Instrument World(---RETIRED---)

Grade settings: Maximum grade: 100
Disable external file upload, paste and drop external content: Yes
Based on: Instrument World(---RETIRED---)
Run: Yes **Evaluate**: Yes
Automatic grade: Yes

"**Instrument World**" is a well-known musical instrument store in the city. They intend to improve the accessibility of information about instrument ordering on their website. A software developer is hired by the company to assist with this procedure. As a software developer, you create a Java program depending on the requirements.

Component Specification: InstrumentMain Class

Type (Class)	Attributes	Methods
InstrumentMain	Map<String, String > **instrumentMap**	Getter and setter methods for the attribute are included in the code skeleton.

Note: *Here the* ***instrumentMap****, holds the Key as* ***instrumentId*** *and Value as* ***instrumentType****.*

Requirement 1: Find the instrumentType based on the instrumentId.

Type (Class)	Methods	Responsibilities
Instrument Main	public String **findInstrumentTypeForInstrumentId**(String instrumentId)	This method accepts the **instrumentId** as an argument. If the **instrumentId** is found on the map, return it's corresponding **instrumentType** . Else return "**Invalid Id**". ***Condition***: ***instrumentId*** *is case sensitive.*

Requirement 2: Find instrumentId based on the instrumentType.

Type (Class)	Methods	Responsibilities

Instrument Main	public List<String> **findInstrumentIdForInstrumentType**(String instrumentType)	This method accepts **instrumentType** as an argument, filters the instrumentIds based on instrumentType, and returns the list of instrumentIds of the corresponding instrumentType. ***Condition** : **instrumentType** is case sensitive.*

You are provided with the main method as code template and it is excluded from evaluation.

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 description.
- Ensure to provide the names for the classes, attributes, and methods as specified in the question description.
- Adhere to the code template, if provided.

Sample Input/Output 1:

Enter number of instrument records to be added

4

Enter the instrument records (instrumentId : instrumentType)

A01:Veena

A02:Violin

A03:Guitar

A04:Flute

Enter the id of the instrument to be searched

A01

Veena

Enter the instrument type

Flute

Instrument id for the given instrument type Flute

A04

Sample Input/Output 2:

Enter number of instrument records to be added

4

Enter the instrument records (instrumentId : instrumentType)

A01:Veena

A02:Violin

A03:Guitar

A04:Flute

Enter the id of the instrument to be searched

A02

Violin

Enter the instrument type

veena

No instrumentId is found for veena

Sample Input/Output 3:

Enter number of instrument records to be added

2

Enter the instrument records (instrumentId : instrumentType)

