# Variables and patterns in practice

The aim of this seminar is to give you experience of writing functions using pattern matching in Erlang, as well as to do some "hand calculation" too.

You can solve all of these questions just using pattern matching – in particular you don't need any other mechanism for distinguishing between different cases.

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## Exclusive or

In the video lecture on variables and patterns we saw two ways of defining "exclusive or". Give at least three others. You might find it useful to know that

- `=/= ==` are the operations for inequality and equality in Erlang;
- `not` is the Erlang negation function;
- `and` and `or` are the Erlang conjunction and disjunction (infix) operators.

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## Maximum of three

Give a definition of the function `maxThree` which takes three integers and returns the maximum of the three. You can use the `max` function, which gives the maximum of two numbers, in writing your definition.

```
maxThree(34,25,36) = 36
```

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## How many equal?

Give a definition of the function `howManyEqual` which takes three integers and returns an integer, which counts how many of its three arguments are equal, so that

```
howManyEqual(34,25,36) = 0
howManyEqual(34,25,34) = 2
howManyEqual(34,34,34) = 3
```

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