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CSCD 350 Team #14 Task 4

Command Unrolling

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DO SET REFERENCE ENGINE *Identifier*

DO SET *Identifier* SPEED Number

DO SET *Identifier* DIRECTION FORWARD

DO SET *Identifier* DIRECTION BACKWARD

DO SET SEMEPHORE *Identifier* STOP

DO SET SEMEPHORE *Identifier* CAUTION

DO SET SEMEPHORE *Identifier* PROCEED

DO SET SIGNAL LIGHT *Identifier* STOP

DO SET SIGNAL LIGHT *Identifier* PROCEED

DO BRAKE *Identifier*

DO SELECT DRAWBRIDGE *Identifier* POSITION UP

DO SELECT DRAWBRIDGE *Identifier* POSITION DOWN

DO SELECT ROUNDHOUSE *Identifier* POSITION Angle CLOCKWISE

DO SELECT ROUNDHOUSE *Identifier* POSITION Angle COUNTERCLOCKWISE

DO SELECT SWITCH *Identifier* PATH PRIMARY

DO SELECT SWITCH *Identifier* PATH SECONDARY

DO SELECT WATER TANK *Identifier* FLOW ON

DO SELECT WATER TANK *Identifier* FLOW OFF

@DO FORCE *Identifier* SPEED Number

@DO FORCE *Identifier* DIRECTION FORWARD

@DO FORCE *Identifier* DIRECTION BACKWARD

@DO FORCE *Identifier* POSITION TRACK *Identifier* DISTANCE Number FROM START

@DO FORCE *Identifier* POSITION TRACK *Identifier* DISTANCE Number FROM END

@DO SET COLLISIONS ENABLE

@DO SET COLLISIONS DISABLE

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* STRUCTURAL \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

LOCATE STOCK *Identifier* ON *TrackLocator*

MAP OCCUPANCY SENSOR *Identifier*+ TO ACTUATOR *Identifier*

MAP OCCUPANCY SENSORS *Identifier*+ TO ACTUATOR *Identifier*

MAP SPEED SENSOR *Identifier*+ TO ACTUATOR *Identifier* RESPOND PROCEED WHEN SPEED LESS THAN *Number*

MAP SPEED SENSOR *Identifier*+ TO ACTUATOR *Identifier* RESPOND PROCEED WHEN SPEED GREATER THAN *Number*

MAP SPEED SENSOR *Identifier*+ TO ACTUATOR *Identifier* RESPOND STOP WHEN SPEED LESS THAN *Number*

MAP SPEED SENSOR *Identifier*+ TO ACTUATOR *Identifier* RESPOND STOP WHEN SPEED GREATER THAN *Number*

MAP SPEED SENSORS *Identifier*+ TO ACTUATOR *Identifier* RESPOND PROCEED WHEN SPEED LESS THAN *Number*

MAP SPEED SENSORS *Identifier*+ TO ACTUATOR *Identifier* RESPOND PROCEED WHEN SPEED GREATER THAN *Number*

MAP SPEED SENSORS *Identifier*+ TO ACTUATOR *Identifier* RESPOND STOP WHEN SPEED LESS THAN *Number*

MAP SPEED SENSORS *Identifier*+ TO ACTUATOR *Identifier* RESPOND STOP WHEN SPEED GREATER THAN *Number*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* CREATIONAL \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

CREATE ACTUATOR *Identifier* AS CROSSBUCK ON *TrackLocator*

CREATE ACTUATOR *Identifier* AS GATE ON *TrackLocator*

CREATE ACTUATOR *Identifier* AS SIGNAL LIGHT ON *TrackLocator* TOWARD (START | END)

CREATE ACTUATOR *Identifier* AS SEMAPHORE ON *TrackLocator* TOWARD (START| END)

CREATE ACTUATOR *Identifier* AS STATION ON *TrackLocator*

CREATE ACTUATOR *Identifier* AS WATER TANK ON *TrackLocator*

CREATE POWER POLE *Identifier* ON TrackLocator

CREATE POWER CATENARY *Identifier* WITH POLES *Identifier* +

CREATE POWER SUBSTATION *Identifier ReferenceAccess* DELTA *CoordinatesDelta* WITH SUBSTATIONS *Identifier*

CREATE POWER STATION *Identifier ReferenceAccess* DELTA *CoordinatesDelta* WITH SUBSTATIONS *Identifier* +

