**"Fantasy IceScoops"** is one of the city's most popular ice cream shops. They offer a range of 36 contemporary flavors inspired by exotic locations around the world. They wanted to know the order details based on the IceCream type. The manager contacts a software developer to assist them with their process. You are the software developer, and you are creating a Java program based on the requirements.

**Component Specification: IceCreamInfo**

|  |  |  |
| --- | --- | --- |
| **Type (Class)** | **Attributes** | **Methods** |
| **IceCreamInfo** | private Map<String,Integer> **IceCreamMap** | Getter and setter methods for the attribute are included in the code skeleton. |

***Note****: Here the IceCreamMap,  holds the Key as IceCreamName and Value as Price.*

**Requirement 1: Find the IceCream for the given price range.**

|  |  |  |
| --- | --- | --- |
| **Type (Class)** | **Methods** | **Responsibilities** |
| **IceCreamInfo** | List<String> **filterIceCreamDetailsForGivenPriceRange**(int start,int end) | This method requires two arguments, **start**and **end**.  It searches for the IceCream name within the start and end price value range, if it matches then add the IceCream name to a List and return the List.  ***Condition****:****start****and****end****are both****exclusive****when filtering the IceCream name.* |

**Requirement 2: Find the cheapest IceCream in IceCreamMap.**

|  |  |  |
| --- | --- | --- |
| **Type (Class)** | **Methods** | **Responsibilities** |
| **IceCreamInfo** | public Map<String,Integer> **findTheCheapestIceCream**() | This method finds the cheapest IceCream by comparing the prices of IceCream in the IceCreamMap, adds it to the map, and returns the map. |

***Note****:  This method returns a map, in which it holds IceCreamName as key and Price as value.*

**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 the number of IceCream details to be added

**5**

Enter the IceCream details(IceCreamName:Price)

**AlmondCrunch:100**

**BlackForest:240**

**BelgianChocoholic:320**

**FruitBonanza:460**

**MochaFudge:500**

Enter a range to filter the IceCream details.

**100**

**500**

IceCream available within the price range $.100 and $.500 are

FruitBonanza

BelgianChocoholic

BlackForest

The IceCream with the lowest price is

AlmondCrunch - $.100

**Sample Input/Output 2:**

Enter the number of IceCream details to be added

**3**

Enter the IceCream details(IceCreamName:Price)

**MuskMelon:240**

**CottonCandyland:320**

**HazelnutChocoTuffle:400**

Enter a range to filter the IceCream details.

**400**

**500**

No IceCream available within the price range $.400 and $.500

The IceCream with the lowest price is

MuskMelon - $.240