

Pernicious Numbers • [Mark Senn](#) • last updated on 2022-03-20 at 21:57-04

Problem Statement

From [The Weekly Challenge - 156 Task #1: Pernicious Numbers](#) retrieved on 2022-03-15 at 18:20-04:

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A pernicious number is a positive integer which has prime number of ones in its binary representation.

Expected Output

3, 5, 6, 7, 9, 10, 11, 12, 13, 14

Raku Solution

```
# Use version 6.d of the Raku language.
use v6.d;

# Print the first 10 Pernicious Numbers.
(gather (1..*).map({.base(2).split('').sum.is-prime and .take})).head(10).join(', ').say;
```

Explanation

(The sequence returned by <code>gather</code> must be parenthesized.
gather	The <code>gather</code> function returns a sequence of values.
(1..*)	The values returned are put in the sequence using <code>take</code> . Set <code>\$_</code> (that's the default variable) from 1 to <i>whatever</i> . In this case, <i>whatever</i> is 14 because 14 numbers must be computed to get the 10 Pernicious Numbers.
.map	Process each value one at a time.
(The <code>.map</code> has to be followed by (.
{	Start Raku code inside a <code>map</code> .
.base(2)	Convert integer to <code>base 2</code> string representation. <code>5.base(2)</code> produces <code>101</code> .
.split('')	Split the string into an array with one binary digit in each element of array.
.sum	Sum the elements in the array.
.is-prime	Is the sum prime?
and .take	If the sum is prime <code>take</code> (save) the number so the earlier <code>gather</code> will get it.
}	End Raku code inside a <code>map</code> .
)	Match the (after <code>.map</code>
)	The sequence returned by <code>gather</code> must be parenthesized.
.head(10)	Get the first 10 numbers.
.join(', ')	Make a string with a <code>,</code> between each pair of numbers.
.say	Print the string followed by a newline.

(see next page)

I've tried many indentation styles and like [Allman style](#) the best.

The code

```
if (condition)  
{  
    statement;  
}
```

can be written as

```
if condition  
{  
    statement;  
}
```

or

```
(condition) and statement;
```

or

```
condition and statement;
```

The code

```
$_take
```

can be written as

```
.take
```

because the default variable is \$_.