CREATE SENSOR *Identifier* FOR OCCUPANCY ON *TrackLocator* RANGE *Number*

CREATE SENSOR *Identifier* FOR SPEED ON *TrackLocator* RANGE *Number*

CREATE STOCK ENGINE *Identifier* AS DIESEL ON *TrackLocator EngineLocator*

CREATE STOCK ENGINE *Identifier* AS DIESEL ELECTRIC ON *TrackLocator EngineLocator*

CREATE STOCK ENGINE *Identifier* AS ELECTRIC ON *TrackLocator EngineLocator*

CREATE STOCK ENGINE *Identifier* AS STEAM WITH WATER SUPPLY *Number* RATE *Number* ON *TrackLocator EngineLocator*

CREATE STOCK ENGINE *Identifier* AS SWITCHER ON *TrackLocator EngineLocator*

CREATE STOCK CAR *Identifier* AS BOX

CREATE STOCK CAR *Identifier* AS CABOOSE

CREATE STOCK CAR *Identifier* AS FLATBED

CREATE STOCK CAR *Identifier* AS PASSENGER

CREATE STOCK CAR *Identifier* AS TANK

CREATE STOCK CAR *Identifier* AS TENDER

CREATE ENGINE *Identifier* AS DIESEL ELECTRIC ON *TrackLocator* *EngineLocator*

CREATE ENGINE *Identifier* AS DIESEL ON *TrackLocator* *EngineLocator*

CREATE ENGINE *Identifier* AS ELECTRIC ON *TrackLocator* *EngineLocator*

CREATE ENGINE *Identifier* AS STEAM WITH WATER SUPPLY *Number* RATE *Number* ON *TrackLocator* *EngineLocator*

CREATE ENGINE *Identifier* AS SWITCHER ON *TrackLocator* *EngineLocator*

CREATE TRACK BRIDGE *Identifier* *ReferenceDeltaStartEnd*

CREATE TRACK BRIDGE DRAW *Identifier* *ReferenceDeltaStartEnd* ANGLE *Angle*

CREATE TRACK CROSSING *Identifier* *ReferenceDeltaStartEnd*

CREATE TRACK CROSSOVER *Identifier* *ReferenceAccess* DELTA START *CoordinatesDelta* END *CoordinatesDelta* START

*CoordinatesDelta* END *CoordinatesDelta*

CREATE TRACK CURVE Identifier *ReferenceAccess* DELTA START *CoordinatesDelta* END *CoordinatesDelta* ( ( DISTANCE ORIGIN

*Number* ) | ( ORIGIN *CoordinatesDelta* ) )

CREATE TRACK END *Identifier* *ReferenceDeltaStartEnd*

CREATE TRACK LAYOUT *Identifier* WITH TRACKS ( *Identifier* )+

CREATE TRACK ROUNDHOUSE *Identifier* *ReferenceAccess* DELTA ORIGIN *CoordinatesDelta* ANGLE ENTRY *Angle* START *Angle* END

*Angle* WITH *Integer* SPURS LENGTH *Number* TURNTABLE LENGTH *Number*

CREATE TRACK STRAIGHT *Identifier* *ReferenceDeltaStartEnd*

CREATE TRACK SWITCH TURNOUT *Identifier* *ReferenceAccess* STRAIGHT DELTA START *CoordinatesDelta* END *CoordinatesDelta* CURVE DELTA START *CoordinatesDelta* END *CoordinatesDelta* DISTANCE ORIGIN *Number*

CREATE TRACK SWITCH WYE *Identifier* *ReferenceAccess* DELTA START *CoordinatesDelta* END *CoordinatesDelta* DISTANCE ORIGIN

*Number* DELTA START *CoordinatesDelta* END *CoordinatesDelta* DISTANCE ORIGIN *Number*

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@CLOCK ( ( *Integer Number* | PAUSE | RESUME | UPDATE ) ) ?

@EXIT

@RUN *LiteralString*

@SCHEDULE AT *Number* @WAIT *Number*

USE *Identifier* AS REFERENCE *CoordinatesWorld*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* VIEW \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

OPEN VIEW *Identifier* ORIGIN ( *CoordinatesWorld* | ( '$' *Identifier* ) ) WORLD WIDTH *Integer* SCREEN WIDTH *Integer* HEIGHT

*Integer*

CLOSE VIEW *Identifier*

SYNC VIEW *Identifier* ( NORTH ON *Identifier* | TRACK ON *Identifier* )

UNSYNC VIEW *Identifier*