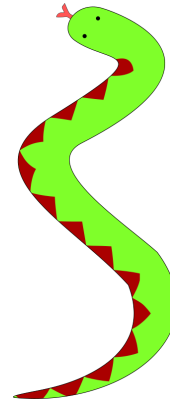# Other Kinds of Data

Suppose we want to represent snakes:

- name

- weight

- favorite food

What kind of data is appropriate?

Not **num**, **bool**, **string**, **image**, or **posn**...

# Data Definitions and `define-struct`

Here's what we'd like:

A **snake** is
   **(make-snake string num string)**

   ... but **make-snake** is not built into DrRacket

We can tell DrRacket about **snake**:

   **(define-struct snake (name weight food))**

Creates the following:

- **make-snake**
- **snake-name**
- **snake-weight**
- **snake-food**

# Data Definitions and `define-struct`

Here's what we'd like:

A **snake** is
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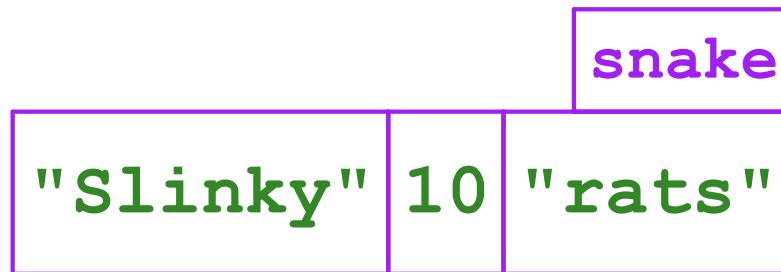   **(define-struct snake (name weight food))**

Creates the following:

   **(snake-name (make-snake X Y Z))** → **X**
   **(snake-weight (make-snake X Y Z))** → **Y**
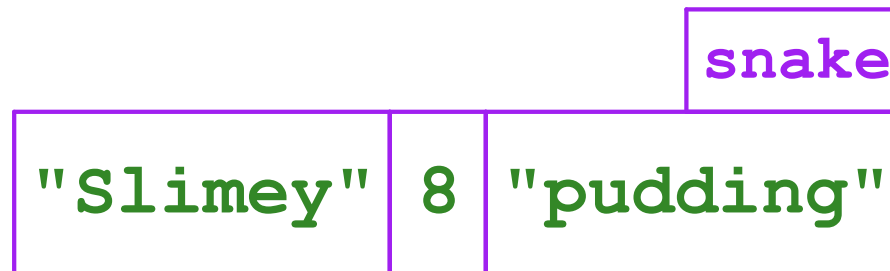   **(snake-food (make-snake X Y Z))** → **Z**

