPZ = aerobus::zpz<613>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<609>, ZPZV<595>, ZPZV<601>, ZPZV<2»; };  // NOLINT
04664     template<> struct ConwayPolynomial<613, 7> { using ZPZ = aerobus::zpz<613>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<611»; };  // NOLINT
04665     template<> struct ConwayPolynomial<613, 8> { using ZPZ = aerobus::zpz<613>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<489>, ZPZV<57>, ZPZV<539>, ZPZV<2»; };  //
      NOLINT
04666     template<> struct ConwayPolynomial<613, 9> { using ZPZ = aerobus::zpz<613>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<513>, ZPZV<536>, ZPZV<611»;
      };  // NOLINT
04667     template<> struct ConwayPolynomial<617, 1> { using ZPZ = aerobus::zpz<617>; using type =
      POLYV<ZPZV<1>, ZPZV<614»; };  // NOLINT
04668     template<> struct ConwayPolynomial<617, 2> { using ZPZ = aerobus::zpz<617>; using type =
      POLYV<ZPZV<1>, ZPZV<612>, ZPZV<3»; };  // NOLINT
04669     template<> struct ConwayPolynomial<617, 3> { using ZPZ = aerobus::zpz<617>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<614»; };  // NOLINT
04670     template<> struct ConwayPolynomial<617, 4> { using ZPZ = aerobus::zpz<617>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<503>, ZPZV<3»; };  // NOLINT
04671     template<> struct ConwayPolynomial<617, 5> { using ZPZ = aerobus::zpz<617>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<614»; };  // NOLINT
04672     template<> struct ConwayPolynomial<617, 6> { using ZPZ = aerobus::zpz<617>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<318>, ZPZV<595>, ZPZV<310>, ZPZV<3»; };  // NOLINT
04673     template<> struct ConwayPolynomial<617, 7> { using ZPZ = aerobus::zpz<617>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<614»; };  // NOLINT
04674     template<> struct ConwayPolynomial<617, 8> { using ZPZ = aerobus::zpz<617>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<519>, ZPZV<501>, ZPZV<155>, ZPZV<3»; };  //
      NOLINT
04675     template<> struct ConwayPolynomial<617, 9> { using ZPZ = aerobus::zpz<617>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<388>, ZPZV<543>, ZPZV<614»;
      };  // NOLINT
04676     template<> struct ConwayPolynomial<619, 1> { using ZPZ = aerobus::zpz<619>; using type =
      POLYV<ZPZV<1>, ZPZV<617»; };  // NOLINT
04677     template<> struct ConwayPolynomial<619, 2> { using ZPZ = aerobus::zpz<619>; using type =
      POLYV<ZPZV<1>, ZPZV<618>, ZPZV<2»; };  // NOLINT
04678     template<> struct ConwayPolynomial<619, 3> { using ZPZ = aerobus::zpz<619>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<617»; };  // NOLINT
04679     template<> struct ConwayPolynomial<619, 4> { using ZPZ = aerobus::zpz<619>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<492>, ZPZV<2»; };  // NOLINT
04680     template<> struct ConwayPolynomial<619, 5> { using ZPZ = aerobus::zpz<619>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<617»; };  // NOLINT
04681     template<> struct ConwayPolynomial<619, 6> { using ZPZ = aerobus::zpz<619>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<238>, ZPZV<468>, ZPZV<347>, ZPZV<2»; };  // NOLINT
04682     template<> struct ConwayPolynomial<619, 7> { using ZPZ = aerobus::zpz<619>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<617»; };  // NOLINT
04683     template<> struct ConwayPolynomial<619, 8> { using ZPZ = aerobus::zpz<619>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<416>, ZPZV<383>, ZPZV<225>, ZPZV<2»; };  //
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      NOLINT
04684     template<> struct ConwayPolynomial<619, 9> { using ZPZ = aerobus::zpz<619>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<579>, ZPZV<310>, ZPZV<617»;
      };  // NOLINT
04685     template<> struct ConwayPolynomial<631, 1> { using ZPZ = aerobus::zpz<631>; using type =
      POLYV<ZPZV<1>, ZPZV<628»; };  // NOLINT
04686     template<> struct ConwayPolynomial<631, 2> { using ZPZ = aerobus::zpz<631>; using type =
      POLYV<ZPZV<1>, ZPZV<629>, ZPZV<3»; };  // NOLINT
04687     template<> struct ConwayPolynomial<631, 3> { using ZPZ = aerobus::zpz<631>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<628»; };  // NOLINT
04688     template<> struct ConwayPolynomial<631, 4> { using ZPZ = aerobus::zpz<631>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<376>, ZPZV<3»; };  // NOLINT
04689     template<> struct ConwayPolynomial<631, 5> { using ZPZ = aerobus::zpz<631>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<628»; };  // NOLINT
04690     template<> struct ConwayPolynomial<631, 6> { using ZPZ = aerobus::zpz<631>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<516>, ZPZV<541>, ZPZV<106>, ZPZV<3»; };  // NOLINT
04691     template<> struct ConwayPolynomial<631, 7> { using ZPZ = aerobus::zpz<631>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<628»; };  // NOLINT
04692     template<> struct ConwayPolynomial<631, 8> { using ZPZ = aerobus::zpz<631>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<379>, ZPZV<516>, ZPZV<187>, ZPZV<3»; };  //
      NOLINT
04693     template<> struct ConwayPolynomial<631, 9> { using ZPZ = aerobus::zpz<631>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<296>, ZPZV<413>, ZPZV<628»;
      };  // NOLINT
04694     template<> struct ConwayPolynomial<641, 1> { using ZPZ = aerobus::zpz<641>; using type =
      POLYV<ZPZV<1>, ZPZV<638»; };  // NOLINT
04695     template<> struct ConwayPolynomial<641, 2> { using ZPZ = aerobus::zpz<641>; using type =
      POLYV<ZPZV<1>, ZPZV<635>, ZPZV<3»; };  // NOLINT
04696     template<> struct ConwayPolynomial<641, 3> { using ZPZ = aerobus::zpz<641>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<638»; };  // NOLINT
04697     template<> struct ConwayPolynomial<641, 4> { using ZPZ = aerobus::zpz<641>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<629>, ZPZV<3»; };  // NOLINT
04698     template<> struct ConwayPolynomial<641, 5> { using ZPZ = aerobus::zpz<641>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<638»; };  // NOLINT
04699     template<> struct ConwayPolynomial<641, 6> { using ZPZ = aerobus::zpz<641>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<105>, ZPZV<557>, ZPZV<294>, ZPZV<3»; };  // NOLINT
04700     template<> struct ConwayPolynomial<641, 7> { using ZPZ = aerobus::zpz<641>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<638»; };  // NOLINT
04701     template<> struct ConwayPolynomial<641, 8> { using ZPZ = aerobus::zpz<641>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<356>, ZPZV<392>, ZPZV<332>, ZPZV<3»; };  //
      NOLINT
04702     template<> struct ConwayPolynomial<641, 9> { using ZPZ = aerobus::zpz<641>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<66>, ZPZV<141>, ZPZV<638»;
      };  // NOLINT
04703     template<> struct ConwayPolynomial<643, 1> { using ZPZ = aerobus::zpz<643>; using type =
      POLYV<ZPZV<1>, ZPZV<632»; };  // NOLINT
04704     template<> struct ConwayPolynomial<643, 2> { using ZPZ = aerobus::zpz<643>; using type =
      POLYV<ZPZV<1>, ZPZV<641>, ZPZV<11»; };  // NOLINT
04705     template<> struct ConwayPolynomial<643, 3> { using ZPZ = aerobus::zpz<643>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<632»; };  // NOLINT
04706     template<> struct ConwayPolynomial<643, 4> { using ZPZ = aerobus::zpz<643>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<600>, ZPZV<11»; };  // NOLINT
04707     template<> struct ConwayPolynomial<643, 5> { using ZPZ = aerobus::zpz<643>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<632»; };  // NOLINT
04708     template<> struct ConwayPolynomial<643, 6> { using ZPZ = aerobus::zpz<643>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<345>, ZPZV<412>, ZPZV<293>, ZPZV<11»; };  // NOLINT
04709     template<> struct ConwayPolynomial<643, 7> { using ZPZ = aerobus::zpz<643>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<632»; };  // NOLINT
04710     template<> struct ConwayPolynomial<643, 8> { using ZPZ = aerobus::zpz<643>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<631>, ZPZV<573>, ZPZV<569>, ZPZV<11»; };  //
      NOLINT
04711     template<> struct ConwayPolynomial<643, 9> { using ZPZ = aerobus::zpz<643>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<591>, ZPZV<475>, ZPZV<632»;
      };  // NOLINT
04712     template<> struct ConwayPolynomial<647, 1> { using ZPZ = aerobus::zpz<647>; using type =
      POLYV<ZPZV<1>, ZPZV<642»; };  // NOLINT
04713     template<> struct ConwayPolynomial<647, 2> { using ZPZ = aerobus::zpz<647>; using type =
      POLYV<ZPZV<1>, ZPZV<645>, ZPZV<5»; };  // NOLINT
04714     template<> struct ConwayPolynomial<647, 3> { using ZPZ = aerobus::zpz<647>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<642»; };  // NOLINT
04715     template<> struct ConwayPolynomial<647, 4> { using ZPZ = aerobus::zpz<647>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<643>, ZPZV<5»; };  // NOLINT
04716     template<> struct ConwayPolynomial<647, 5> { using ZPZ = aerobus::zpz<647>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<642»; };  // NOLINT
04717     template<> struct ConwayPolynomial<647, 6> { using ZPZ = aerobus::zpz<647>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<308>, ZPZV<385>, ZPZV<642>, ZPZV<5»; };  // NOLINT
04718     template<> struct ConwayPolynomial<647, 7> { using ZPZ = aerobus::zpz<647>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<642»; };  // NOLINT
04719     template<> struct ConwayPolynomial<647, 8> { using ZPZ = aerobus::zpz<647>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<603>, ZPZV<259>, ZPZV<271>, ZPZV<5»; };  //
      NOLINT
04720     template<> struct ConwayPolynomial<647, 9> { using ZPZ = aerobus::zpz<647>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<561>, ZPZV<123>, ZPZV<642»;
      };  // NOLINT
04721     template<> struct ConwayPolynomial<653, 1> { using ZPZ = aerobus::zpz<653>; using type =
      POLYV<ZPZV<1>, ZPZV<651»; };  // NOLINT
04722     template<> struct ConwayPolynomial<653, 2> { using ZPZ = aerobus::zpz<653>; using type =
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      POLYV<ZPZV<1>, ZPZV<649>, ZPZV<2»; };  // NOLINT
04723     template<> struct ConwayPolynomial<653, 3> { using ZPZ = aerobus::zpz<653>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<651»; };  // NOLINT
04724     template<> struct ConwayPolynomial<653, 4> { using ZPZ = aerobus::zpz<653>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<596>, ZPZV<2»; };  // NOLINT
04725     template<> struct ConwayPolynomial<653, 5> { using ZPZ = aerobus::zpz<653>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<651»; };  // NOLINT
04726     template<> struct ConwayPolynomial<653, 6> { using ZPZ = aerobus::zpz<653>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<45>, ZPZV<220>, ZPZV<242>, ZPZV<2»; };  // NOLINT
04727     template<> struct ConwayPolynomial<653, 7> { using ZPZ = aerobus::zpz<653>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<651»; };  // NOLINT
04728     template<> struct ConwayPolynomial<653, 8> { using ZPZ = aerobus::zpz<653>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<385>, ZPZV<18>, ZPZV<296>, ZPZV<2»; };  //
      NOLINT
04729     template<> struct ConwayPolynomial<653, 9> { using ZPZ = aerobus::zpz<653>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<365>, ZPZV<60>, ZPZV<651»;
      };  // NOLINT
04730     template<> struct ConwayPolynomial<659, 1> { using ZPZ = aerobus::zpz<659>; using type =
      POLYV<ZPZV<1>, ZPZV<657»; };  // NOLINT
04731     template<> struct ConwayPolynomial<659, 2> { using ZPZ = aerobus::zpz<659>; using type =
      POLYV<ZPZV<1>, ZPZV<655>, ZPZV<2»; };  // NOLINT