A01:Veena

A02:Violin

Enter the id of the instrument to be searched

a04

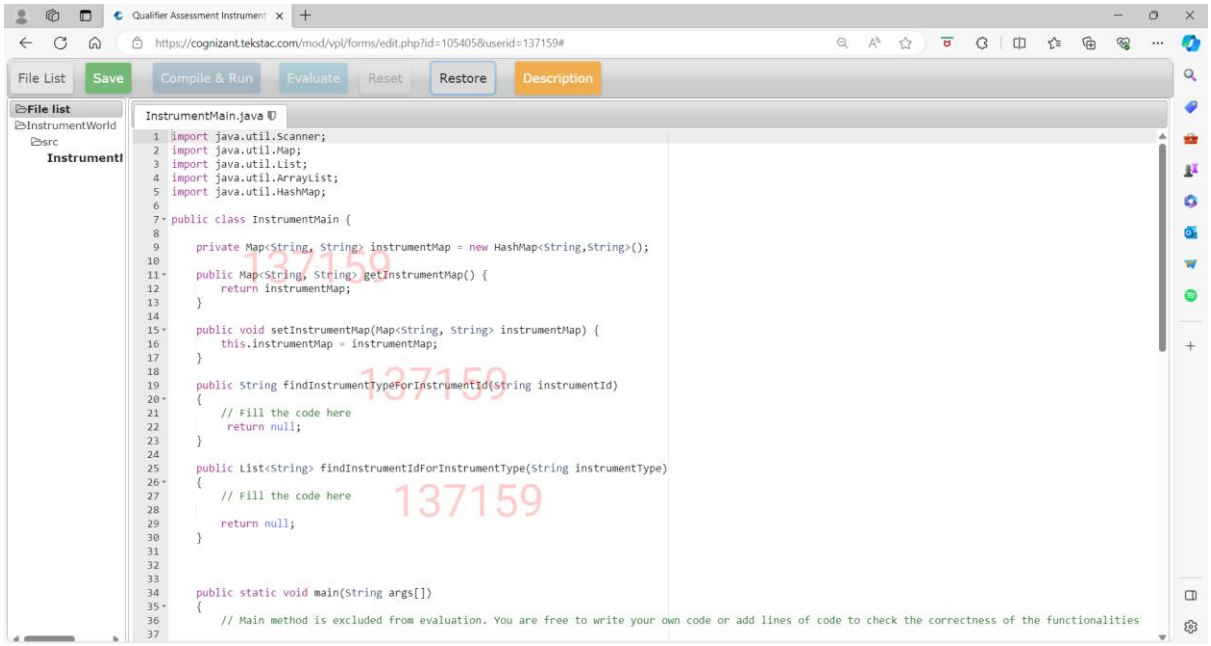
a04 is an invalid instrument id

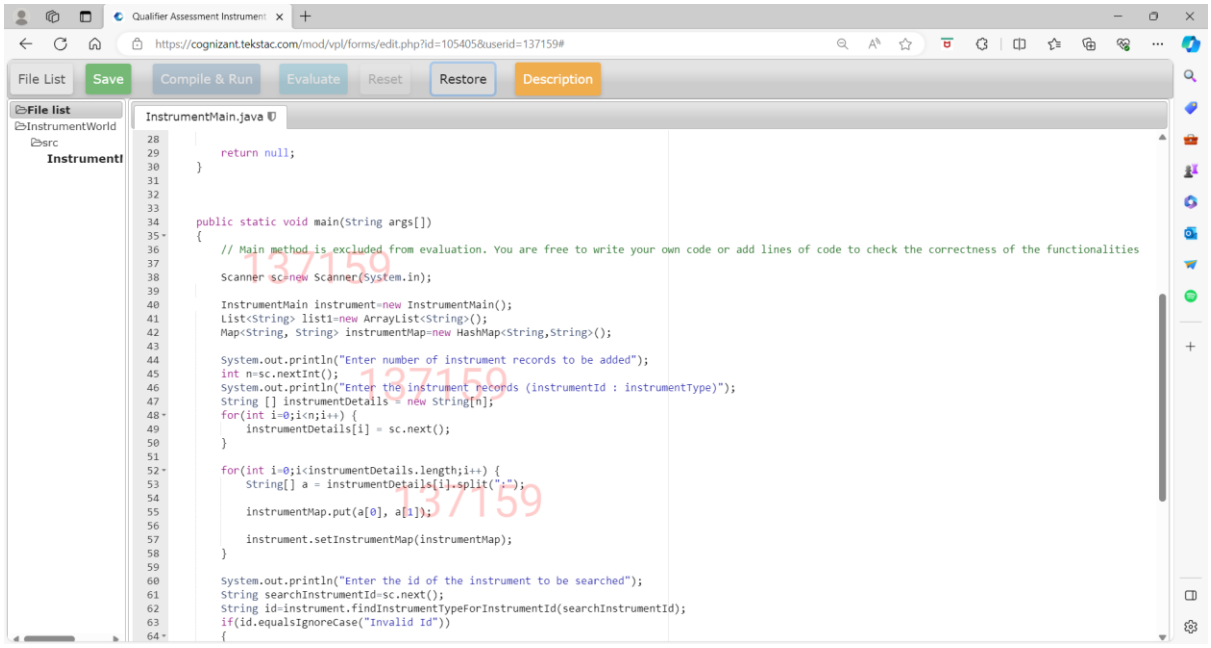
Enter the instrument type

Violin

Instrument id for the given instrument type Violin

A02

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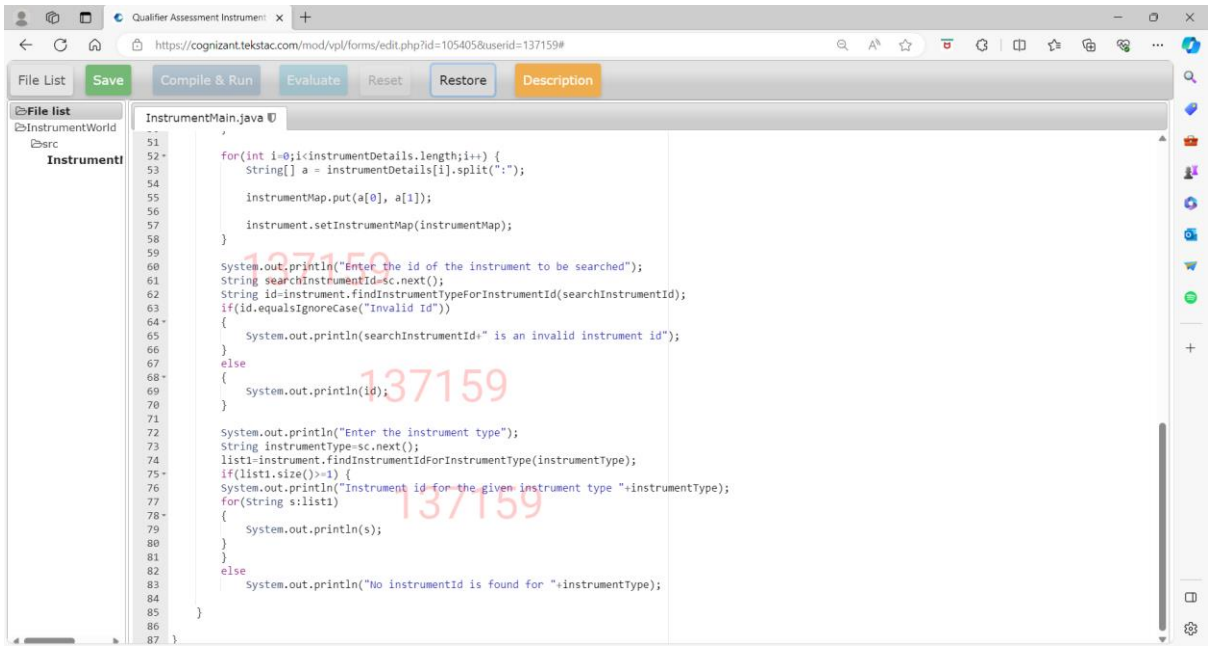
File List
Save
Compile & Run
Evaluate
Reset
Restore
Description
File list
InstrumentWorld
src
InstrumentI
InstrumentMain.java
return null;
}
public static void main(String args[])
{
// Main method is excluded from evaluation. You are free to write your own code or add lines of code to check the correctness of the functionalities
Scanner sc=new Scanner(System.in);
InstrumentMain instrument=new InstrumentMain();
List<String> list1=new ArrayList<String>();
Map<String, String> instrumentMap=new HashMap<String,String>();
System.out.println("Enter number of instrument records to be added");
int n=sc.nextInt();
System.out.println("Enter the instrument records (instrumentId : instrumentType)");
String [] instrumentDetails = new String[n];
for(int i=0;i<n;i++) {
instrumentDetails[i] = sc.next();
}
for(int i=0;i<instrumentDetails.length;i++) {
String[] a = instrumentDetails[i].split(":");
