Recursion

Maths $\rightarrow$ $f(x) = x^2$

$$y = x^2$$

$\Downarrow$

```
void f(int x)
{
    return x*x;
}
```

* Recursion is similar to Principle of Mathematical Induction.

    $\hookrightarrow$ Solve small problem

        $\Downarrow$

    $\hookrightarrow$ Use this to solve bigger problem

* Smallest problem is known as

$\boxed{\text{base case}}$

Recursion

Base Case   Recursive equation

Recursion stops
here

*

| $f(x-2)$ |
| $f(x-1)$ |
| $f(x)$ |

Call stack
of process