04732     template<> struct ConwayPolynomial<659, 3> { using ZPZ = aerobus::zpz<659>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<657»; };  // NOLINT
04733     template<> struct ConwayPolynomial<659, 4> { using ZPZ = aerobus::zpz<659>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<351>, ZPZV<2»; };  // NOLINT
04734     template<> struct ConwayPolynomial<659, 5> { using ZPZ = aerobus::zpz<659>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<657»; };  // NOLINT
04735     template<> struct ConwayPolynomial<659, 6> { using ZPZ = aerobus::zpz<659>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<371>, ZPZV<105>, ZPZV<223>, ZPZV<2»; };  // NOLINT
04736     template<> struct ConwayPolynomial<659, 7> { using ZPZ = aerobus::zpz<659>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<657»; };  // NOLINT
04737     template<> struct ConwayPolynomial<659, 8> { using ZPZ = aerobus::zpz<659>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<358>, ZPZV<246>, ZPZV<90>, ZPZV<2»; };  //
      NOLINT
04738     template<> struct ConwayPolynomial<659, 9> { using ZPZ = aerobus::zpz<659>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<592>, ZPZV<46>, ZPZV<657»;
      };  // NOLINT
04739     template<> struct ConwayPolynomial<661, 1> { using ZPZ = aerobus::zpz<661>; using type =
      POLYV<ZPZV<1>, ZPZV<659»; };  // NOLINT
04740     template<> struct ConwayPolynomial<661, 2> { using ZPZ = aerobus::zpz<661>; using type =
      POLYV<ZPZV<1>, ZPZV<660>, ZPZV<2»; };  // NOLINT
04741     template<> struct ConwayPolynomial<661, 3> { using ZPZ = aerobus::zpz<661>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<659»; };  // NOLINT
04742     template<> struct ConwayPolynomial<661, 4> { using ZPZ = aerobus::zpz<661>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<616>, ZPZV<2»; };  // NOLINT
04743     template<> struct ConwayPolynomial<661, 5> { using ZPZ = aerobus::zpz<661>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<19>, ZPZV<659»; };  // NOLINT
04744     template<> struct ConwayPolynomial<661, 6> { using ZPZ = aerobus::zpz<661>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<551>, ZPZV<456>, ZPZV<382>, ZPZV<2»; };  // NOLINT
04745     template<> struct ConwayPolynomial<661, 7> { using ZPZ = aerobus::zpz<661>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<659»; };  // NOLINT
04746     template<> struct ConwayPolynomial<661, 8> { using ZPZ = aerobus::zpz<661>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<612>, ZPZV<285>, ZPZV<72>, ZPZV<2»; };  //
      NOLINT
04747     template<> struct ConwayPolynomial<661, 9> { using ZPZ = aerobus::zpz<661>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<18>, ZPZV<389>, ZPZV<220>, ZPZV<659»;
      };  // NOLINT
04748     template<> struct ConwayPolynomial<673, 1> { using ZPZ = aerobus::zpz<673>; using type =
      POLYV<ZPZV<1>, ZPZV<668»; };  // NOLINT
04749     template<> struct ConwayPolynomial<673, 2> { using ZPZ = aerobus::zpz<673>; using type =
      POLYV<ZPZV<1>, ZPZV<672>, ZPZV<5»; };  // NOLINT
04750     template<> struct ConwayPolynomial<673, 3> { using ZPZ = aerobus::zpz<673>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<668»; };  // NOLINT
04751     template<> struct ConwayPolynomial<673, 4> { using ZPZ = aerobus::zpz<673>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<416>, ZPZV<5»; };  // NOLINT
04752     template<> struct ConwayPolynomial<673, 5> { using ZPZ = aerobus::zpz<673>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<668»; };  // NOLINT
04753     template<> struct ConwayPolynomial<673, 6> { using ZPZ = aerobus::zpz<673>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<524>, ZPZV<248>, ZPZV<35>, ZPZV<5»; };  // NOLINT
04754     template<> struct ConwayPolynomial<673, 7> { using ZPZ = aerobus::zpz<673>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<668»; };  // NOLINT
04755     template<> struct ConwayPolynomial<673, 8> { using ZPZ = aerobus::zpz<673>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<669>, ZPZV<587>, ZPZV<302>, ZPZV<5»; };  //
      NOLINT
04756     template<> struct ConwayPolynomial<673, 9> { using ZPZ = aerobus::zpz<673>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<347>, ZPZV<553>, ZPZV<668»;
      };  // NOLINT
04757     template<> struct ConwayPolynomial<677, 1> { using ZPZ = aerobus::zpz<677>; using type =
      POLYV<ZPZV<1>, ZPZV<675»; };  // NOLINT
04758     template<> struct ConwayPolynomial<677, 2> { using ZPZ = aerobus::zpz<677>; using type =
      POLYV<ZPZV<1>, ZPZV<672>, ZPZV<2»; };  // NOLINT
04759     template<> struct ConwayPolynomial<677, 3> { using ZPZ = aerobus::zpz<677>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<675»; };  // NOLINT
04760     template<> struct ConwayPolynomial<677, 4> { using ZPZ = aerobus::zpz<677>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<631>, ZPZV<2»; };  // NOLINT
04761     template<> struct ConwayPolynomial<677, 5> { using ZPZ = aerobus::zpz<677>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<675»; };  // NOLINT
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04762     template<> struct ConwayPolynomial<677, 6> { using ZPZ = aerobus::zpz<677>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<446>, ZPZV<632>, ZPZV<50>, ZPZV<2>>; };  // NOLINT
04763     template<> struct ConwayPolynomial<677, 7> { using ZPZ = aerobus::zpz<677>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<675>>; };  // NOLINT
04764     template<> struct ConwayPolynomial<677, 8> { using ZPZ = aerobus::zpz<677>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<363>, ZPZV<619>, ZPZV<152>, ZPZV<2>>; };  //
      NOLINT
04765     template<> struct ConwayPolynomial<677, 9> { using ZPZ = aerobus::zpz<677>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<504>, ZPZV<404>, ZPZV<675>>;
      };  // NOLINT
04766     template<> struct ConwayPolynomial<683, 1> { using ZPZ = aerobus::zpz<683>; using type =
      POLYV<ZPZV<1>, ZPZV<678>>; };  // NOLINT
04767     template<> struct ConwayPolynomial<683, 2> { using ZPZ = aerobus::zpz<683>; using type =
      POLYV<ZPZV<1>, ZPZV<682>, ZPZV<5>>; };  // NOLINT
04768     template<> struct ConwayPolynomial<683, 3> { using ZPZ = aerobus::zpz<683>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<678>>; };  // NOLINT
04769     template<> struct ConwayPolynomial<683, 4> { using ZPZ = aerobus::zpz<683>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<455>, ZPZV<5>>; };  // NOLINT
04770     template<> struct ConwayPolynomial<683, 5> { using ZPZ = aerobus::zpz<683>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<678>>; };  // NOLINT
04771     template<> struct ConwayPolynomial<683, 6> { using ZPZ = aerobus::zpz<683>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<644>, ZPZV<109>, ZPZV<434>, ZPZV<5>>; };  // NOLINT
04772     template<> struct ConwayPolynomial<683, 7> { using ZPZ = aerobus::zpz<683>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<30>, ZPZV<678>>; };  // NOLINT
04773     template<> struct ConwayPolynomial<683, 8> { using ZPZ = aerobus::zpz<683>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<383>, ZPZV<184>, ZPZV<65>, ZPZV<5>>; };  //
      NOLINT
04774     template<> struct ConwayPolynomial<683, 9> { using ZPZ = aerobus::zpz<683>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<85>, ZPZV<444>, ZPZV<678>>;
      };  // NOLINT
04775     template<> struct ConwayPolynomial<691, 1> { using ZPZ = aerobus::zpz<691>; using type =
      POLYV<ZPZV<1>, ZPZV<688>>; };  // NOLINT
04776     template<> struct ConwayPolynomial<691, 2> { using ZPZ = aerobus::zpz<691>; using type =
      POLYV<ZPZV<1>, ZPZV<686>, ZPZV<3>>; };  // NOLINT
04777     template<> struct ConwayPolynomial<691, 3> { using ZPZ = aerobus::zpz<691>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<14>, ZPZV<688>>; };  // NOLINT
04778     template<> struct ConwayPolynomial<691, 4> { using ZPZ = aerobus::zpz<691>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<632>, ZPZV<3>>; };  // NOLINT
04779     template<> struct ConwayPolynomial<691, 5> { using ZPZ = aerobus::zpz<691>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<688>>; };  // NOLINT
04780     template<> struct ConwayPolynomial<691, 6> { using ZPZ = aerobus::zpz<691>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<579>, ZPZV<408>, ZPZV<262>, ZPZV<3>>; };  // NOLINT
04781     template<> struct ConwayPolynomial<691, 7> { using ZPZ = aerobus::zpz<691>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<688>>; };  // NOLINT
04782     template<> struct ConwayPolynomial<691, 8> { using ZPZ = aerobus::zpz<691>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<356>, ZPZV<425>, ZPZV<321>, ZPZV<3>>; };  //
      NOLINT
04783     template<> struct ConwayPolynomial<691, 9> { using ZPZ = aerobus::zpz<691>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<556>, ZPZV<443>, ZPZV<688>>;
      };  // NOLINT
04784     template<> struct ConwayPolynomial<701, 1> { using ZPZ = aerobus::zpz<701>; using type =
      POLYV<ZPZV<1>, ZPZV<699>>; };  // NOLINT
04785     template<> struct ConwayPolynomial<701, 2> { using ZPZ = aerobus::zpz<701>; using type =
      POLYV<ZPZV<1>, ZPZV<697>, ZPZV<2>>; };  // NOLINT
04786     template<> struct ConwayPolynomial<701, 3> { using ZPZ = aerobus::zpz<701>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<699>>; };  // NOLINT
04787     template<> struct ConwayPolynomial<701, 4> { using ZPZ = aerobus::zpz<701>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<12>, ZPZV<379>, ZPZV<2>>; };  // NOLINT
04788     template<> struct ConwayPolynomial<701, 5> { using ZPZ = aerobus::zpz<701>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<699>>; };  // NOLINT
04789     template<> struct ConwayPolynomial<701, 6> { using ZPZ = aerobus::zpz<701>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<571>, ZPZV<327>, ZPZV<285>, ZPZV<2>>; };  // NOLINT
04790     template<> struct ConwayPolynomial<701, 7> { using ZPZ = aerobus::zpz<701>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<699>>; };  // NOLINT
04791     template<> struct ConwayPolynomial<701, 8> { using ZPZ = aerobus::zpz<701>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<619>, ZPZV<206>, ZPZV<593>, ZPZV<2>>; };  //
      NOLINT
04792     template<> struct ConwayPolynomial<701, 9> { using ZPZ = aerobus::zpz<701>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<459>, ZPZV<373>, ZPZV<699>>;
      };  // NOLINT
04793     template<> struct ConwayPolynomial<709, 1> { using ZPZ = aerobus::zpz<709>; using type =
      POLYV<ZPZV<1>, ZPZV<707>>; };  // NOLINT
04794     template<> struct ConwayPolynomial<709, 2> { using ZPZ = aerobus::zpz<709>; using type =
      POLYV<ZPZV<1>, ZPZV<705>, ZPZV<2>>; };  // NOLINT
04795     template<> struct ConwayPolynomial<709, 3> { using ZPZ = aerobus::zpz<709>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<707>>; };  // NOLINT
04796     template<> struct ConwayPolynomial<709, 4> { using ZPZ = aerobus::zpz<709>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<384>, ZPZV<2>>; };  // NOLINT
04797     template<> struct ConwayPolynomial<709, 5> { using ZPZ = aerobus::zpz<709>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<707>>; };  // NOLINT
04798     template<> struct ConwayPolynomial<709, 6> { using ZPZ = aerobus::zpz<709>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<669>, ZPZV<514>, ZPZV<295>, ZPZV<2>>; };  // NOLINT
04799     template<> struct ConwayPolynomial<709, 7> { using ZPZ = aerobus::zpz<709>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<707>>; };  // NOLINT
04800     template<> struct ConwayPolynomial<709, 8> { using ZPZ = aerobus::zpz<709>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<689>, ZPZV<233>, ZPZV<79>, ZPZV<2>>; };  //
