QUIZ:

Write a SmartHome class as shown in the following UML Diagram and all required test codes.

SmartHome

-m_name : string -m_city : string -m_area : double -m_roomCount : int

-m_heatingTemperature : double

+SmartHome(name : const string&, city : const string&)

+getName(): const string&

+setName(name : const string&) : void

+getCity(): const string&

+setCity(city: const string&): void

+getArea(): double

+setArea(area : double) : void

+getRoomCount(): int

+setRoomCount(roomCount : int) : void +startHeating(temperature : double) : void +stopHeating(duration : double) : double +startLighting(roomCount : int) : void +stopLighting(duration : double) : double

- Heating consumes 0.5Watt per minute for per area
- Lighting consumes 5Watt per minute per room