# Values vs. `define-struct`
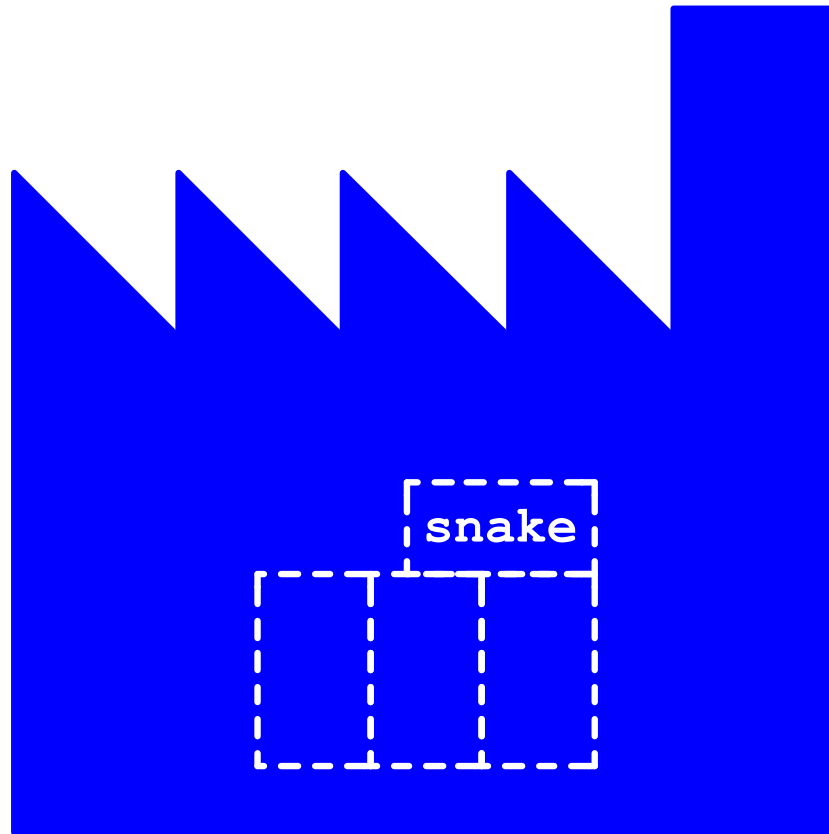
`(make-snake "Slinky" 10 "rats")`

| snake | | |
|---|---|---|
| "Slinky" | 10 | "rats" |

`(make-snake "Slimey" 8 "pudding")`

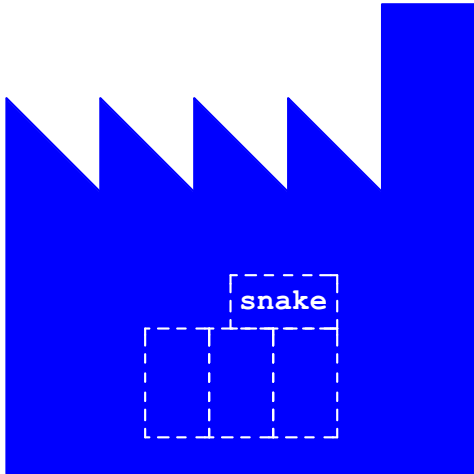| snake | | |
|---|---|---|
| "Slimey" | 8 | "pudding" |

# Values vs. `define-struct`

`(define-struct snake (name weight food))`

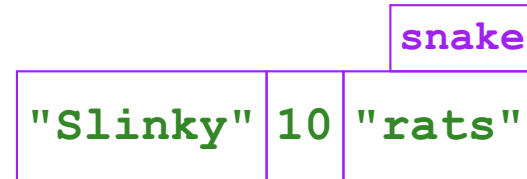# Values vs. `define-struct`

`(define-struct snake (name weight food))`

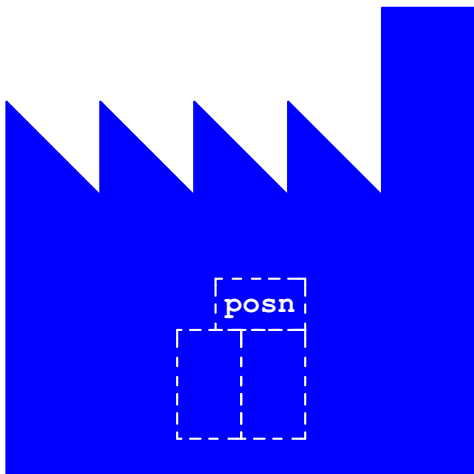`(make-snake "Slinky" 10 "rats")`

| snake | | |
|-------|----|-------|
| "Slinky" | 10 | "rats" |

`(make-snake "Slimey" 8 "pudding")`

| snake | | |
|-------|----|-------|
| "Slimey" | 8 | "pudding" |
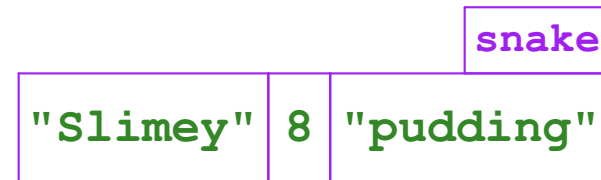
`(define-struct posn (x y))`

`(make-posn 3 4)`

| posn | |
|------|---|
| 3 | 4 |

`(make-posn 8 -2)`

| posn | |
|------|----|
| 8 | -2 |

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