      NOLINT
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04801     template<> struct ConwayPolynomial<709, 9> { using ZPZ = aerobus::zpz<709>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<257>, ZPZV<171>, ZPZV<707»;
      };  // NOLINT
04802     template<> struct ConwayPolynomial<719, 1> { using ZPZ = aerobus::zpz<719>; using type =
      POLYV<ZPZV<1>, ZPZV<708»; };  // NOLINT
04803     template<> struct ConwayPolynomial<719, 2> { using ZPZ = aerobus::zpz<719>; using type =
      POLYV<ZPZV<1>, ZPZV<715>, ZPZV<11»; };  // NOLINT
04804     template<> struct ConwayPolynomial<719, 3> { using ZPZ = aerobus::zpz<719>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<708»; };  // NOLINT
04805     template<> struct ConwayPolynomial<719, 4> { using ZPZ = aerobus::zpz<719>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<602>, ZPZV<11»; };  // NOLINT
04806     template<> struct ConwayPolynomial<719, 5> { using ZPZ = aerobus::zpz<719>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<708»; };  // NOLINT
04807     template<> struct ConwayPolynomial<719, 6> { using ZPZ = aerobus::zpz<719>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<533>, ZPZV<591>, ZPZV<182>, ZPZV<11»; };  // NOLINT
04808     template<> struct ConwayPolynomial<719, 7> { using ZPZ = aerobus::zpz<719>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<708»; };  // NOLINT
04809     template<> struct ConwayPolynomial<719, 8> { using ZPZ = aerobus::zpz<719>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<714>, ZPZV<362>, ZPZV<244>, ZPZV<11»; };  //
      NOLINT
04810     template<> struct ConwayPolynomial<719, 9> { using ZPZ = aerobus::zpz<719>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<288>, ZPZV<560>, ZPZV<708»;
      };  // NOLINT
04811     template<> struct ConwayPolynomial<727, 1> { using ZPZ = aerobus::zpz<727>; using type =
      POLYV<ZPZV<1>, ZPZV<722»; };  // NOLINT
04812     template<> struct ConwayPolynomial<727, 2> { using ZPZ = aerobus::zpz<727>; using type =
      POLYV<ZPZV<1>, ZPZV<725>, ZPZV<5»; };  // NOLINT
04813     template<> struct ConwayPolynomial<727, 3> { using ZPZ = aerobus::zpz<727>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<722»; };  // NOLINT
04814     template<> struct ConwayPolynomial<727, 4> { using ZPZ = aerobus::zpz<727>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<723>, ZPZV<5»; };  // NOLINT
04815     template<> struct ConwayPolynomial<727, 5> { using ZPZ = aerobus::zpz<727>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<722»; };  // NOLINT
04816     template<> struct ConwayPolynomial<727, 6> { using ZPZ = aerobus::zpz<727>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<86>, ZPZV<397>, ZPZV<672>, ZPZV<5»; };  // NOLINT
04817     template<> struct ConwayPolynomial<727, 7> { using ZPZ = aerobus::zpz<727>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<17>, ZPZV<722»; };  // NOLINT
04818     template<> struct ConwayPolynomial<727, 8> { using ZPZ = aerobus::zpz<727>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<639>, ZPZV<671>, ZPZV<368>, ZPZV<5»; };  //
      NOLINT
04819     template<> struct ConwayPolynomial<727, 9> { using ZPZ = aerobus::zpz<727>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<573>, ZPZV<502>, ZPZV<722»;
      };  // NOLINT
04820     template<> struct ConwayPolynomial<733, 1> { using ZPZ = aerobus::zpz<733>; using type =
      POLYV<ZPZV<1>, ZPZV<727»; };  // NOLINT
04821     template<> struct ConwayPolynomial<733, 2> { using ZPZ = aerobus::zpz<733>; using type =
      POLYV<ZPZV<1>, ZPZV<732>, ZPZV<6»; };  // NOLINT
04822     template<> struct ConwayPolynomial<733, 3> { using ZPZ = aerobus::zpz<733>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<727»; };  // NOLINT
04823     template<> struct ConwayPolynomial<733, 4> { using ZPZ = aerobus::zpz<733>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<12>, ZPZV<539>, ZPZV<6»; };  // NOLINT
04824     template<> struct ConwayPolynomial<733, 5> { using ZPZ = aerobus::zpz<733>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<727»; };  // NOLINT
04825     template<> struct ConwayPolynomial<733, 6> { using ZPZ = aerobus::zpz<733>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<174>, ZPZV<549>, ZPZV<151>, ZPZV<6»; };  // NOLINT
04826     template<> struct ConwayPolynomial<733, 7> { using ZPZ = aerobus::zpz<733>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<727»; };  // NOLINT
04827     template<> struct ConwayPolynomial<733, 8> { using ZPZ = aerobus::zpz<733>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<532>, ZPZV<610>, ZPZV<142>, ZPZV<6»; };  //
      NOLINT
04828     template<> struct ConwayPolynomial<733, 9> { using ZPZ = aerobus::zpz<733>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<337>, ZPZV<6>, ZPZV<727»; };
      // NOLINT
04829     template<> struct ConwayPolynomial<739, 1> { using ZPZ = aerobus::zpz<739>; using type =
      POLYV<ZPZV<1>, ZPZV<736»; };  // NOLINT
04830     template<> struct ConwayPolynomial<739, 2> { using ZPZ = aerobus::zpz<739>; using type =
      POLYV<ZPZV<1>, ZPZV<734>, ZPZV<3»; };  // NOLINT
04831     template<> struct ConwayPolynomial<739, 3> { using ZPZ = aerobus::zpz<739>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<11>, ZPZV<736»; };  // NOLINT
04832     template<> struct ConwayPolynomial<739, 4> { using ZPZ = aerobus::zpz<739>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<678>, ZPZV<3»; };  // NOLINT
04833     template<> struct ConwayPolynomial<739, 5> { using ZPZ = aerobus::zpz<739>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<736»; };  // NOLINT
04834     template<> struct ConwayPolynomial<739, 6> { using ZPZ = aerobus::zpz<739>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<422>, ZPZV<447>, ZPZV<625>, ZPZV<3»; };  // NOLINT
04835     template<> struct ConwayPolynomial<739, 7> { using ZPZ = aerobus::zpz<739>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<44>, ZPZV<736»; };  // NOLINT
04836     template<> struct ConwayPolynomial<739, 8> { using ZPZ = aerobus::zpz<739>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<401>, ZPZV<169>, ZPZV<25>, ZPZV<3»; };  //
      NOLINT
04837     template<> struct ConwayPolynomial<739, 9> { using ZPZ = aerobus::zpz<739>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<616>, ZPZV<81>, ZPZV<736»;
      };  // NOLINT
04838     template<> struct ConwayPolynomial<743, 1> { using ZPZ = aerobus::zpz<743>; using type =
      POLYV<ZPZV<1>, ZPZV<738»; };  // NOLINT
04839     template<> struct ConwayPolynomial<743, 2> { using ZPZ = aerobus::zpz<743>; using type =
      POLYV<ZPZV<1>, ZPZV<742>, ZPZV<5»; };  // NOLINT
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04840     template<> struct ConwayPolynomial<743, 3> { using ZPZ = aerobus::zpz<743>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<738»; };  // NOLINT
04841     template<> struct ConwayPolynomial<743, 4> { using ZPZ = aerobus::zpz<743>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<425>, ZPZV<5»; };  // NOLINT
04842     template<> struct ConwayPolynomial<743, 5> { using ZPZ = aerobus::zpz<743>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<738»; };  // NOLINT
04843     template<> struct ConwayPolynomial<743, 6> { using ZPZ = aerobus::zpz<743>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<236>, ZPZV<471>, ZPZV<88>, ZPZV<5»; };  // NOLINT
04844     template<> struct ConwayPolynomial<743, 7> { using ZPZ = aerobus::zpz<743>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<738»; };  // NOLINT
04845     template<> struct ConwayPolynomial<743, 8> { using ZPZ = aerobus::zpz<743>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<551>, ZPZV<279>, ZPZV<588>, ZPZV<5»; };  //
      NOLINT
04846     template<> struct ConwayPolynomial<743, 9> { using ZPZ = aerobus::zpz<743>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<327>, ZPZV<676>, ZPZV<738»;
      };  // NOLINT
04847     template<> struct ConwayPolynomial<751, 1> { using ZPZ = aerobus::zpz<751>; using type =
      POLYV<ZPZV<1>, ZPZV<748»; };  // NOLINT
04848     template<> struct ConwayPolynomial<751, 2> { using ZPZ = aerobus::zpz<751>; using type =
      POLYV<ZPZV<1>, ZPZV<749>, ZPZV<3»; };  // NOLINT
04849     template<> struct ConwayPolynomial<751, 3> { using ZPZ = aerobus::zpz<751>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<748»; };  // NOLINT
04850     template<> struct ConwayPolynomial<751, 4> { using ZPZ = aerobus::zpz<751>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<525>, ZPZV<3»; };  // NOLINT
04851     template<> struct ConwayPolynomial<751, 5> { using ZPZ = aerobus::zpz<751>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<748»; };  // NOLINT
04852     template<> struct ConwayPolynomial<751, 6> { using ZPZ = aerobus::zpz<751>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<298>, ZPZV<633>, ZPZV<539>, ZPZV<3»; };  // NOLINT
04853     template<> struct ConwayPolynomial<751, 7> { using ZPZ = aerobus::zpz<751>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<748»; };  // NOLINT
04854     template<> struct ConwayPolynomial<751, 8> { using ZPZ = aerobus::zpz<751>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<741>, ZPZV<243>, ZPZV<672>, ZPZV<3»; };  //
      NOLINT
04855     template<> struct ConwayPolynomial<751, 9> { using ZPZ = aerobus::zpz<751>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<703>, ZPZV<489>, ZPZV<748»;
      };  // NOLINT
04856     template<> struct ConwayPolynomial<757, 1> { using ZPZ = aerobus::zpz<757>; using type =
      POLYV<ZPZV<1>, ZPZV<755»; };  // NOLINT
04857     template<> struct ConwayPolynomial<757, 2> { using ZPZ = aerobus::zpz<757>; using type =
      POLYV<ZPZV<1>, ZPZV<753>, ZPZV<2»; };  // NOLINT
04858     template<> struct ConwayPolynomial<757, 3> { using ZPZ = aerobus::zpz<757>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<755»; };  // NOLINT
04859     template<> struct ConwayPolynomial<757, 4> { using ZPZ = aerobus::zpz<757>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<10>, ZPZV<537>, ZPZV<2»; };  // NOLINT
04860     template<> struct ConwayPolynomial<757, 5> { using ZPZ = aerobus::zpz<757>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<755»; };  // NOLINT
04861     template<> struct ConwayPolynomial<757, 6> { using ZPZ = aerobus::zpz<757>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<753>, ZPZV<739>, ZPZV<745>, ZPZV<2»; };  // NOLINT
04862     template<> struct ConwayPolynomial<757, 7> { using ZPZ = aerobus::zpz<757>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<755»; };  // NOLINT
04863     template<> struct ConwayPolynomial<757, 8> { using ZPZ = aerobus::zpz<757>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<494>, ZPZV<110>, ZPZV<509>, ZPZV<2»; };  //
      NOLINT
04864     template<> struct ConwayPolynomial<757, 9> { using ZPZ = aerobus::zpz<757>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<688>, ZPZV<702>, ZPZV<755»;
      };  // NOLINT
04865     template<> struct ConwayPolynomial<761, 1> { using ZPZ = aerobus::zpz<761>; using type =
      POLYV<ZPZV<1>, ZPZV<755»; };  // NOLINT
04866     template<> struct ConwayPolynomial<761, 2> { using ZPZ = aerobus::zpz<761>; using type =
      POLYV<ZPZV<1>, ZPZV<758>, ZPZV<6»; };  // NOLINT
04867     template<> struct ConwayPolynomial<761, 3> { using ZPZ = aerobus::zpz<761>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<12>, ZPZV<755»; };  // NOLINT
04868     template<> struct ConwayPolynomial<761, 4> { using ZPZ = aerobus::zpz<761>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<658>, ZPZV<6»; };  // NOLINT
04869     template<> struct ConwayPolynomial<761, 5> { using ZPZ = aerobus::zpz<761>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<755»; };  // NOLINT
