

```

KobenhavnsTekniskeSkole {
    state humidityAlarm = false
    state fireAlarm = false
    state lockDown = false
    state equipmentState = false
    state computerOn = false

    policy ComputerShutDownPolicy
    uses actuators ElectricalSwitchActuator
    uses rooms WorkStation
    is-implemented-by {
        if (!state-instance.computerOn) {
            state-instance.computerOn = true
            ElectricalSwitchActuator.setValue = true
        }
    }

    policy SkyLightWindowControlPolicy
    uses sensors RainSensor
    uses actuators WindowActuator
    is-implemented-by {
        state isRaining = false
        if (RainSensor.value = true){
            state-instance.isRaining = true
            WindowActuator.setValue = false
        }
    }

    policy WinterHeatingPolicy
    uses sensors TemperatureSensor
    uses actuators WindowActuator, RadiatorActuator
    uses rooms HeatControlledRoom
    is-implemented-by {
        if (TemperatureSensor.value <= 18) {
            WindowActuator.setValue = false
            RadiatorActuator.setValue = 9
        } else {
            if (TemperatureSensor.value >= 25) {
                WindowActuator.setValue = true
                RadiatorActuator.setValue = 0
            }
        }
    }

    policy RoomHeatingPolicy
    uses sensors TemperatureSensor, MotionSensor, InfraredLightSensor
    uses actuators RadiatorActuator
    uses rooms HeatControlledRoom
    is-implemented-by {

        state roomInUse = false
        if (MotionSensor.value = true || InfraredLightSensor.value = true) {
            state-instance.roomInUse = true
            if ( TemperatureSensor.value <= 18) {
                RadiatorActuator.setValue = 9
            }
        }
    }
}

```

```

        else {
            state-instance.roomInUse = false
        }
        if ( state-instance.roomInUse = false && TemperatureSensor.value >= 10) {
            RadiatorActuator.setValue = 0
        }
    }

policy UtilityUsageControlPolicy
uses sensors MotionSensor, InfraredLightSensor
uses actuators ElectricalSwitchActuator, WaterValveActuator, GasValveActuator
uses rooms ClosedRoom
is-implemented-by {
    state utilityClosed = false
    if (MotionSensor.value = false || InfraredLightSensor.value = false) {
        state-instance.utilityClosed = true
        ElectricalSwitchActuator.setValue = false
        WaterValveActuator.setValue = false
        GasValveActuator.setValue = false
    }
}

policy CentralAccessControlPolicy
uses sensors MotionSensor, InfraredLightSensor
uses actuators DoorActuator, AudioAlarmActuator
is-implemented-by {
    if ( state-instance.lockDown ) {
        DoorActuator.setValue = false
        if (MotionSensor.value = true || InfraredLightSensor.value = true){
            AudioAlarmActuator.setValue = true
        }
    }
}

policy CompleteLockdownPolicy
uses actuators LightSwitchActuator, WindowActuator, DoorActuator
uses rooms ClosedRoom
is-implemented-by {
    state isSecure = false

    if ( !state-instance.lockDown) {
        state-instance.isSecure = true
        state-instance.lockDown = true
        LightSwitchActuator.setValue = false
        WindowActuator.setValue = false
        DoorActuator.setValue = false
    } else {
        //send msg to person on duty
    }
}

```

```

policy NaturalHeatControlPolicy
uses sensors TemperatureSensor
uses actuators RadiatorActuator, WindowActuator
uses rooms HeatControlledRoom
is-implemented-by {
    state warmOutside

    if ( TemperatureSensor.value > 25 ) {
        state-instance.warmOutside = true
        WindowActuator.setValue = true
        RadiatorActuator.setValue = false
    }
    else {
        if (TemperatureSensor.value < 15) {
            state-instance.warmOutside = false
            WindowActuator.setValue = false
            RadiatorActuator.setValue = true
        }
    }
}

policy HallwayTemperatureControlPolicy
uses sensors TemperatureSensor, RainSensor
uses actuators RadiatorActuator, WindowActuator
uses rooms Hallway
is-implemented-by {
    if ( TemperatureSensor.value > 25 ) {
        WindowActuator.setValue = true
    }
    if ( RainSensor.value = true ) {
        WindowActuator.setValue = false
    }
}

policy EquipmentShutDownPolicy
uses actuators ElectricalSwitchActuator
uses rooms LectureRoom
is-implemented-by {
    if (state-instance.computerOn != true) {
        state-instance.equipmentState = true
        ElectricalSwitchActuator.setValue = true
    } else {
        state-instance.equipmentState = false
    }
}

policy VentilationControlPolicy
uses sensors TemperatureSensor
uses actuators RadiatorActuator, HumidifierActuator
is-implemented-by {
    if ( TemperatureSensor.value > 25 ) {
        HumidifierActuator.setValue = true
        RadiatorActuator.setValue = false
    }
}

```

schedule WorkingWeekHours  
days Monday, Tuesday, Wednesday, Thursday, Friday  
from 06:00 to 18:00

schedule LateWorkingWeekHours  
days Monday, Tuesday, Wednesday, Thursday, Friday  
from 18:00 to 22:00

schedule LockdownWeekHours  
days Monday, Tuesday, Wednesday, Thursday, Friday  
from 22:00 to 06:00

schedule LockdownWeekendHours  
days Saturday, Sunday  
from 00:00 to 00:00

room-type WorkStation  
is-governed-by ComputerShutDownPolicy  
during LockdownWeekHours, LockdownWeekendHours

room-type ClosedRoom  
is-governed-by CompleteLockdownPolicy, UtilityUsageControlPolicy  
during LockdownWeekHours, LockdownWeekendHours

room-type HeatControlledRoom  
is-governed-by WinterHeatingPolicy, NaturalHeatControlPolicy, RoomHeatingPolicy  
during WorkingWeekHours

room-type VentilationControlledRoom  
is-governed-by VentilationControlPolicy  
during WorkingWeekHours

room-type Hallway  
is-governed-by HallwayTemperatureControlPolicy, NaturalHeatControlPolicy  
during-always

room-type LectureRoom  
is-governed-by EquipmentShutDownPolicy  
during LockdownWeekHours, LockdownWeekendHours

}