Automatic evaluation[[+]](javascript:void(0);)

SmartHomeLighting/pom.xml

1 <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">

2 <modelVersion>4.0.0</modelVersion>

3 <groupId>SmartHome</groupId>

4 <artifactId>SmartHome</artifactId>

5 <version>0.0.1-SNAPSHOT</version>

6

7 <dependencies>

8 <dependency>

9 <groupId>org.springframework</groupId>

10 <artifactId>spring-context</artifactId>

11 <version>5.3.10</version>

12 </dependency>

13

14 <dependency>

15 <groupId>junit</groupId>

16 <artifactId>junit</artifactId>

17 <version>4.12</version>

18 <scope>test</scope>

19 </dependency>

20

21 <dependency>

22 <groupId>xmlunit</groupId>

23 <artifactId>xmlunit</artifactId>

24 <version>1.6</version>

25 <scope>test</scope>

26 </dependency>

27

28 <dependency>

29 <groupId>com.github.stefanbirkner</groupId>

30 <artifactId>system-rules</artifactId>

31 <version>1.16.0</version>

32 <scope>test</scope>

33 </dependency>

34 </dependencies>

35

36 <properties>

37 <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>

38 <maven.compiler.target>17</maven.compiler.target>

39 <maven.compiler.source>17</maven.compiler.source>

40 </properties>

41

42 </project>

43

SmartHomeLighting/src/main/java/com/spring/app/ApplicationConfig.java

1 *package* com.spring.app;

2 *import* org.springframework.context.annotation.Bean;

3 *import* org.springframework.context.annotation.ComponentScan;

4 *import* org.springframework.context.annotation.Configuration;

5

6

7 //Use appropriate annotations

8 @Configuration

9 @ComponentScan(basePackages="com.spring.app")

10 *public* *class* ApplicationConfig {

11

12 //Use appropriate annotation

13 @Bean

14 *public* SmartHome ledHome(LEDLighting lightingSystem) {

15 // FILL THE CODE HERE

16 *return* *new* SmartHome("Eco Friendly House",lightingSystem);

17 }

18

19 //Use appropriate annotation

20 @Bean

21 *public* SmartHome incandescentHome(IncandescentLighting lightingSystem) {

22 // FILL THE CODE HERE

23 *return* *new* SmartHome("Classic Beauty Home", lightingSystem);

24 }

25

26 }

27

SmartHomeLighting/src/main/java/com/spring/app/Driver.java

1 *package* com.spring.app;

2

3 *import* java.util.Scanner;

4 *import* org.springframework.context.ApplicationContext;

5 *import* org.springframework.context.annotation.AnnotationConfigApplicationContext;

6

7 *public* *class* Driver {

8 *public* *static* *void* main(String[] args) {

9 ApplicationContext context = *new* AnnotationConfigApplicationContext(ApplicationConfig.*class*);

10 Scanner scanner = *new* Scanner(System.in);

11 SmartHome smartHome = *null*;

12 System.out.println("Select option\n 1.LED Lighting \n 2.Incandescent Lighting");

13 *int* choice = scanner.nextInt();

14

15 *if* (choice == 1) {

16 // Fill the code here

17 smartHome=context.getBean("ledHome",SmartHome.*class*);

18 } *else* *if* (choice == 2) {

19 // Fill the code here

20 smartHome=context.getBean("incandescentHome",SmartHome.*class*);

21 }

22 *if*(smartHome!=*null*)

23 {

24 smartHome.getReport();

25 }

26 *else* {

27 System.out.println("Wrong choice");

28 scanner.close();

29 *return*;

30 }

31 scanner.close();

32 }

33 }

34

SmartHomeLighting/src/main/java/com/spring/app/IncandescentLighting.java

1 *package* com.spring.app;

2 *import* org.springframework.beans.factory.annotation.Value;

3 *import* org.springframework.stereotype.Component;

4

5 //use appropriate annotation to make this class as component class

6 @Component

7 *public* *class* IncandescentLighting *extends* LightingSystem {

8 //use appropriate annotation

9 @Value("600")

10 *private* *int* luminosity;

11 //use appropriate annotation

12 @Value("60")

13 *private* *int* energyConsumption;

14 //use appropriate annotation

15 @Value("incandescent")