04870     template<> struct ConwayPolynomial<761, 6> { using ZPZ = aerobus::zpz<761>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<634>, ZPZV<597>, ZPZV<155>, ZPZV<6»; };  // NOLINT
04871     template<> struct ConwayPolynomial<761, 7> { using ZPZ = aerobus::zpz<761>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<755»; };  // NOLINT
04872     template<> struct ConwayPolynomial<761, 8> { using ZPZ = aerobus::zpz<761>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<603>, ZPZV<144>, ZPZV<540>, ZPZV<6»; };  //
      NOLINT
04873     template<> struct ConwayPolynomial<761, 9> { using ZPZ = aerobus::zpz<761>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<317>, ZPZV<571>, ZPZV<755»;
      };  // NOLINT
04874     template<> struct ConwayPolynomial<769, 1> { using ZPZ = aerobus::zpz<769>; using type =
      POLYV<ZPZV<1>, ZPZV<758»; };  // NOLINT
04875     template<> struct ConwayPolynomial<769, 2> { using ZPZ = aerobus::zpz<769>; using type =
      POLYV<ZPZV<1>, ZPZV<765>, ZPZV<11»; };  // NOLINT
04876     template<> struct ConwayPolynomial<769, 3> { using ZPZ = aerobus::zpz<769>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<758»; };  // NOLINT
04877     template<> struct ConwayPolynomial<769, 4> { using ZPZ = aerobus::zpz<769>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<32>, ZPZV<741>, ZPZV<11»; };  // NOLINT
04878     template<> struct ConwayPolynomial<769, 5> { using ZPZ = aerobus::zpz<769>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<758»; };  // NOLINT
04879     template<> struct ConwayPolynomial<769, 6> { using ZPZ = aerobus::zpz<769>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<43>, ZPZV<326>, ZPZV<650>, ZPZV<11>>; };  // NOLINT
04880     template<> struct ConwayPolynomial<769, 7> { using ZPZ = aerobus::zpz<769>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<758>>; };  // NOLINT
04881     template<> struct ConwayPolynomial<769, 8> { using ZPZ = aerobus::zpz<769>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<560>, ZPZV<574>, ZPZV<632>, ZPZV<11>>; };  //
      NOLINT
04882     template<> struct ConwayPolynomial<769, 9> { using ZPZ = aerobus::zpz<769>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<623>, ZPZV<751>, ZPZV<758>>;
      };  // NOLINT
04883     template<> struct ConwayPolynomial<773, 1> { using ZPZ = aerobus::zpz<773>; using type =
      POLYV<ZPZV<1>, ZPZV<771>>; };  // NOLINT
04884     template<> struct ConwayPolynomial<773, 2> { using ZPZ = aerobus::zpz<773>; using type =
      POLYV<ZPZV<1>, ZPZV<772>, ZPZV<2>>; };  // NOLINT
04885     template<> struct ConwayPolynomial<773, 3> { using ZPZ = aerobus::zpz<773>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<771>>; };  // NOLINT
04886     template<> struct ConwayPolynomial<773, 4> { using ZPZ = aerobus::zpz<773>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<444>, ZPZV<2>>; };  // NOLINT
04887     template<> struct ConwayPolynomial<773, 5> { using ZPZ = aerobus::zpz<773>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<771>>; };  // NOLINT
04888     template<> struct ConwayPolynomial<773, 6> { using ZPZ = aerobus::zpz<773>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<91>, ZPZV<3>, ZPZV<581>, ZPZV<2>>; };  // NOLINT
04889     template<> struct ConwayPolynomial<773, 7> { using ZPZ = aerobus::zpz<773>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<771>>; };  // NOLINT
04890     template<> struct ConwayPolynomial<773, 8> { using ZPZ = aerobus::zpz<773>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<484>, ZPZV<94>, ZPZV<693>, ZPZV<2>>; };  //
      NOLINT
04891     template<> struct ConwayPolynomial<773, 9> { using ZPZ = aerobus::zpz<773>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<216>, ZPZV<574>, ZPZV<771>>;
      };  // NOLINT
04892     template<> struct ConwayPolynomial<787, 1> { using ZPZ = aerobus::zpz<787>; using type =
      POLYV<ZPZV<1>, ZPZV<785>>; };  // NOLINT
04893     template<> struct ConwayPolynomial<787, 2> { using ZPZ = aerobus::zpz<787>; using type =
      POLYV<ZPZV<1>, ZPZV<786>, ZPZV<2>>; };  // NOLINT
04894     template<> struct ConwayPolynomial<787, 3> { using ZPZ = aerobus::zpz<787>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<785>>; };  // NOLINT
04895     template<> struct ConwayPolynomial<787, 4> { using ZPZ = aerobus::zpz<787>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<11>, ZPZV<605>, ZPZV<2>>; };  // NOLINT
04896     template<> struct ConwayPolynomial<787, 5> { using ZPZ = aerobus::zpz<787>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<785>>; };  // NOLINT
04897     template<> struct ConwayPolynomial<787, 6> { using ZPZ = aerobus::zpz<787>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<98>, ZPZV<512>, ZPZV<606>, ZPZV<2>>; };  // NOLINT
04898     template<> struct ConwayPolynomial<787, 7> { using ZPZ = aerobus::zpz<787>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<785>>; };  // NOLINT
04899     template<> struct ConwayPolynomial<787, 8> { using ZPZ = aerobus::zpz<787>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<612>, ZPZV<26>, ZPZV<715>, ZPZV<2>>; };  //
      NOLINT
04900     template<> struct ConwayPolynomial<787, 9> { using ZPZ = aerobus::zpz<787>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<480>, ZPZV<573>, ZPZV<785>>;
      };  // NOLINT
04901     template<> struct ConwayPolynomial<797, 1> { using ZPZ = aerobus::zpz<797>; using type =
      POLYV<ZPZV<1>, ZPZV<795>>; };  // NOLINT
04902     template<> struct ConwayPolynomial<797, 2> { using ZPZ = aerobus::zpz<797>; using type =
      POLYV<ZPZV<1>, ZPZV<793>, ZPZV<2>>; };  // NOLINT
04903     template<> struct ConwayPolynomial<797, 3> { using ZPZ = aerobus::zpz<797>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<795>>; };  // NOLINT
04904     template<> struct ConwayPolynomial<797, 4> { using ZPZ = aerobus::zpz<797>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<717>, ZPZV<2>>; };  // NOLINT
04905     template<> struct ConwayPolynomial<797, 5> { using ZPZ = aerobus::zpz<797>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<795>>; };  // NOLINT
04906     template<> struct ConwayPolynomial<797, 6> { using ZPZ = aerobus::zpz<797>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<657>, ZPZV<396>, ZPZV<71>, ZPZV<2>>; };  // NOLINT
04907     template<> struct ConwayPolynomial<797, 7> { using ZPZ = aerobus::zpz<797>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<795>>; };  // NOLINT
04908     template<> struct ConwayPolynomial<797, 8> { using ZPZ = aerobus::zpz<797>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<596>, ZPZV<747>, ZPZV<389>, ZPZV<2>>; };  //
      NOLINT
04909     template<> struct ConwayPolynomial<797, 9> { using ZPZ = aerobus::zpz<797>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<240>, ZPZV<599>, ZPZV<795>>;
      };  // NOLINT
04910     template<> struct ConwayPolynomial<809, 1> { using ZPZ = aerobus::zpz<809>; using type =
      POLYV<ZPZV<1>, ZPZV<806>>; };  // NOLINT
04911     template<> struct ConwayPolynomial<809, 2> { using ZPZ = aerobus::zpz<809>; using type =
      POLYV<ZPZV<1>, ZPZV<799>, ZPZV<3>>; };  // NOLINT
04912     template<> struct ConwayPolynomial<809, 3> { using ZPZ = aerobus::zpz<809>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<806>>; };  // NOLINT
04913     template<> struct ConwayPolynomial<809, 4> { using ZPZ = aerobus::zpz<809>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<644>, ZPZV<3>>; };  // NOLINT
04914     template<> struct ConwayPolynomial<809, 5> { using ZPZ = aerobus::zpz<809>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<806>>; };  // NOLINT
04915     template<> struct ConwayPolynomial<809, 6> { using ZPZ = aerobus::zpz<809>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<562>, ZPZV<75>, ZPZV<43>, ZPZV<3>>; };  // NOLINT
04916     template<> struct ConwayPolynomial<809, 7> { using ZPZ = aerobus::zpz<809>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<806>>; };  // NOLINT
04917     template<> struct ConwayPolynomial<809, 8> { using ZPZ = aerobus::zpz<809>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<593>, ZPZV<745>, ZPZV<673>, ZPZV<3>>; };  //
      NOLINT
04918     template<> struct ConwayPolynomial<809, 9> { using ZPZ = aerobus::zpz<809>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<341>, ZPZV<727>, ZPZV<806>>;
      };  // NOLINT
04919     template<> struct ConwayPolynomial<811, 1> { using ZPZ = aerobus::zpz<811>; using type =
      POLYV<ZPZV<1>, ZPZV<808>>; };  // NOLINT
04920     template<> struct ConwayPolynomial<811, 2> { using ZPZ = aerobus::zpz<811>; using type =
      POLYV<ZPZV<1>, ZPZV<806>, ZPZV<3>>; };  // NOLINT
04921     template<> struct ConwayPolynomial<811, 3> { using ZPZ = aerobus::zpz<811>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<808>>; };  // NOLINT
04922     template<> struct ConwayPolynomial<811, 4> { using ZPZ = aerobus::zpz<811>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<453>, ZPZV<3>>; };  // NOLINT
04923     template<> struct ConwayPolynomial<811, 5> { using ZPZ = aerobus::zpz<811>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<808>>; };  // NOLINT
04924     template<> struct ConwayPolynomial<811, 6> { using ZPZ = aerobus::zpz<811>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<780>, ZPZV<755>, ZPZV<307>, ZPZV<3>>; };  // NOLINT
04925     template<> struct ConwayPolynomial<811, 7> { using ZPZ = aerobus::zpz<811>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<808>>; };  // NOLINT
04926     template<> struct ConwayPolynomial<811, 8> { using ZPZ = aerobus::zpz<811>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<663>, ZPZV<806>, ZPZV<525>, ZPZV<3>>; };  //
      NOLINT
04927     template<> struct ConwayPolynomial<811, 9> { using ZPZ = aerobus::zpz<811>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<382>, ZPZV<200>, ZPZV<808>>;
      };  // NOLINT
04928     template<> struct ConwayPolynomial<821, 1> { using ZPZ = aerobus::zpz<821>; using type =
      POLYV<ZPZV<1>, ZPZV<819>>; };  // NOLINT
04929     template<> struct ConwayPolynomial<821, 2> { using ZPZ = aerobus::zpz<821>; using type =
      POLYV<ZPZV<1>, ZPZV<816>, ZPZV<2>>; };  // NOLINT
04930     template<> struct ConwayPolynomial<821, 3> { using ZPZ = aerobus::zpz<821>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<819>>; };  // NOLINT
04931     template<> struct ConwayPolynomial<821, 4> { using ZPZ = aerobus::zpz<821>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<15>, ZPZV<662>, ZPZV<2>>; };  // NOLINT
04932     template<> struct ConwayPolynomial<821, 5> { using ZPZ = aerobus::zpz<821>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<819>>; };  // NOLINT
04933     template<> struct ConwayPolynomial<821, 6> { using ZPZ = aerobus::zpz<821>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<160>, ZPZV<130>, ZPZV<803>, ZPZV<2>>; };  // NOLINT
04934     template<> struct ConwayPolynomial<821, 7> { using ZPZ = aerobus::zpz<821>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<819>>; };  // NOLINT
04935     template<> struct ConwayPolynomial<821, 8> { using ZPZ = aerobus::zpz<821>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<626>, ZPZV<556>, ZPZV<589>, ZPZV<2>>; };  //
      NOLINT
04936     template<> struct ConwayPolynomial<821, 9> { using ZPZ = aerobus::zpz<821>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<650>, ZPZV<557>, ZPZV<819>>;
      };  // NOLINT
04937     template<> struct ConwayPolynomial<823, 1> { using ZPZ = aerobus::zpz<823>; using type =
      POLYV<ZPZV<1>, ZPZV<820>>; };  // NOLINT
04938     template<> struct ConwayPolynomial<823, 2> { using ZPZ = aerobus::zpz<823>; using type =
      POLYV<ZPZV<1>, ZPZV<821>, ZPZV<3>>; };  // NOLINT
