## **DIAGRAM DEFINITION**

```
newtype Diagram =
   Diagram (Dual [Prim], Envelope, Trace)
   deriving (Semigroup, Monoid)
```

## **HELPER FUNCTIONS**

```
unD (Diagram (Dual ps, _, _)) = ps
prim p = Diagram (Dual [p], envelopeP p, traceP p)
mkD = hom prim
envelope (Diagram (_, e, _)) = e
trace (Diagram (_, _, t)) = t
```

## VARIATION 5 & 6

## TRANSFORMATIONS & MONOID ACTIONS