Lighting the Way

Grade settings: Maximum grade: 100
Disable external file upload, paste and drop external content: Yes
Based on: Lighting the Way
Run: Yes **Evaluate**: Yes
Automatic grade: Yes

As the keeper of the lighthouse, Jack's job was to ensure that the light was operating properly and emitting the correct number of flashes. The light was set to flash every 72 seconds, and Jack needed to calculate the number of flashes for the given hours. Jack decided to automate the process. As a software developer, help Jack calculate the number of flashes for the given hours.

Component Specification: LightHouse

Type(Class)	Attributes	Responsibilities
LightHouse	String location int height String lightType int hours	Necessary getters, setters and four argument constructor are provided as part of the code skeleton.

Functional Requirement 1: Extract the details of LightHouse and create an object of the LightHouse class

Type(Class)	Methods	Responsibilities
UseInterface	public static lightHouse **extractDetails**(String lightHouseDetails)	This method accepts **lightHouseDetails** separated by colon as an argument and should extract the properties of the **LightHouse** from the argument by parsing the **lightHouseDetails**. Set these values to the **LightHouse** object and return this object.

Functional Requirement 2: Calculate flashes for a given hours and return the result.

Type(Class)	Methods	Responsibilities

LightHouse	public int **calculateFlashesForGivenHours** ()	This method is used to calculate the flashes and return the result. Calculate flashes if the hours and heights are greater than zero. Else return -1 and display "**Invalid light house details**". ***Condition:*** • ***Hours should be positive.*** • ***Height should be positive.***

Formula to calculate flashes for given hours

Flashes=(hours * 60 * 60) / 72

For example, Let hour = 10

Flashes= (10 * 60 * 60) / 72

Flashes= 500

The main method in the UserInterface class is excluded from evaluation. You are free to write your own code in the main method to invoke the business methods to check its correctness.

Note:

- In the Sample Input / Output provided, the highlighted text in bold corresponds to the input given by the user and the rest of the text represents the output.
- Ensure to follow the object-oriented specifications provided in the question
- Ensure to provide the names for classes, attributes, and methods as specified in the question.
- Adhere to the code template, if provided.