04939     template<> struct ConwayPolynomial<823, 3> { using ZPZ = aerobus::zpz<823>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<820>>; };  // NOLINT
04940     template<> struct ConwayPolynomial<823, 4> { using ZPZ = aerobus::zpz<823>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<819>, ZPZV<3>>; };  // NOLINT
04941     template<> struct ConwayPolynomial<823, 5> { using ZPZ = aerobus::zpz<823>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<820>>; };  // NOLINT
04942     template<> struct ConwayPolynomial<823, 6> { using ZPZ = aerobus::zpz<823>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<822>, ZPZV<616>, ZPZV<744>, ZPZV<3>>; };  // NOLINT
04943     template<> struct ConwayPolynomial<823, 7> { using ZPZ = aerobus::zpz<823>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<820>>; };  // NOLINT
04944     template<> struct ConwayPolynomial<823, 8> { using ZPZ = aerobus::zpz<823>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<451>, ZPZV<437>, ZPZV<31>, ZPZV<3>>; };  //
      NOLINT
04945     template<> struct ConwayPolynomial<823, 9> { using ZPZ = aerobus::zpz<823>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<740>, ZPZV<609>, ZPZV<820>>;
      };  // NOLINT
04946     template<> struct ConwayPolynomial<827, 1> { using ZPZ = aerobus::zpz<827>; using type =
      POLYV<ZPZV<1>, ZPZV<825>>; };  // NOLINT
04947     template<> struct ConwayPolynomial<827, 2> { using ZPZ = aerobus::zpz<827>; using type =
      POLYV<ZPZV<1>, ZPZV<821>, ZPZV<2>>; };  // NOLINT
04948     template<> struct ConwayPolynomial<827, 3> { using ZPZ = aerobus::zpz<827>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<825>>; };  // NOLINT
04949     template<> struct ConwayPolynomial<827, 4> { using ZPZ = aerobus::zpz<827>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<18>, ZPZV<605>, ZPZV<2>>; };  // NOLINT
04950     template<> struct ConwayPolynomial<827, 5> { using ZPZ = aerobus::zpz<827>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<825>>; };  // NOLINT
04951     template<> struct ConwayPolynomial<827, 6> { using ZPZ = aerobus::zpz<827>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<9>, ZPZV<685>, ZPZV<601>, ZPZV<691>, ZPZV<2>>; };  // NOLINT
04952     template<> struct ConwayPolynomial<827, 7> { using ZPZ = aerobus::zpz<827>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<825>>; };  // NOLINT
04953     template<> struct ConwayPolynomial<827, 8> { using ZPZ = aerobus::zpz<827>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<812>, ZPZV<79>, ZPZV<32>, ZPZV<2>>; };  //
      NOLINT
04954     template<> struct ConwayPolynomial<827, 9> { using ZPZ = aerobus::zpz<827>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<177>, ZPZV<372>, ZPZV<825>>;
      };  // NOLINT
04955     template<> struct ConwayPolynomial<829, 1> { using ZPZ = aerobus::zpz<829>; using type =
      POLYV<ZPZV<1>, ZPZV<827>>; };  // NOLINT
04956     template<> struct ConwayPolynomial<829, 2> { using ZPZ = aerobus::zpz<829>; using type =
      POLYV<ZPZV<1>, ZPZV<828>, ZPZV<2>>; };  // NOLINT
04957     template<> struct ConwayPolynomial<829, 3> { using ZPZ = aerobus::zpz<829>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<827»; };  // NOLINT
04958     template<> struct ConwayPolynomial<829, 4> { using ZPZ = aerobus::zpz<829>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<9>, ZPZV<604>, ZPZV<2»; };  // NOLINT
04959     template<> struct ConwayPolynomial<829, 5> { using ZPZ = aerobus::zpz<829>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<827»; };  // NOLINT
04960     template<> struct ConwayPolynomial<829, 6> { using ZPZ = aerobus::zpz<829>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<341>, ZPZV<476>, ZPZV<817>, ZPZV<2»; };  // NOLINT
04961     template<> struct ConwayPolynomial<829, 7> { using ZPZ = aerobus::zpz<829>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<827»; };  // NOLINT
04962     template<> struct ConwayPolynomial<829, 8> { using ZPZ = aerobus::zpz<829>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<468>, ZPZV<241>, ZPZV<138>, ZPZV<2»; };  //
      NOLINT
04963     template<> struct ConwayPolynomial<829, 9> { using ZPZ = aerobus::zpz<829>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<621>, ZPZV<552>, ZPZV<827»;
      };  // NOLINT
04964     template<> struct ConwayPolynomial<839, 1> { using ZPZ = aerobus::zpz<839>; using type =
      POLYV<ZPZV<1>, ZPZV<828»; };  // NOLINT
04965     template<> struct ConwayPolynomial<839, 2> { using ZPZ = aerobus::zpz<839>; using type =
      POLYV<ZPZV<1>, ZPZV<838>, ZPZV<11»; };  // NOLINT
04966     template<> struct ConwayPolynomial<839, 3> { using ZPZ = aerobus::zpz<839>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<828»; };  // NOLINT
04967     template<> struct ConwayPolynomial<839, 4> { using ZPZ = aerobus::zpz<839>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<609>, ZPZV<11»; };  // NOLINT
04968     template<> struct ConwayPolynomial<839, 5> { using ZPZ = aerobus::zpz<839>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<828»; };  // NOLINT
04969     template<> struct ConwayPolynomial<839, 6> { using ZPZ = aerobus::zpz<839>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<370>, ZPZV<537>, ZPZV<23>, ZPZV<11»; };  // NOLINT
04970     template<> struct ConwayPolynomial<839, 7> { using ZPZ = aerobus::zpz<839>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<828»; };  // NOLINT
04971     template<> struct ConwayPolynomial<839, 8> { using ZPZ = aerobus::zpz<839>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<16>, ZPZV<553>, ZPZV<779>, ZPZV<329>, ZPZV<11»; };  //
      NOLINT
04972     template<> struct ConwayPolynomial<839, 9> { using ZPZ = aerobus::zpz<839>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<349>, ZPZV<206>, ZPZV<828»;
      };  // NOLINT
04973     template<> struct ConwayPolynomial<853, 1> { using ZPZ = aerobus::zpz<853>; using type =
      POLYV<ZPZV<1>, ZPZV<851»; };  // NOLINT
04974     template<> struct ConwayPolynomial<853, 2> { using ZPZ = aerobus::zpz<853>; using type =
      POLYV<ZPZV<1>, ZPZV<852>, ZPZV<2»; };  // NOLINT
04975     template<> struct ConwayPolynomial<853, 3> { using ZPZ = aerobus::zpz<853>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<851»; };  // NOLINT
04976     template<> struct ConwayPolynomial<853, 4> { using ZPZ = aerobus::zpz<853>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<623>, ZPZV<2»; };  // NOLINT
04977     template<> struct ConwayPolynomial<853, 5> { using ZPZ = aerobus::zpz<853>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<851»; };  // NOLINT
04978     template<> struct ConwayPolynomial<853, 6> { using ZPZ = aerobus::zpz<853>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<276>, ZPZV<194>, ZPZV<512>, ZPZV<2»; };  // NOLINT
04979     template<> struct ConwayPolynomial<853, 7> { using ZPZ = aerobus::zpz<853>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<851»; };  // NOLINT
04980     template<> struct ConwayPolynomial<853, 8> { using ZPZ = aerobus::zpz<853>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<544>, ZPZV<846>, ZPZV<118>, ZPZV<2»; };  //
      NOLINT
04981     template<> struct ConwayPolynomial<853, 9> { using ZPZ = aerobus::zpz<853>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<677>, ZPZV<821>, ZPZV<851»;
      };  // NOLINT
04982     template<> struct ConwayPolynomial<857, 1> { using ZPZ = aerobus::zpz<857>; using type =
      POLYV<ZPZV<1>, ZPZV<854»; };  // NOLINT
04983     template<> struct ConwayPolynomial<857, 2> { using ZPZ = aerobus::zpz<857>; using type =
      POLYV<ZPZV<1>, ZPZV<850>, ZPZV<3»; };  // NOLINT
04984     template<> struct ConwayPolynomial<857, 3> { using ZPZ = aerobus::zpz<857>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<854»; };  // NOLINT
04985     template<> struct ConwayPolynomial<857, 4> { using ZPZ = aerobus::zpz<857>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<528>, ZPZV<3»; };  // NOLINT
04986     template<> struct ConwayPolynomial<857, 5> { using ZPZ = aerobus::zpz<857>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<854»; };  // NOLINT
04987     template<> struct ConwayPolynomial<857, 6> { using ZPZ = aerobus::zpz<857>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<32>, ZPZV<824>, ZPZV<65>, ZPZV<3»; };  // NOLINT
04988     template<> struct ConwayPolynomial<857, 7> { using ZPZ = aerobus::zpz<857>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<854»; };  // NOLINT
04989     template<> struct ConwayPolynomial<857, 8> { using ZPZ = aerobus::zpz<857>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<611>, ZPZV<552>, ZPZV<494>, ZPZV<3»; };  //
      NOLINT
04990     template<> struct ConwayPolynomial<857, 9> { using ZPZ = aerobus::zpz<857>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<308>, ZPZV<719>, ZPZV<854»;
      };  // NOLINT
04991     template<> struct ConwayPolynomial<859, 1> { using ZPZ = aerobus::zpz<859>; using type =
      POLYV<ZPZV<1>, ZPZV<857»; };  // NOLINT
04992     template<> struct ConwayPolynomial<859, 2> { using ZPZ = aerobus::zpz<859>; using type =
      POLYV<ZPZV<1>, ZPZV<858>, ZPZV<2»; };  // NOLINT
04993     template<> struct ConwayPolynomial<859, 3> { using ZPZ = aerobus::zpz<859>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<857»; };  // NOLINT
04994     template<> struct ConwayPolynomial<859, 4> { using ZPZ = aerobus::zpz<859>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<530>, ZPZV<2»; };  // NOLINT
04995     template<> struct ConwayPolynomial<859, 5> { using ZPZ = aerobus::zpz<859>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<12>, ZPZV<857»; };  // NOLINT
04996     template<> struct ConwayPolynomial<859, 6> { using ZPZ = aerobus::zpz<859>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<419>, ZPZV<646>, ZPZV<566>, ZPZV<2»; };  // NOLINT
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04997     template<> struct ConwayPolynomial<859, 7> { using ZPZ = aerobus::zpz<859>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<857»; };  // NOLINT
04998     template<> struct ConwayPolynomial<859, 8> { using ZPZ = aerobus::zpz<859>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<522>, ZPZV<446>, ZPZV<672>, ZPZV<2»; };  //
      NOLINT
04999     template<> struct ConwayPolynomial<859, 9> { using ZPZ = aerobus::zpz<859>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<648>, ZPZV<845>, ZPZV<857»;
      };  // NOLINT
05000     template<> struct ConwayPolynomial<863, 1> { using ZPZ = aerobus::zpz<863>; using type =
      POLYV<ZPZV<1>, ZPZV<858»; };  // NOLINT
05001     template<> struct ConwayPolynomial<863, 2> { using ZPZ = aerobus::zpz<863>; using type =
      POLYV<ZPZV<1>, ZPZV<862>, ZPZV<5»; };  // NOLINT
05002     template<> struct ConwayPolynomial<863, 3> { using ZPZ = aerobus::zpz<863>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<858»; };  // NOLINT
05003     template<> struct ConwayPolynomial<863, 4> { using ZPZ = aerobus::zpz<863>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<770>, ZPZV<5»; };  // NOLINT
05004     template<> struct ConwayPolynomial<863, 5> { using ZPZ = aerobus::zpz<863>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<858»; };  // NOLINT
05005     template<> struct ConwayPolynomial<863, 6> { using ZPZ = aerobus::zpz<863>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<330>, ZPZV<62>, ZPZV<300>, ZPZV<5»; };  // NOLINT
05006     template<> struct ConwayPolynomial<863, 7> { using ZPZ = aerobus::zpz<863>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<858»; };  // NOLINT
05007     template<> struct ConwayPolynomial<863, 8> { using ZPZ = aerobus::zpz<863>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<765>, ZPZV<576>, ZPZV<849>, ZPZV<5»; };  //
