



FROG JUMPS

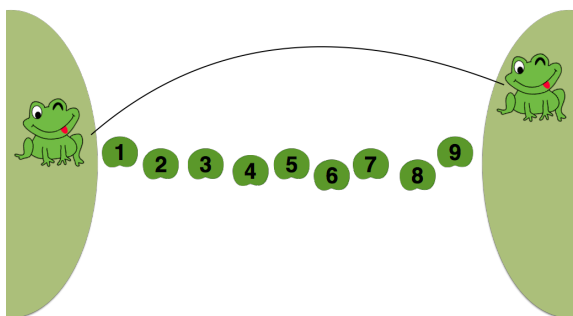
A frog needs to travel from one side of a pond to the other.



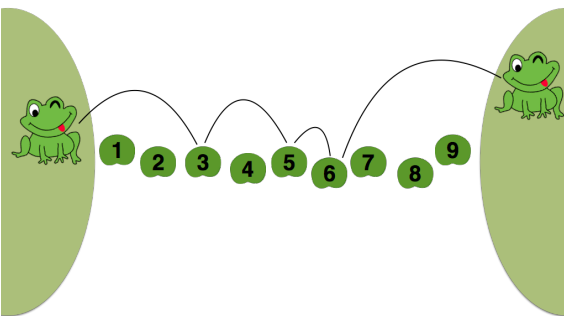
The **lowest number** of jumps the frog could take is **one** - jumping to the opposite side without landing on any of the lily pads. The **highest number** of jumps the frog could take is **ten** - jumping on every lily pad on the way. Or the frog could jump on only some of the lily pads on the way.

Here are some different journeys the frog could make:

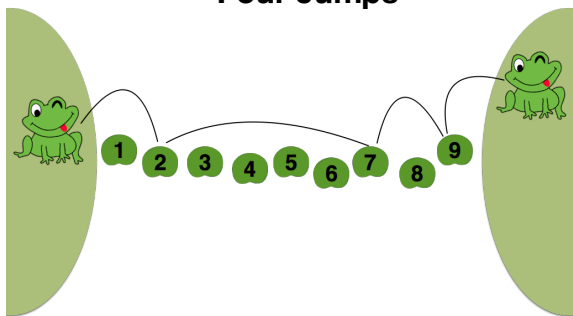
One Jump



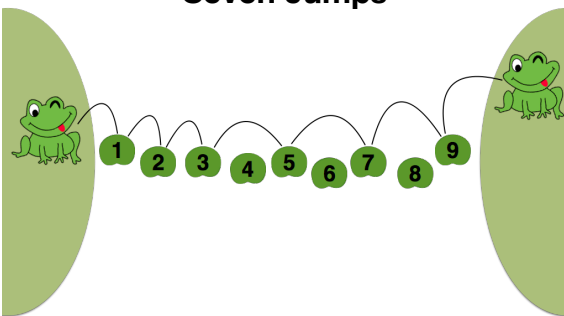
Four Jumps



Four Jumps



Seven Jumps





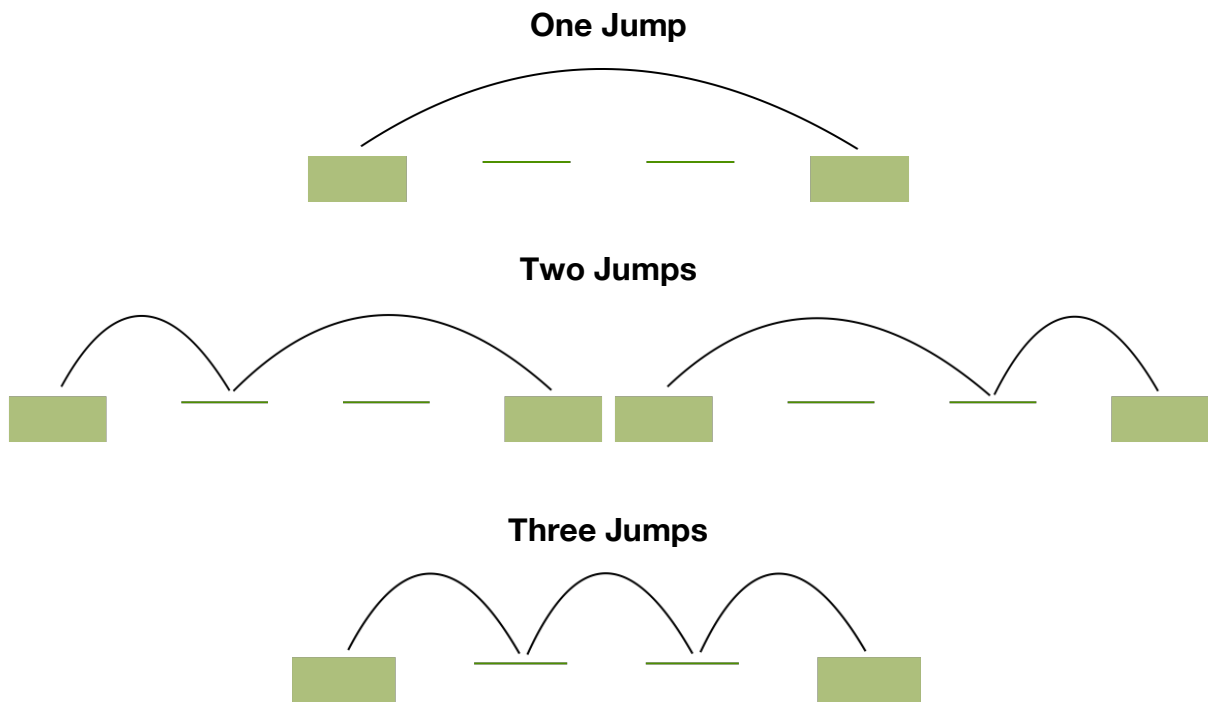
Task:

How many different ways are there that the frog could cross the pond?

Hint:

Remove some lily pads and solve a simpler problem first.

For example – we can find there are four ways (shown below) to cross the pond when there are only **two lily pads**.



How many ways are there to cross the pond if there are:

- a) Three lily pads
- b) Four lily pads
- c) Five lily pads

Can you use these results to help you find how many ways there to cross the pond when there are nine lily pads?

If you see a pattern in your results, can you explain why this pattern exists?