16 *private* String type;

17

18 *public* *int* getLuminosity() {

19 *return* luminosity;

20 }

21

22

23 *public* *void* setLuminosity(*int* luminosity) {

24 *this*.luminosity = luminosity;

25 }

26

27 *public* *int* getEnergyConsumption() {

28 *return* energyConsumption;

29 }

30

31

32 *public* *void* setEnergyConsumption(*int* energyConsumption) {

33 *this*.energyConsumption = energyConsumption;

34 }

35

36

37 *public* String getType() {

38 *return* type;

39 }

40

41 *public* *void* setType(String type) {

42 *this*.type = type;

43 }

44

45

46 @Override

47 *public* *int* getEfficiencyRating() {

48

49

50 // FILL THE CODE HERE

51 *return* luminosity/energyConsumption;

52 }

53

54

55

56 }

57

SmartHomeLighting/src/main/java/com/spring/app/LEDLighting.java

1 *package* com.spring.app;

2

3 *import* org.springframework.beans.factory.annotation.Qualifier;

4 *import* org.springframework.beans.factory.annotation.Value;

5 *import* org.springframework.stereotype.Component;

6

7 //use appropriate annotation to make this class as component class

8 @Component

9 *public* *class* LEDLighting *extends* LightingSystem {

10

11 //use appropriate annotation

12 @Value("1600")

13 *private* *int* luminosity;

14 //use appropriate annotation

15 @Value("10")

16 *private* *int* energyConsumption;

17 //use appropriate annotation

18 @Value("led")

19 *private* String type;

20

21

22 *public* *int* getLuminosity() {

23 *return* luminosity;

24 }

25

26

27 *public* *void* setLuminosity(*int* luminosity) {

28 *this*.luminosity = luminosity;

29 }

30

31 *public* *int* getEnergyConsumption() {

32 *return* energyConsumption;

33 }

34

35

36

37 *public* *void* setEnergyConsumption(*int* energyConsumption) {

38 *this*.energyConsumption = energyConsumption;

39 }

40

41

42 *public* String getType() {

43 *return* type;

44 }

45

46

47 *public* *void* setType(String type) {

48 *this*.type = type;

49 }

50

51 @Override

52 *public* *int* getEfficiencyRating() {

53

54 // FILL THE CODE HERE

55 *return* luminosity/energyConsumption;

56 }

57

58

59

60 }

61

SmartHomeLighting/src/main/java/com/spring/app/LightingSystem.java

1 *package* com.spring.app;

2

3 *public* *abstract* *class* LightingSystem {

4

5 *private* *int* luminosity;

6 *private* *int* energyConsumption;

7 *private* String type;

8

9

10 *public* *int* getLuminosity() {

11 *return* luminosity;

12 }

13

14

15 *public* *void* setLuminosity(*int* luminosity) {

16 *this*.luminosity = luminosity;

17 }

18

19 *public* *int* getEnergyConsumption() {

20 *return* energyConsumption;

21 }

22

23

24 *public* *void* setEnergyConsumption(*int* energyConsumption) {

25 *this*.energyConsumption = energyConsumption;

26 }

27

28

29 *public* String getType() {

30 *return* type;

31 }

32

33

34 *public* *void* setType(String type) {

35 *this*.type = type;

36 }

37

38 *public* *abstract* *int* getEfficiencyRating();

39

40

41

42 }

43

SmartHomeLighting/src/main/java/com/spring/app/SmartHome.java

1 *package* com.spring.app;

2

3 *import* org.springframework.stereotype.Component;

4

5 *public* *class* SmartHome {

6

7 *private* String name;

8 *private* LightingSystem lightingSystem;

9

10

11 *public* SmartHome(String name, LightingSystem lightingSystem) {

12 *this*.name = name;

13 *this*.lightingSystem = lightingSystem;

14 }

15

16 *public* *void* getReport() {

17 // FILL THE CODE HERE

18 System.out.println(name+" with "+ lightingSystem.getType()+" lighting gives an efficiency rating of "+lightingSystem.getEfficiencyRating());

19 }

20

21

22 }

23

Grade

Reviewed on Sunday, 9 February 2025, 11:06 PM by Automatic grade  
**Grade** 100 / 100  
**Assessment report**  
Test Case Passed