      NOLINT
05008     template<> struct ConwayPolynomial<863, 9> { using ZPZ = aerobus::zpz<863>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<381>, ZPZV<1>, ZPZV<858»; };
      // NOLINT
05009     template<> struct ConwayPolynomial<877, 1> { using ZPZ = aerobus::zpz<877>; using type =
      POLYV<ZPZV<1>, ZPZV<875»; };  // NOLINT
05010     template<> struct ConwayPolynomial<877, 2> { using ZPZ = aerobus::zpz<877>; using type =
      POLYV<ZPZV<1>, ZPZV<873>, ZPZV<2»; };  // NOLINT
05011     template<> struct ConwayPolynomial<877, 3> { using ZPZ = aerobus::zpz<877>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<875»; };  // NOLINT
05012     template<> struct ConwayPolynomial<877, 4> { using ZPZ = aerobus::zpz<877>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<604>, ZPZV<2»; };  // NOLINT
05013     template<> struct ConwayPolynomial<877, 5> { using ZPZ = aerobus::zpz<877>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<875»; };  // NOLINT
05014     template<> struct ConwayPolynomial<877, 6> { using ZPZ = aerobus::zpz<877>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<629>, ZPZV<400>, ZPZV<855>, ZPZV<2»; };  // NOLINT
05015     template<> struct ConwayPolynomial<877, 7> { using ZPZ = aerobus::zpz<877>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<875»; };  // NOLINT
05016     template<> struct ConwayPolynomial<877, 8> { using ZPZ = aerobus::zpz<877>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<767>, ZPZV<319>, ZPZV<347>, ZPZV<2»; };  //
      NOLINT
05017     template<> struct ConwayPolynomial<877, 9> { using ZPZ = aerobus::zpz<877>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<770>, ZPZV<278>, ZPZV<875»;
      };  // NOLINT
05018     template<> struct ConwayPolynomial<881, 1> { using ZPZ = aerobus::zpz<881>; using type =
      POLYV<ZPZV<1>, ZPZV<878»; };  // NOLINT
05019     template<> struct ConwayPolynomial<881, 2> { using ZPZ = aerobus::zpz<881>; using type =
      POLYV<ZPZV<1>, ZPZV<869>, ZPZV<3»; };  // NOLINT
05020     template<> struct ConwayPolynomial<881, 3> { using ZPZ = aerobus::zpz<881>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<878»; };  // NOLINT
05021     template<> struct ConwayPolynomial<881, 4> { using ZPZ = aerobus::zpz<881>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<447>, ZPZV<3»; };  // NOLINT
05022     template<> struct ConwayPolynomial<881, 5> { using ZPZ = aerobus::zpz<881>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<878»; };  // NOLINT
05023     template<> struct ConwayPolynomial<881, 6> { using ZPZ = aerobus::zpz<881>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<218>, ZPZV<419>, ZPZV<231>, ZPZV<3»; };  // NOLINT
05024     template<> struct ConwayPolynomial<881, 7> { using ZPZ = aerobus::zpz<881>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<878»; };  // NOLINT
05025     template<> struct ConwayPolynomial<881, 8> { using ZPZ = aerobus::zpz<881>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<21>, ZPZV<635>, ZPZV<490>, ZPZV<561>, ZPZV<3»; };  //
      NOLINT
05026     template<> struct ConwayPolynomial<881, 9> { using ZPZ = aerobus::zpz<881>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<587>, ZPZV<510>, ZPZV<878»;
      };  // NOLINT
05027     template<> struct ConwayPolynomial<883, 1> { using ZPZ = aerobus::zpz<883>; using type =
      POLYV<ZPZV<1>, ZPZV<881»; };  // NOLINT
05028     template<> struct ConwayPolynomial<883, 2> { using ZPZ = aerobus::zpz<883>; using type =
      POLYV<ZPZV<1>, ZPZV<879>, ZPZV<2»; };  // NOLINT
05029     template<> struct ConwayPolynomial<883, 3> { using ZPZ = aerobus::zpz<883>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<6>, ZPZV<881»; };  // NOLINT
05030     template<> struct ConwayPolynomial<883, 4> { using ZPZ = aerobus::zpz<883>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<715>, ZPZV<2»; };  // NOLINT
05031     template<> struct ConwayPolynomial<883, 5> { using ZPZ = aerobus::zpz<883>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<881»; };  // NOLINT
05032     template<> struct ConwayPolynomial<883, 6> { using ZPZ = aerobus::zpz<883>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<879>, ZPZV<865>, ZPZV<871>, ZPZV<2»; };  // NOLINT
05033     template<> struct ConwayPolynomial<883, 7> { using ZPZ = aerobus::zpz<883>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<881»; };  // NOLINT
05034     template<> struct ConwayPolynomial<883, 8> { using ZPZ = aerobus::zpz<883>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<740>, ZPZV<762>, ZPZV<768>, ZPZV<2»; };  //
      NOLINT
05035     template<> struct ConwayPolynomial<883, 9> { using ZPZ = aerobus::zpz<883>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<360>, ZPZV<557>, ZPZV<881»;
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};  // NOLINT
05036     template<> struct ConwayPolynomial<887, 1> { using ZPZ = aerobus::zpz<887>; using type =
      POLYV<ZPZV<1>, ZPZV<882»; };  // NOLINT
05037     template<> struct ConwayPolynomial<887, 2> { using ZPZ = aerobus::zpz<887>; using type =
      POLYV<ZPZV<1>, ZPZV<885>, ZPZV<5»; };  // NOLINT
05038     template<> struct ConwayPolynomial<887, 3> { using ZPZ = aerobus::zpz<887>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<882»; };  // NOLINT
05039     template<> struct ConwayPolynomial<887, 4> { using ZPZ = aerobus::zpz<887>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<883>, ZPZV<5»; };  // NOLINT
05040     template<> struct ConwayPolynomial<887, 5> { using ZPZ = aerobus::zpz<887>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<882»; };  // NOLINT
05041     template<> struct ConwayPolynomial<887, 6> { using ZPZ = aerobus::zpz<887>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<775>, ZPZV<341>, ZPZV<28>, ZPZV<5»; };  // NOLINT
05042     template<> struct ConwayPolynomial<887, 7> { using ZPZ = aerobus::zpz<887>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<882»; };  // NOLINT
05043     template<> struct ConwayPolynomial<887, 8> { using ZPZ = aerobus::zpz<887>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<781>, ZPZV<381>, ZPZV<706>, ZPZV<5»; };  //
      NOLINT
05044     template<> struct ConwayPolynomial<887, 9> { using ZPZ = aerobus::zpz<887>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<727>, ZPZV<345>, ZPZV<882»;
      };  // NOLINT
05045     template<> struct ConwayPolynomial<907, 1> { using ZPZ = aerobus::zpz<907>; using type =
      POLYV<ZPZV<1>, ZPZV<905»; };  // NOLINT
05046     template<> struct ConwayPolynomial<907, 2> { using ZPZ = aerobus::zpz<907>; using type =
      POLYV<ZPZV<1>, ZPZV<903>, ZPZV<2»; };  // NOLINT
05047     template<> struct ConwayPolynomial<907, 3> { using ZPZ = aerobus::zpz<907>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<905»; };  // NOLINT
05048     template<> struct ConwayPolynomial<907, 4> { using ZPZ = aerobus::zpz<907>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<14>, ZPZV<478>, ZPZV<2»; };  // NOLINT
05049     template<> struct ConwayPolynomial<907, 5> { using ZPZ = aerobus::zpz<907>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<905»; };  // NOLINT
05050     template<> struct ConwayPolynomial<907, 6> { using ZPZ = aerobus::zpz<907>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<626>, ZPZV<752>, ZPZV<266>, ZPZV<2»; };  // NOLINT
05051     template<> struct ConwayPolynomial<907, 7> { using ZPZ = aerobus::zpz<907>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<905»; };  // NOLINT
05052     template<> struct ConwayPolynomial<907, 8> { using ZPZ = aerobus::zpz<907>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<584>, ZPZV<518>, ZPZV<811>, ZPZV<2»; };  //
      NOLINT
05053     template<> struct ConwayPolynomial<907, 9> { using ZPZ = aerobus::zpz<907>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<783>, ZPZV<57>, ZPZV<905»;
      };  // NOLINT
05054     template<> struct ConwayPolynomial<911, 1> { using ZPZ = aerobus::zpz<911>; using type =
      POLYV<ZPZV<1>, ZPZV<894»; };  // NOLINT
05055     template<> struct ConwayPolynomial<911, 2> { using ZPZ = aerobus::zpz<911>; using type =
      POLYV<ZPZV<1>, ZPZV<909>, ZPZV<17»; };  // NOLINT
05056     template<> struct ConwayPolynomial<911, 3> { using ZPZ = aerobus::zpz<911>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<894»; };  // NOLINT
05057     template<> struct ConwayPolynomial<911, 4> { using ZPZ = aerobus::zpz<911>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<11>, ZPZV<887>, ZPZV<17»; };  // NOLINT
05058     template<> struct ConwayPolynomial<911, 5> { using ZPZ = aerobus::zpz<911>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<894»; };  // NOLINT
05059     template<> struct ConwayPolynomial<911, 6> { using ZPZ = aerobus::zpz<911>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<172>, ZPZV<683>, ZPZV<19>, ZPZV<17»; };  // NOLINT
05060     template<> struct ConwayPolynomial<911, 7> { using ZPZ = aerobus::zpz<911>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<894»; };  // NOLINT
05061     template<> struct ConwayPolynomial<911, 8> { using ZPZ = aerobus::zpz<911>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<708>, ZPZV<590>, ZPZV<168>, ZPZV<17»; };  //
      NOLINT
05062     template<> struct ConwayPolynomial<911, 9> { using ZPZ = aerobus::zpz<911>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<679>, ZPZV<116>, ZPZV<894»;
      };  // NOLINT
05063     template<> struct ConwayPolynomial<919, 1> { using ZPZ = aerobus::zpz<919>; using type =
      POLYV<ZPZV<1>, ZPZV<912»; };  // NOLINT
05064     template<> struct ConwayPolynomial<919, 2> { using ZPZ = aerobus::zpz<919>; using type =
      POLYV<ZPZV<1>, ZPZV<910>, ZPZV<7»; };  // NOLINT
05065     template<> struct ConwayPolynomial<919, 3> { using ZPZ = aerobus::zpz<919>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<912»; };  // NOLINT
05066     template<> struct ConwayPolynomial<919, 4> { using ZPZ = aerobus::zpz<919>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<602>, ZPZV<7»; };  // NOLINT
05067     template<> struct ConwayPolynomial<919, 5> { using ZPZ = aerobus::zpz<919>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<912»; };  // NOLINT
05068     template<> struct ConwayPolynomial<919, 6> { using ZPZ = aerobus::zpz<919>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<312>, ZPZV<817>, ZPZV<113>, ZPZV<7»; };  // NOLINT
05069     template<> struct ConwayPolynomial<919, 7> { using ZPZ = aerobus::zpz<919>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<912»; };  // NOLINT
05070     template<> struct ConwayPolynomial<919, 8> { using ZPZ = aerobus::zpz<919>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<708>, ZPZV<202>, ZPZV<504>, ZPZV<7»; };  //
      NOLINT
05071     template<> struct ConwayPolynomial<919, 9> { using ZPZ = aerobus::zpz<919>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<410>, ZPZV<623>, ZPZV<912»;
      };  // NOLINT
05072     template<> struct ConwayPolynomial<929, 1> { using ZPZ = aerobus::zpz<929>; using type =
      POLYV<ZPZV<1>, ZPZV<926»; };  // NOLINT
05073     template<> struct ConwayPolynomial<929, 2> { using ZPZ = aerobus::zpz<929>; using type =
      POLYV<ZPZV<1>, ZPZV<917>, ZPZV<3»; };  // NOLINT
05074     template<> struct ConwayPolynomial<929, 3> { using ZPZ = aerobus::zpz<929>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<926»; };  // NOLINT
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05075     template<> struct ConwayPolynomial<929, 4> { using ZPZ = aerobus::zpz<929>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<787>, ZPZV<3>>; };  // NOLINT
05076     template<> struct ConwayPolynomial<929, 5> { using ZPZ = aerobus::zpz<929>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<926>>; };  // NOLINT
