

Pre-defined types

- We already saw **function types**: $a \rightarrow b$
- We also saw **elementary types**: `Int`, `Float`, `Double`, `Char`, and so on
- **Tuples** group multiple types: `()`, `(a, b)`, `(a, b, c)`, and so on

```
harmonicMeanT :: (Double, Double) -> Double
harmonicMeanT (x, y) = (2 * x * y) / (x + y)
```

```
harmonicMeanT :: (Double, Double) -> Double
harmonicMeanT pxy
  = (2 * (fst pxy) * (snd pxy)) / (fst pxy + (snd pxy))
```

```
fst :: (a, b) -> a   – functions defined in Prelude
snd :: (a, b) -> b
```

Lists

Pronounced "nil"

- Lists are either **empty**: `[]`
- ...or consist of a **head** and a **tail**: `x : xs`
- Lists are **homogenous** — all elements in one list have the same type
- Lists are **parametric** — different lists may contain elements of different type

Pronounced "cons"

Some operations on lists

- Length of a list
- Concatenating two lists
- Reversing the elements of a list
- Mapping a function over a list

In Haskell!