

World worksheet

4 Oct 2010

; $\frac{\text{tick-defender}}{\text{TICK FUNCTION NAME}} : \frac{\text{DLState}}{\text{STATE TYPE}} \rightarrow \frac{\text{DLState}}{\text{STATE TYPE}}$ (State of a defender and list of lazars)
 ; calculates the state following the given state if only time passes

```
(define (  $\frac{\text{tick-defender}}{\text{TICK FUNCTION NAME}}$  current )
  current ) ; stub, state is unchanged
```

; $\frac{\text{key-defender}}{\text{KEY FUNCTION NAME}} : \frac{\text{DLState}}{\text{STATE TYPE}} \text{ KeyEvent} \rightarrow \frac{\text{DLState}}{\text{STATE TYPE}}$
 ; calculates the state following the given state if given key is pressed

```
(define (  $\frac{\text{key-defender}}{\text{KEY FUNCTION NAME}}$  current key )
  current ) ; stub, state is unchanged
```

; $\frac{\text{render-defender}}{\text{RENDER FUNCTION NAME}} : \frac{\text{DLState}}{\text{STATE TYPE}} \rightarrow \text{image}$
 ; constructs an image representing the given state

```
(define (  $\frac{\text{render-defender}}{\text{RENDER FUNCTION NAME}}$  current )
  (text current 40 "red") ) ; stub, renders as text
```

```
(define ( main init-val )
  (big-bang init-val
```

```
    (on-tick  $\frac{\text{tick-defender}}{\text{TICK FUNCTION NAME}}$  )
```

```
    (on-key  $\frac{\text{key-defender}}{\text{KEY FUNCTION NAME}}$  )
```

```
    (to-draw  $\frac{\text{render-defender}}{\text{RENDER FUNCTION NAME}}$  )
```

```
(main  $\frac{\text{INIT DEFENDER}}{\text{INITIAL STATE}}$ )
```