05077     template<> struct ConwayPolynomial<929, 6> { using ZPZ = aerobus::zpz<929>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<805>, ZPZV<92>, ZPZV<86>, ZPZV<3>>; };  // NOLINT
05078     template<> struct ConwayPolynomial<929, 7> { using ZPZ = aerobus::zpz<929>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<926>>; };  // NOLINT
05079     template<> struct ConwayPolynomial<929, 8> { using ZPZ = aerobus::zpz<929>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<699>, ZPZV<292>, ZPZV<586>, ZPZV<3>>; };  //
      NOLINT
05080     template<> struct ConwayPolynomial<929, 9> { using ZPZ = aerobus::zpz<929>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<481>, ZPZV<199>, ZPZV<926>>;
      };  // NOLINT
05081     template<> struct ConwayPolynomial<937, 1> { using ZPZ = aerobus::zpz<937>; using type =
      POLYV<ZPZV<1>, ZPZV<932>>; };  // NOLINT
05082     template<> struct ConwayPolynomial<937, 2> { using ZPZ = aerobus::zpz<937>; using type =
      POLYV<ZPZV<1>, ZPZV<934>, ZPZV<5>>; };  // NOLINT
05083     template<> struct ConwayPolynomial<937, 3> { using ZPZ = aerobus::zpz<937>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<932>>; };  // NOLINT
05084     template<> struct ConwayPolynomial<937, 4> { using ZPZ = aerobus::zpz<937>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<23>, ZPZV<585>, ZPZV<5>>; };  // NOLINT
05085     template<> struct ConwayPolynomial<937, 5> { using ZPZ = aerobus::zpz<937>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<932>>; };  // NOLINT
05086     template<> struct ConwayPolynomial<937, 6> { using ZPZ = aerobus::zpz<937>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<794>, ZPZV<727>, ZPZV<934>, ZPZV<5>>; };  // NOLINT
05087     template<> struct ConwayPolynomial<937, 7> { using ZPZ = aerobus::zpz<937>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<24>, ZPZV<932>>; };  // NOLINT
05088     template<> struct ConwayPolynomial<937, 8> { using ZPZ = aerobus::zpz<937>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<658>, ZPZV<26>, ZPZV<53>, ZPZV<5>>; };  //
      NOLINT
05089     template<> struct ConwayPolynomial<937, 9> { using ZPZ = aerobus::zpz<937>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<28>, ZPZV<533>, ZPZV<483>, ZPZV<932>>;
      };  // NOLINT
05090     template<> struct ConwayPolynomial<941, 1> { using ZPZ = aerobus::zpz<941>; using type =
      POLYV<ZPZV<1>, ZPZV<939>>; };  // NOLINT
05091     template<> struct ConwayPolynomial<941, 2> { using ZPZ = aerobus::zpz<941>; using type =
      POLYV<ZPZV<1>, ZPZV<940>, ZPZV<2>>; };  // NOLINT
05092     template<> struct ConwayPolynomial<941, 3> { using ZPZ = aerobus::zpz<941>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<939>>; };  // NOLINT
05093     template<> struct ConwayPolynomial<941, 4> { using ZPZ = aerobus::zpz<941>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<505>, ZPZV<2>>; };  // NOLINT
05094     template<> struct ConwayPolynomial<941, 5> { using ZPZ = aerobus::zpz<941>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<939>>; };  // NOLINT
05095     template<> struct ConwayPolynomial<941, 6> { using ZPZ = aerobus::zpz<941>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<459>, ZPZV<694>, ZPZV<538>, ZPZV<2>>; };  // NOLINT
05096     template<> struct ConwayPolynomial<941, 7> { using ZPZ = aerobus::zpz<941>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<4>, ZPZV<939>>; };  // NOLINT
05097     template<> struct ConwayPolynomial<941, 8> { using ZPZ = aerobus::zpz<941>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<805>, ZPZV<675>, ZPZV<590>, ZPZV<2>>; };  //
      NOLINT
05098     template<> struct ConwayPolynomial<941, 9> { using ZPZ = aerobus::zpz<941>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<708>, ZPZV<197>, ZPZV<939>>;
      };  // NOLINT
05099     template<> struct ConwayPolynomial<947, 1> { using ZPZ = aerobus::zpz<947>; using type =
      POLYV<ZPZV<1>, ZPZV<945>>; };  // NOLINT
05100     template<> struct ConwayPolynomial<947, 2> { using ZPZ = aerobus::zpz<947>; using type =
      POLYV<ZPZV<1>, ZPZV<943>, ZPZV<2>>; };  // NOLINT
05101     template<> struct ConwayPolynomial<947, 3> { using ZPZ = aerobus::zpz<947>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<945>>; };  // NOLINT
05102     template<> struct ConwayPolynomial<947, 4> { using ZPZ = aerobus::zpz<947>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<8>, ZPZV<894>, ZPZV<2>>; };  // NOLINT
05103     template<> struct ConwayPolynomial<947, 5> { using ZPZ = aerobus::zpz<947>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<945>>; };  // NOLINT
05104     template<> struct ConwayPolynomial<947, 6> { using ZPZ = aerobus::zpz<947>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<880>, ZPZV<787>, ZPZV<95>, ZPZV<2>>; };  // NOLINT
05105     template<> struct ConwayPolynomial<947, 7> { using ZPZ = aerobus::zpz<947>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<945>>; };  // NOLINT
05106     template<> struct ConwayPolynomial<947, 8> { using ZPZ = aerobus::zpz<947>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<845>, ZPZV<597>, ZPZV<581>, ZPZV<2>>; };  //
      NOLINT
05107     template<> struct ConwayPolynomial<947, 9> { using ZPZ = aerobus::zpz<947>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<269>, ZPZV<808>, ZPZV<945>>;
      };  // NOLINT
05108     template<> struct ConwayPolynomial<953, 1> { using ZPZ = aerobus::zpz<953>; using type =
      POLYV<ZPZV<1>, ZPZV<950>>; };  // NOLINT
05109     template<> struct ConwayPolynomial<953, 2> { using ZPZ = aerobus::zpz<953>; using type =
      POLYV<ZPZV<1>, ZPZV<947>, ZPZV<3>>; };  // NOLINT
05110     template<> struct ConwayPolynomial<953, 3> { using ZPZ = aerobus::zpz<953>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<7>, ZPZV<950>>; };  // NOLINT
05111     template<> struct ConwayPolynomial<953, 4> { using ZPZ = aerobus::zpz<953>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<865>, ZPZV<3>>; };  // NOLINT
05112     template<> struct ConwayPolynomial<953, 5> { using ZPZ = aerobus::zpz<953>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<950>>; };  // NOLINT
05113     template<> struct ConwayPolynomial<953, 6> { using ZPZ = aerobus::zpz<953>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<507>, ZPZV<829>, ZPZV<730>, ZPZV<3>>; };  // NOLINT
05114     template<> struct ConwayPolynomial<953, 7> { using ZPZ = aerobus::zpz<953>; using type =
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      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<5>, ZPZV<950»; };  // NOLINT
05115     template<> struct ConwayPolynomial<953, 8> { using ZPZ = aerobus::zpz<953>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<6>, ZPZV<579>, ZPZV<658>, ZPZV<108>, ZPZV<3»; };  //
      NOLINT
05116     template<> struct ConwayPolynomial<953, 9> { using ZPZ = aerobus::zpz<953>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<819>, ZPZV<316>, ZPZV<950»;
      };  // NOLINT
05117     template<> struct ConwayPolynomial<967, 1> { using ZPZ = aerobus::zpz<967>; using type =
      POLYV<ZPZV<1>, ZPZV<962»; };  // NOLINT
05118     template<> struct ConwayPolynomial<967, 2> { using ZPZ = aerobus::zpz<967>; using type =
      POLYV<ZPZV<1>, ZPZV<965>, ZPZV<5»; };  // NOLINT
05119     template<> struct ConwayPolynomial<967, 3> { using ZPZ = aerobus::zpz<967>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<962»; };  // NOLINT
05120     template<> struct ConwayPolynomial<967, 4> { using ZPZ = aerobus::zpz<967>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<963>, ZPZV<5»; };  // NOLINT
05121     template<> struct ConwayPolynomial<967, 5> { using ZPZ = aerobus::zpz<967>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<2>, ZPZV<962»; };  // NOLINT
05122     template<> struct ConwayPolynomial<967, 6> { using ZPZ = aerobus::zpz<967>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<805>, ZPZV<948>, ZPZV<831>, ZPZV<5»; };  // NOLINT
05123     template<> struct ConwayPolynomial<967, 7> { using ZPZ = aerobus::zpz<967>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<962»; };  // NOLINT
05124     template<> struct ConwayPolynomial<967, 8> { using ZPZ = aerobus::zpz<967>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<840>, ZPZV<502>, ZPZV<136>, ZPZV<5»; };  //
      NOLINT
05125     template<> struct ConwayPolynomial<967, 9> { using ZPZ = aerobus::zpz<967>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<512>, ZPZV<783>, ZPZV<962»;
      };  // NOLINT
05126     template<> struct ConwayPolynomial<971, 1> { using ZPZ = aerobus::zpz<971>; using type =
      POLYV<ZPZV<1>, ZPZV<965»; };  // NOLINT
05127     template<> struct ConwayPolynomial<971, 2> { using ZPZ = aerobus::zpz<971>; using type =
      POLYV<ZPZV<1>, ZPZV<970>, ZPZV<6»; };  // NOLINT
05128     template<> struct ConwayPolynomial<971, 3> { using ZPZ = aerobus::zpz<971>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<3>, ZPZV<965»; };  // NOLINT
05129     template<> struct ConwayPolynomial<971, 4> { using ZPZ = aerobus::zpz<971>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<527>, ZPZV<6»; };  // NOLINT
05130     template<> struct ConwayPolynomial<971, 5> { using ZPZ = aerobus::zpz<971>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<14>, ZPZV<965»; };  // NOLINT
05131     template<> struct ConwayPolynomial<971, 6> { using ZPZ = aerobus::zpz<971>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<970>, ZPZV<729>, ZPZV<718>, ZPZV<6»; };  // NOLINT
05132     template<> struct ConwayPolynomial<971, 7> { using ZPZ = aerobus::zpz<971>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<13>, ZPZV<965»; };  // NOLINT
05133     template<> struct ConwayPolynomial<971, 8> { using ZPZ = aerobus::zpz<971>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<725>, ZPZV<281>, ZPZV<206>, ZPZV<6»; };  //
      NOLINT
05134     template<> struct ConwayPolynomial<971, 9> { using ZPZ = aerobus::zpz<971>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<805>, ZPZV<473>, ZPZV<965»;
      };  // NOLINT
05135     template<> struct ConwayPolynomial<977, 1> { using ZPZ = aerobus::zpz<977>; using type =
      POLYV<ZPZV<1>, ZPZV<974»; };  // NOLINT
05136     template<> struct ConwayPolynomial<977, 2> { using ZPZ = aerobus::zpz<977>; using type =
      POLYV<ZPZV<1>, ZPZV<972>, ZPZV<3»; };  // NOLINT
05137     template<> struct ConwayPolynomial<977, 3> { using ZPZ = aerobus::zpz<977>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<974»; };  // NOLINT
05138     template<> struct ConwayPolynomial<977, 4> { using ZPZ = aerobus::zpz<977>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<800>, ZPZV<3»; };  // NOLINT
05139     template<> struct ConwayPolynomial<977, 5> { using ZPZ = aerobus::zpz<977>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<11>, ZPZV<974»; };  // NOLINT
05140     template<> struct ConwayPolynomial<977, 6> { using ZPZ = aerobus::zpz<977>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<729>, ZPZV<830>, ZPZV<753>, ZPZV<3»; };  // NOLINT
05141     template<> struct ConwayPolynomial<977, 7> { using ZPZ = aerobus::zpz<977>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<974»; };  // NOLINT
05142     template<> struct ConwayPolynomial<977, 8> { using ZPZ = aerobus::zpz<977>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<855>, ZPZV<807>, ZPZV<77>, ZPZV<3»; };  //
      NOLINT
05143     template<> struct ConwayPolynomial<977, 9> { using ZPZ = aerobus::zpz<977>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<450>, ZPZV<740>, ZPZV<974»;
      };  // NOLINT
05144     template<> struct ConwayPolynomial<983, 1> { using ZPZ = aerobus::zpz<983>; using type =
