

The implicit associativity of the function does not mean the inner or final set of parentheses, i. e, the result type, evaluates first.

## 1 Partial application

The word "*sectioning*" refers to partial application of infix operators.

### Definition : Parametricity

*Parametricity* means that the behavior of a function with respect to the types of its (parametrically polymorphic) arguments is uniform. The behavior cannot change just because it was applied to an argument of a different type.

## 2 Type inference

Haskell does not obligate us to assert a type for every expression or value because it has *type inference*.

### Definition : Type inference

Type inference is an algorithm for determining the types of expressions. Haskell will infer the most generally applicable (polymorphic) type that is still correct.

## 3 Determine the type

### Definition : Monomorphism restriction

Top-level declarations by default will have a concrete type if any can be determined.

```
{-# LANGUAGE NoMonomorphismRestriction #-}

module DetermineTheType where

-- simple example
example = 1
```

## 4 Definition

1. **Polymorphism:** in Haskell this will usually manifest as *parametric* or *ad-hoc polymorphism*.
2. **Type inference:** Infer principal types from terms without needing explicit type annotations.
3. **Type variable** is a way to refer to an unspecified type or set of types in Haskell type signatures.
4. **Typeclass:** a means of expressing faculties or interfaces that multiple datatypes may have in common.
5. **Ad-hoc polymorphism** (*constrained polymorphism*)
6. **Module:** The unit of organization