Assignment 4
Specification

SFWR ENG 2AA4

Jay Mody - 400195508 - modyj

March 25, 2020

[insert short introduction about program and MIS here]

Example Module

Module

n/a

Uses

n/a

Syntax

Exported Constants

n/a

Exported Types

n/a

Exported Access Programs

Routine name	In	Out	Exceptions
routine1	$\mathbb{Z}$, $\mathbb{Z}$	$\mathbb{Z}$	
routine2		$\mathbb{Z}$	
routine3		$\mathbb{Z}$	
routine3	$\mathbb{Z}$, $\mathbb{Z}$	$\mathbb{Z}$	

Semantics

State Variables

n/a

State Invariant

n/a

Assumptions

n/a

Access Routine Semantics

routine(*parameters*):

- transition: $variable := something$
- output: $out := something$
- exception: $exc := something$

Local Functions

n/a

Considerations

n/a

Dot Type Module

Module

DotT

Uses

n/a

Syntax

Exported Constants

None

Exported Types

Dottypes = {R, G, B, Y} *// R for red, G for green, B for blue, Y for yellow*

Exported Access Programs

Routine name	In	Out	Exceptions
new DotT	Dottypes	DotT	

Semantics

State Variables

dot: Dottypes

State Invariant

None

Access Routine Semantics

new DotT(t):

- transition: $dot := t$
- output: $out := self$
- exception: $exc := none$

Point ADT Module

Template Module

PointT

Uses

n/a

Syntax

Exported Constants

None

Exported Types

PointT = ?

Exported Access Programs

Routine name	In	Out	Exceptions
new PointT	$\mathbb{Z}$, $\mathbb{Z}$	PointT	
row		$\mathbb{Z}$	
col		$\mathbb{Z}$	

Semantics

State Variables

r: $\mathbb{Z}$
c: $\mathbb{Z}$

State Invariant

None

Assumptions

- The constructor new PointT is called for each object instance before any other access routine is called for that object. The constructor cannot be called on an existing object.

Access Routine Semantics

new PointT(row, col):

- transition: $r, c := row, col$
- output: $out := self$
- exception: None

row():

- output: $out := r$
- exception: None

col():

- output: $out := c$
- exception: None

Board ADT Module

Template Module

BoardT

Uses

n/a

Syntax

Exported Constants

n/a

Exported Types

n/a

Exported Access Programs

Routine name	In	Out	Exceptions
routine1	$\mathbb{Z}$, $\mathbb{Z}$	$\mathbb{Z}$	
routine2		$\mathbb{Z}$	
routine3		$\mathbb{Z}$	
routine3	$\mathbb{Z}$, $\mathbb{Z}$	$\mathbb{Z}$	

Semantics

State Variables

n/a

State Invariant

n/a

Assumptions

n/a

Access Routine Semantics

routine($parameters$):

- transition: $variable := something$
- output: $out := something$
- exception: $exc := something$

Local Functions

n/a

Considerations

n/a

Dots Game Module

Game Module

Dots

Uses

n/a

Syntax

Exported Constants

n/a

Exported Types

n/a

Exported Access Programs

Routine name	In	Out	Exceptions
routine1	$\mathbb{Z}$, $\mathbb{Z}$	$\mathbb{Z}$	
routine2		$\mathbb{Z}$	
routine3		$\mathbb{Z}$	
routine3	$\mathbb{Z}$, $\mathbb{Z}$	$\mathbb{Z}$	

Semantics

State Variables

n/a

State Invariant

n/a

Assumptions

n/a

Access Routine Semantics

routine($parameters$):

- transition: $variable := something$
- output: $out := something$
- exception: $exc := something$

Local Functions

n/a

Considerations

n/a

Questions

1. n/a
2. n/a