```
fn x => x
```

```
1 fun fact 0 = 1
2   | fact n = n * fact (n - 1)
```

$$
\begin{aligned}
\texttt{(fn x => 2 * x) (3 + 4)} &\cong \texttt{(fn x => 2 * x) 7} && \text{(definition of +)} \\
&\cong \texttt{2 * 7} && \text{(function application)} \\
&\cong \texttt{14} && \text{(definition of *)}
\end{aligned}
$$

$$
\begin{aligned}
\texttt{(fn x => 2 * x) (3 + 4)} &\cong \texttt{(fn x => 2 * x) 7} && \text{(definition of +)} \\
&\cong \texttt{2 * 7} && \text{(function application)} \\
&\cong \texttt{14} && \text{(definition of *)}
\end{aligned}
$$

Task 2.1.

Task 2.2.

```
fun fact (0 : int) : int = 1
  | fact (n : int) : int = n * fact (n - 1)
```

We can see by our type annotations that this function has type `int -> int`!

Task 2.3.

```
fact : int -> int
```

Task 2.4.

Task 3.1.

Task 3.2.

Task 3.3.

Task 3.4.

Task 3.5.

Task 3.6.

Task 3.7.

Task 3.8.

Task 3.9.

Task 3.10.

Task 4.1.

Task 4.2.

Task 4.3.

Task 4.4.

Task 4.5.

Task 5.1.

Task 5.2.

Task 5.3.

Task 6.1.

Task 6.3.

Task 6.5.

Task 6.7.

Task 6.9.

Task 7.1.

Task 7.2.

Task 7.3.