Sample Input/Output -1

Enter the details

Genoa:247:SpecialBeam:10

LightHouse Location: Genoa

Height: 247

Light Type: SpecialBeam

Hour: 10

Flashes: 500

Sample Input/Output -2

Enter the details

Vasto:307:StrongIntensity:-15

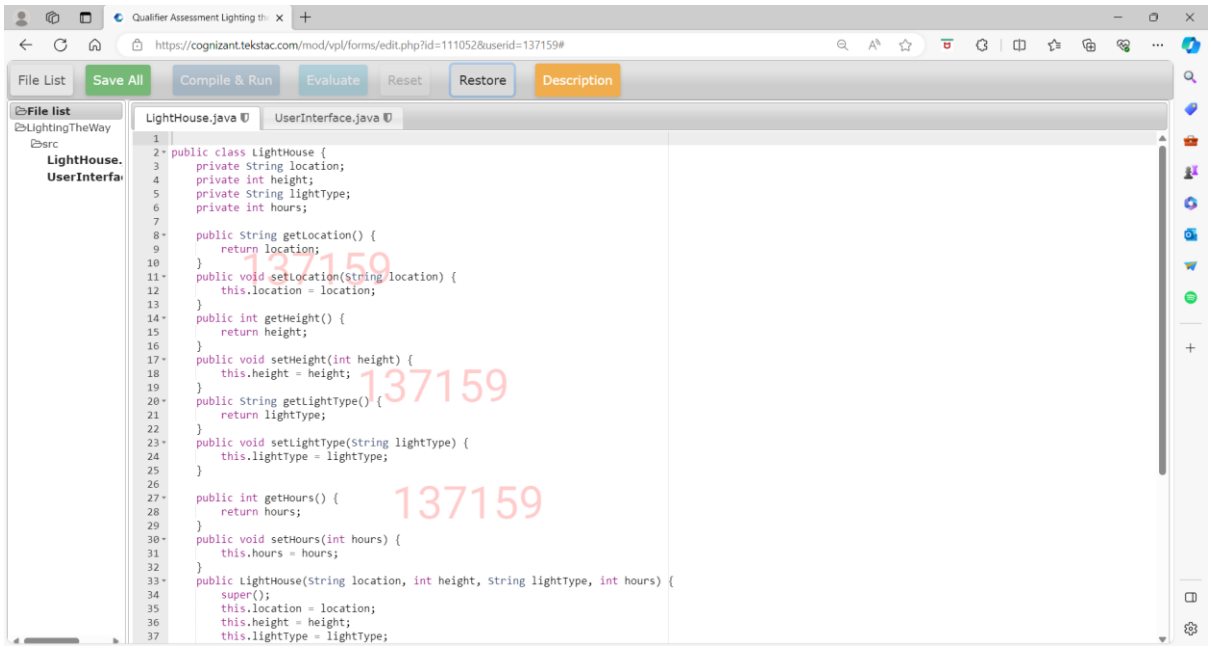
Invalid light house details

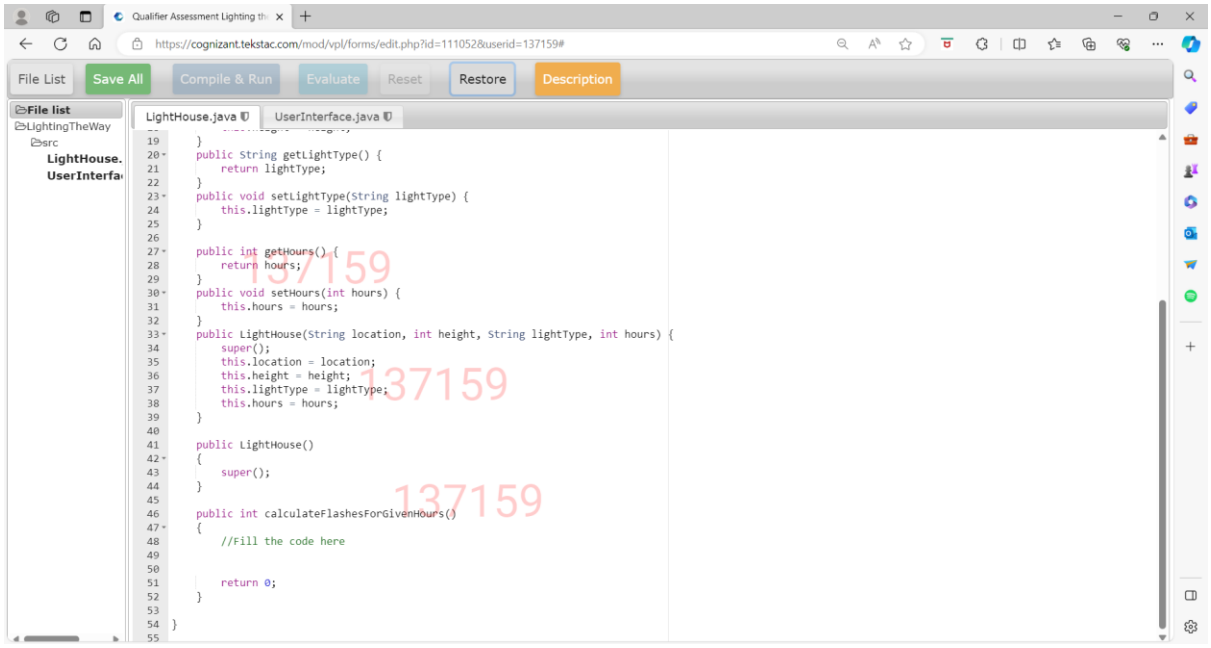
Sample Input/Output -3

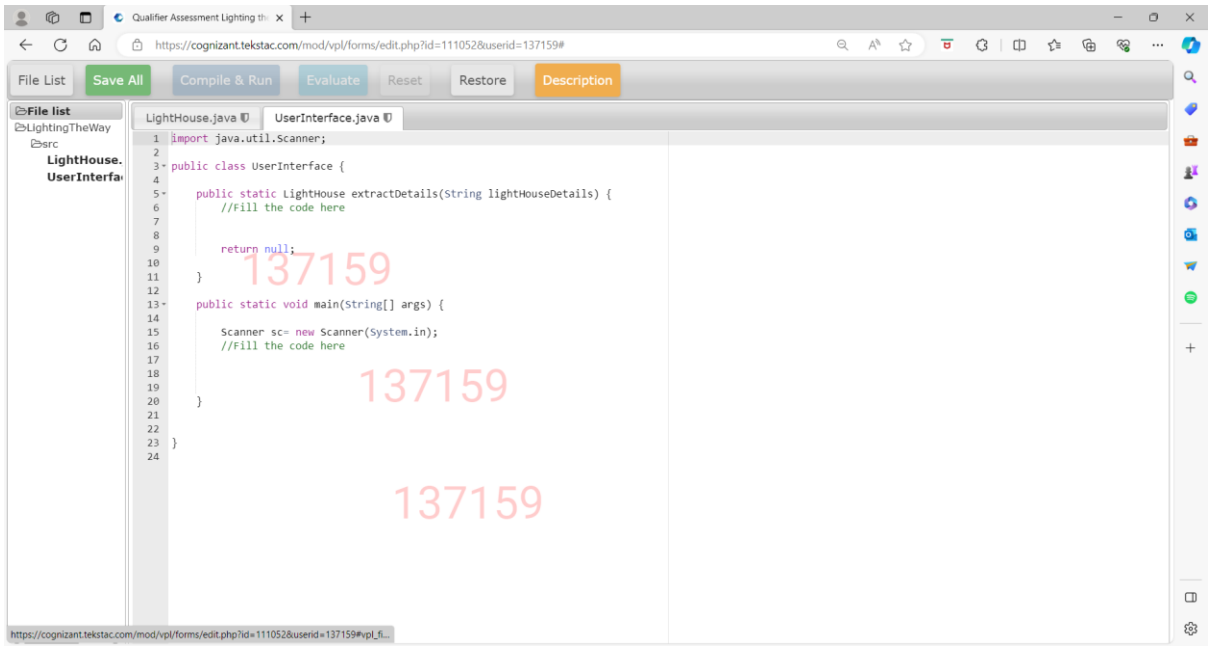
Enter the details

Paris:-89:StrongIntensity:15

Invalid light house details




Qualifier Assessment Lighting th
https://cognizant.tekstac.com/mod/vpl/forms/edit.php?id=111052&userid=137159#
File List
Save All
Compile & Run
Evaluate
Reset
Restore
Description
File list
LightingTheWay
src
LightHouse.
UserInterfa
LightHouse.java
UserInterface.java
}
public String getLightType() {
return lightType;
}
public void setLightType(String lightType) {
this.lightType = lightType;
}
public int getHours() {
return hours;
}
public void setHours(int hours) {
this.hours = hours;
}
public LightHouse(String location, int height, String lightType, int hours) {
super();
this.location = location;
this.height = height;
this.lightType = lightType;
this.hours = hours;
}
public LightHouse()
{
super();
}
public int calculateFlashesForGivenHours()
{
//Fill the code here
return 0;
}
}
137159
137159
137159


Qualifier Assessment Lighting th
https://cognizant.tekstac.com/mod/vpl/forms/edit.php?id=111052&userid=137159#
File List
Save All
Compile & Run
Evaluate
Reset
Restore
Description
File list
LightingTheWay
src
LightHouse.
UserInterfa
LightHouse.java
UserInterface.java
import java.util.Scanner;
public class UserInterface {
public static LightHouse extractDetails(String lightHouseDetails) {
//Fill the code here
return null;
}
public static void main(String[] args) {
Scanner sc= new Scanner(System.in);
//Fill the code here
}
}
https://cognizant.tekstac.com/mod/vpl/forms/edit.php?id=111052&userid=137159#vpl_fi...
137159
137159
137159