instrumentMap.put(a[0], a[1]);
instrument.setInstrumentMap(instrumentMap);
}
System.out.println("Enter the id of the instrument to be searched");
String searchInstrumentId=sc.next();
String id=instrument.findInstrumentTypeForInstrumentId(searchInstrumentId);
if(id.equalsIgnoreCase("Invalid Id"))
{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for(int i=0;i<instrumentDetails.length;i++) {
String[] a = instrumentDetails[i].split(":");
instrumentMap.put(a[0], a[1]);
instrument.setInstrumentMap(instrumentMap);
}
System.out.println("Enter the id of the instrument to be searched");
String searchInstrumentId=sc.next();
String id=instrument.findInstrumentTypeForInstrumentId(searchInstrumentId);
if(id.equalsIgnoreCase("Invalid Id"))
{
System.out.println(searchInstrumentId+" is an invalid instrument id");
}
else
{
System.out.println(id);
}
System.out.println("Enter the instrument type");
String instrumentType=sc.next();
list1=instrument.findInstrumentIdForInstrumentType(instrumentType);
if(list1.size()>=1) {
System.out.println("Instrument id for the given instrument type "+instrumentType);
for(String s:list1)
{
System.out.println(s);
}
}
else
System.out.println("No instrumentId is found for "+instrumentType);
}
}