Peaches Today, Peaches Tomorrow
[**http://nrich.maths.org/2312**](http://nrich.maths.org/2312)

**(i)** A little monkey had 60 peaches.

On the **first** day he decided to keep $\frac{3}{4}$ of his peaches. He gave the rest away. Then he ate one.

On the **second** day he decided to keep $\frac{7}{11}$ of his peaches. He gave the rest away. Then he ate one.

On the **third** day he decided to keep $\frac{5}{9}$ of his peaches. He gave the rest away. Then he ate one.

On the **fourth** day he decided to keep $\frac{2}{7}$ of his peaches. He gave the rest away. Then he ate one.

On the **fifth** day he decided to keep $\frac{2}{3}$ of his peaches. He gave the rest away. Then he ate one.

How many did he have left at the end?

**(ii)** A little monkey had some peaches.

On the **first** day he decided to keep $\frac{1}{2}$ of his peaches. He gave the rest away.Then he ate one.

On the **second** day he decided to keep $\frac{1}{2}$ of his peaches. He gave the rest away. Then he ate one.

On the **third** day he decided to keep $\frac{1}{2}$ of his peaches. He gave the rest away. Then he ate one.

On the **fourth** day he found he had only **one** peach left. How many did he have at the beginning?

**(iii)** A little monkey had **75**  peaches.

Each day, he kept a fraction of his peaches, gave the rest away, and then ate one.
These are the fractions he decided to ***keep:***

$\frac{1}{2}$**,** $\frac{1}{4}$**,** $\frac{3}{4}$**,** $\frac{3}{5}$**,** $ \frac{5}{6}$**,** $ \frac{11}{15}$

In which order did he use the fractions so that he was left with just one peach at the end?

**(iv)** Peach Rationing

Whenever the monkey has peaches, he always keeps a fraction of them each day, gives the rest away, and then eats one.

I wonder how long he could make his peaches last for?

Here are his rules:

* Each fraction must be in its simplest form and must be less than 1.
* The denominator is never the same as the number of peaches left (for example, if there were 45 peaches left, he would not be allowed to keep $\frac{44}{45}$ of them).

Can you start with fewer than 100 peaches and choose fractions so that there is at least one peach left after a week?

What is the longest that you can make them last, starting with fewer than 100 peaches?