Problem Statement:

Description: Consider an input string array, **inStrArr** (String[]) containing dates in the format "dd/mm/yyyy" as its input values.

YW5pbWVzaC5zMDQ=

Write a Java method which takes **inStrArr** as input parameter and returns an **outStrArr** (String[]) as per logic given below:

- For every element in the **inStrArr**,
  - ○ Make a new string, *str1* by concatenating "*dd*" and "*mm*" of the date
  - ○ If "*yyyy*" can be obtained upon any circular rotation of *str1*, add the year to the **outStrArr**
  - ○ Otherwise, add "X" (uppercase) to the **outStrArr**

Example:

inStrArr1: {"03/11/1103", "24/02/1991", "31/01/1031", "20/02/2002"}

outStrArr: {"1103", "X", "X", "2002"}

Explanation:

- The first element of **inStrArr** is "03/11/1103", thus combining "dd" and "mm" gives "0311" which is strI the different
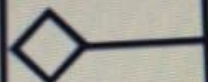
HardwareShop

- counter : int → static
- customizedItemArr : String[] → static
- customizedItemCostArr : int[] → static
- serviceId : String
- customer : PrivilegedCustomer
- totalCost : double

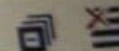+ HardwareShop(customer : PrivilegedCustomer)
+ getServiceId() : String

PrivilegedCustomer   01:26:39

- privilegedIdArr : String[] → static
- privilegedId : String
- creditPoints : int

+ PrivilegedCustomer(custName : String, mobNumber: long, reqCustomizationArr : String[], quantity : int, privilegedId: String, creditPoints: int)
: Customer(custName, mobNumber, reqCustomizationArr, quantity)
+ validateCustomer() : Boolean
+ identifyDiscountPercentage() : Integer

Problems X   Java Debug Console

No problems have been detected in the workspace so far.

You're being proctored!

Build failed, do you want to continue?

: Customer(custName, mobNumber,
reqCustomizationArr, quantity)

01:26:31

+ validateCustomer() : Boolean

+ identifyDiscountPercentage() : Integer

- totalCost : double

+ HardwareShop(customer :
PrivilegedCustomer)

+ getServiceId() : String

+ getTotalCost() : double

+ generateServiceId() : void

+ calculateTotalCost() : void

Notes:

- Do not include any extra instance/static variables and instance/static methods in the given classes
- Case-insensitive comparison is to be done if not explicitly mentioned

Problems X   Java Debug Console

No problems have been detected in the workspace so far.

You're being proctored!

❌ Build failed, do you want to continue?

PrivilegedCustomer class:

privilegedIdArr:

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- This is a static array (String[]) that contains the *privilegedId* (String) of the customers as its elements
- The initial value of the **privilegedIdArr** is given below –

privilegedIdArr	{"P101", "P345", "P785", "P099"}

Note:

0. Do not change the CASE of elements in the array

1. This array is supplied. Hence no need to code

validateCustomer():

Problems ✕   Java Debug Console

No problems have been detected in the workspace so far.

You're being proctored!

❌ Build failed, do you want to continue?

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YW5pbWVzaC5zMDQ=

Implementation Details:

ClassName	Implementation Details
HardwareShop	Partially implemented
Customer	Fully implemented
PrivilegedCustomer	Partially implemented

PrivilegedCustomer class:

Problems X   Java Debug Console

No problems have been detected in the workspace so far.

You're being proctored!

❌ Build failed, do you want to continue?

generateServiceId():

YW5pbWVzaC5zMDQ=

- This method auto-generates and sets the **serviceId** (String)
- The **serviceId** must be prefixed by "S" in uppercase followed by the auto-generated value starting from 101
- Subsequent **serviceId** must be incremented by 1
- Use static variable **counter** appropriately to implement the auto-generation

Example: The first **serviceId** would be "**S101**", the second would be "**S102**" and so on

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Problems ⑥ ✕   Java Debug Console

∨ ⚠ HardwareShop.java To_Trainees/src/progusingjavapart2 ④

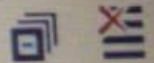⓵ The value of the field HardwareShop.counter is not used Ja

calculateTotalCost():

- This method calculates and sets the **totalCost** and generates the **serviceId** based on the below logic:

- Invoke **validateCustomer()** method of **PrivilegedCustomer** class

- If the above method returns true and **quantity** is at least 1 and **reqCustomizationArr** contains at least 1 element, then:

  - If all the elements of **reqCustomizationArr** are present in **customizedItemArr**, then:

    Note: Perform **case-insensitive** comparison

    - Identify the corresponding *customizedItemCost* (int) from

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Problems 6 ✕   Java Debug Console

⬚ Ⅺ

∨ HardwareShop.java To_Trainees/src/progusingjavapart2 5   You're being proctore

The field HardwareShop customer is not used

PrivilegedCustomer class and apply

discountPercentage on *totalCost*
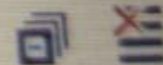
YW5pbWVzaC5zMDQ=

- Obtain the *finalCost* (double) by adding 5% tax on the *totalCost*

- Invoke **generateServiceId()** method to generate the **serviceId**

- Set the **totalCost** with the obtained *finalCost*

  o Otherwise, set **serviceId** to "NA" and **totalCost** to -1.0

- Otherwise, set **serviceId** to "NA" and **totalCost** to -1.0

Assumptions:

blems 6 × Java Debug Console

HardwareShop.java To_Trainees/src/progusingjavapart2 5

- Identify the corresponding *customizedItem* 01:00:14 the *customizedItemCostArr* for all the elements of YW5pbWVzaC5zMDQ= reqCustomizationArr

- Obtain the *basicCost* (int) by adding all the above identified *customizedItemCost*

- Identify the *totalCost* (double) by multiplying *basicCost* and **quantity**

- Identify the *discountPercentage* (int) by invoking **identifyDiscountPercentage()** method of **PrivilegedCustomer** class and apply the identified *discountPercentage* on *totalCost*

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- custName: String
- mobNumber: long
- quantity: int   YW5pbWVzaC5zMDQ=
- reqCustomizationArr: String[]

+ Customer(custName : String, mobNumber : long,
reqCustomizationArr : String[], quantity : int)
+ getCustName() : String
+ getMobNumber() : long
+ getReqCustomizationArr() : String[]
+ getQuantity() : int
+ identifyDiscountPercentage() : Integer → abstract
```