      POLYV<ZPZV<1>, ZPZV<978»; };  // NOLINT
05145     template<> struct ConwayPolynomial<983, 2> { using ZPZ = aerobus::zpz<983>; using type =
      POLYV<ZPZV<1>, ZPZV<981>, ZPZV<5»; };  // NOLINT
05146     template<> struct ConwayPolynomial<983, 3> { using ZPZ = aerobus::zpz<983>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<1>, ZPZV<978»; };  // NOLINT
05147     template<> struct ConwayPolynomial<983, 4> { using ZPZ = aerobus::zpz<983>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<5>, ZPZV<567>, ZPZV<5»; };  // NOLINT
05148     template<> struct ConwayPolynomial<983, 5> { using ZPZ = aerobus::zpz<983>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<8>, ZPZV<978»; };  // NOLINT
05149     template<> struct ConwayPolynomial<983, 6> { using ZPZ = aerobus::zpz<983>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<849>, ZPZV<296>, ZPZV<228>, ZPZV<5»; };  // NOLINT
05150     template<> struct ConwayPolynomial<983, 7> { using ZPZ = aerobus::zpz<983>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<978»; };  // NOLINT
05151     template<> struct ConwayPolynomial<983, 8> { using ZPZ = aerobus::zpz<983>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<738>, ZPZV<276>, ZPZV<530>, ZPZV<5»; };  //
      NOLINT
05152     template<> struct ConwayPolynomial<983, 9> { using ZPZ = aerobus::zpz<983>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<858>, ZPZV<87>, ZPZV<978»;
      };  // NOLINT
```

```
05153     template<> struct ConwayPolynomial<991, 1> { using ZPZ = aerobus::zpz<991>; using type =
      POLYV<ZPZV<1>, ZPZV<985»; };  // NOLINT
05154     template<> struct ConwayPolynomial<991, 2> { using ZPZ = aerobus::zpz<991>; using type =
      POLYV<ZPZV<1>, ZPZV<989>, ZPZV<6»; };  // NOLINT
05155     template<> struct ConwayPolynomial<991, 3> { using ZPZ = aerobus::zpz<991>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<985»; };  // NOLINT
05156     template<> struct ConwayPolynomial<991, 4> { using ZPZ = aerobus::zpz<991>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<10>, ZPZV<794>, ZPZV<6»; };  // NOLINT
05157     template<> struct ConwayPolynomial<991, 5> { using ZPZ = aerobus::zpz<991>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<3>, ZPZV<985»; };  // NOLINT
05158     template<> struct ConwayPolynomial<991, 6> { using ZPZ = aerobus::zpz<991>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<637>, ZPZV<855>, ZPZV<278>, ZPZV<6»; };  // NOLINT
05159     template<> struct ConwayPolynomial<991, 7> { using ZPZ = aerobus::zpz<991>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<7>, ZPZV<985»; };  // NOLINT
05160     template<> struct ConwayPolynomial<991, 8> { using ZPZ = aerobus::zpz<991>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<15>, ZPZV<941>, ZPZV<786>, ZPZV<234>, ZPZV<6»; };  //
      NOLINT
05161     template<> struct ConwayPolynomial<991, 9> { using ZPZ = aerobus::zpz<991>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<9>, ZPZV<466>, ZPZV<222>, ZPZV<985»;
      };  // NOLINT
05162     template<> struct ConwayPolynomial<997, 1> { using ZPZ = aerobus::zpz<997>; using type =
      POLYV<ZPZV<1>, ZPZV<990»; };  // NOLINT
05163     template<> struct ConwayPolynomial<997, 2> { using ZPZ = aerobus::zpz<997>; using type =
      POLYV<ZPZV<1>, ZPZV<995>, ZPZV<7»; };  // NOLINT
05164     template<> struct ConwayPolynomial<997, 3> { using ZPZ = aerobus::zpz<997>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<2>, ZPZV<990»; };  // NOLINT
05165     template<> struct ConwayPolynomial<997, 4> { using ZPZ = aerobus::zpz<997>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<4>, ZPZV<622>, ZPZV<7»; };  // NOLINT
05166     template<> struct ConwayPolynomial<997, 5> { using ZPZ = aerobus::zpz<997>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<10>, ZPZV<990»; };  // NOLINT
05167     template<> struct ConwayPolynomial<997, 6> { using ZPZ = aerobus::zpz<997>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<981>, ZPZV<58>, ZPZV<260>, ZPZV<7»; };  // NOLINT
05168     template<> struct ConwayPolynomial<997, 7> { using ZPZ = aerobus::zpz<997>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<1>, ZPZV<990»; };  // NOLINT
05169     template<> struct ConwayPolynomial<997, 8> { using ZPZ = aerobus::zpz<997>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<934>, ZPZV<473>, ZPZV<241>, ZPZV<7»; };  //
      NOLINT
05170     template<> struct ConwayPolynomial<997, 9> { using ZPZ = aerobus::zpz<997>; using type =
      POLYV<ZPZV<1>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<0>, ZPZV<39>, ZPZV<732>, ZPZV<616>, ZPZV<990»;
      };  // NOLINT
05171 #endif  // DO_NOT_DOCUMENT
05172 }  // namespace aerobus
05173 #endif  // AEROBUS_CONWAY_IMPORTS
05174
05175 #endif // __INC_AEROBUS__ // NOLINT
```

Chapter 10

Examples

10.1 QuotientRing

inject a 'constant' in quotient ring

inject a 'constant' in quotient ring<i32, i32::val<2>>::inject_constant_t<1>

Template Parameters

x	a 'constant' from Ring point of view

10.2 type_list

A list of types <int, double, float>

A list of types <int, double, float>

Template Parameters

...Ts	types to store and manipulate at compile time

10.3 i32::template

inject a native constant

inject a native constant

Template Parameters

x	inject_constant_2<2> -> i32::template val<2>

10.4 i32::add_t

addition operator yields v1 + v2 <i32::val<2>, i32::val<3>>

addition operator yields v1 + v2 <i32::val<2>, i32::val<3>>

Template Parameters

v1	a value in i32
v2	a value in i32

10.5 i32::sub_t

substraction operator yields v1 - v2 <i32::val<3>, i32::val<2>>

substraction operator yields v1 - v2 <i32::val<3>, i32::val<2>>

Template Parameters

v1	a value in i32
v2	a value in i32

10.6 i32::mul_t

multiplication operator yields v1 ∗ v2 <i32::val<3>, i32::val<2>>

multiplication operator yields v1 ∗ v2 <i32::val<3>, i32::val<2>>

Template Parameters

v1	a value in i32
v2	a value in i32

10.7 i32::div_t

division operator yields v1 / v2 <i32::val<7>, i32::val<2>> -> i32::val<3>

division operator yields v1 / v2 <i32::val<7>, i32::val<2>> -> i32::val<3>

Template Parameters

v1	a value in i32
v2	a value in i32

10.8 i32::gt_t

strictly greater operator (v1 > v2) yields v1 > v2 <i32::val<7>, i32::val<2>>

strictly greater operator (v1 > v2) yields v1 > v2 <i32::val<7>, i32::val<2>>

Template Parameters

v1	a value in i32
v2	a value in i32

10.9 i32::eq_t

equality operator (type) yields v1 == v2 as std::integral_constant<bool> <i32::val<2>, i32::val<2>>

equality operator (type) yields v1 == v2 as std::integral_constant<bool> <i32::val<2>, i32::val<2>>

Template Parameters

v1	a value in i32
v2	a value in i32

10.10 i32::eq_v

equality operator (boolean value)

equality operator (boolean value)

Template Parameters

v1	
v2	<i32::val<1>, i32::val<1>>

10.11 i32::gcd_t

greatest common divisor yields GCD(v1, v2) <i32::val<6>, i32::val<15>>

greatest common divisor yields GCD(v1, v2) <i32::val<6>, i32::val<15>>

Template Parameters

v1	a value in i32
v2	a value in i32

10.12 i32::pos_t

positivity operator yields v > 0 as std::true_type or std::false_type <i32::val<1

positivity operator yields v > 0 as std::true_type or std::false_type <i32::val<1

Template Parameters

v	a value in i32

10.13 i32::pos_v

positivity (boolean value) yields v > 0 as boolean value

positivity (boolean value) yields v > 0 as boolean value

Template Parameters

v	a value in i32 <i32::val<1>>

10.14 i64::template

injects constant as an i64 value

injects constant as an i64 value

Template Parameters

x	inject_constant_t<2>

10.15 i64::add_t

addition operator

addition operator

Template Parameters

v1	: an element of aerobus::i64::val
v2	: an element of aerobus::i64::val <i64::val<1>, i64::val<2>>

10.16 i64::sub_t

substraction operator

substraction operator

Template Parameters

v1	: an element of aerobus::i64::val
v2	: an element of aerobus::i64::val <i64::val<1>, i64::val<2>>

10.17 i64::mul_t

multiplication operator

multiplication operator

Template Parameters

v1	: an element of aerobus::i64::val
v2	: an element of aerobus::i64::val <i64::val<1>, i64::val<2>>

10.18 i64::div_t

division operator integer division

division operator integer division

Template Parameters

v1	: an element of aerobus::i64::val
v2	: an element of aerobus::i64::val <i64::val<1>, i64::val<2>>

10.19 i64::mod_t

modulus operator

modulus operator

Template Parameters

v1	: an element of aerobus::i64::val
v2	: an element of aerobus::i64::val <i64::val<6>, i64::val<15>>

10.20 i64::gt_t

strictly greater operator yields v1 > v2 as std::true_type or std::false_type

strictly greater operator yields v1 > v2 as std::true_type or std::false_type

Template Parameters

v1	: an element of aerobus::i64::val
v2	: an element of aerobus::i64::val <i64::val<2>, i64::val<1>>

10.21 i64::lt_t

strict less operator yields v1 < v2 as std::true_type or std::false_type

strict less operator yields v1 < v2 as std::true_type or std::false_type

Template Parameters

v1	: an element of aerobus::i64::val
v2	: an element of aerobus::i64::val <i64::val<1>, i64::val<2>>

10.22 i64::lt_v

strictly smaller operator yields v1 < v2 as boolean value

strictly smaller operator yields v1 < v2 as boolean value

Template Parameters

v1	: an element of aerobus::i64::val
v2	: an element of aerobus::i64::val <i64::val<1>, i64::val<2>>

10.23 i64::eq_t

equality operator yields v1 == v2 as std::true_type or std::false_type

equality operator yields v1 == v2 as std::true_type or std::false_type

Template Parameters

v1	: an element of aerobus::i64::val
v2	: an element of aerobus::i64::val <i64::val<2>, i64::val<2>>

10.24 i64::eq_v

equality operator yields v1 == v2 as boolean value

equality operator yields v1 == v2 as boolean value

Template Parameters

v1	: an element of aerobus::i64::val
v2	: an element of aerobus::i64::val <i64::val<2>, i64::val<2>>

10.25 i64::gcd_t

greatest common divisor yields GCD(v1, v2) as instanciation of i64::val

greatest common divisor yields GCD(v1, v2) as instanciation of i64::val

Template Parameters

v1	: an element of aerobus::i64::val
v2	: an element of aerobus::i64::val <i64::val<6>, i64::val<15>>

10.26 i64::pos_t

is v posititive yields v > 0 as std::true_type or std::false_type

is v posititive yields v > 0 as std::true_type or std::false_type

Template Parameters

v1	: an element of aerobus::i64::val <i64::val<1>>

10.27 i64::pos_v

positivity yields v > 0 as boolean value

positivity yields v > 0 as boolean value

Template Parameters

v	: an element of aerobus::i64::val <i64::val<1>>

10.28 polynomial

makes the constant (native type) polynomial a_0

makes the constant (native type) polynomial a_0

Template Parameters

x	<i32>::template inject_constant_t<2>

10.29 q32::add_t

addition operator

addition operator

Template Parameters

v1	a value
v2	a value <q32::val<i32::val<1>, i32::val<2>>, q32::val<i32::val<1>, i32::val<3>>>

10.30 FractionField

Fraction field of an euclidean domain, such as Q for Z.

Fraction field of an euclidean domain, such as Q for Z

Template Parameters

Ring	<i64> is q64 (rationals with 64 bits numerator and denominator)

10.31 aerobus::ContinuedFraction

represents a continued fraction a0 + $\frac{1}{a_1+\frac{1}{a_2+\dots}}$

represents a continued fraction a0 + $\frac{1}{a_1+\frac{1}{a_2+\dots}}$[https://en.wikipedia.org/wiki/Continued_↩ fraction](See in Wikipedia)

Template Parameters

...values	are int64_t

<1, 1, 1> represents $1 + \frac{1}{\frac{1}{1}}$

10.32 PI_fraction::val

representation of π as a continued fraction -> 3.14...

10.33 E_fraction::val

approximation of e -> 2.718...

approximation of e -> 2.718...

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