

PRACTICAL EXAMINATION

Subject code: PRO192 – FALL 2023

Duration : 85 minutes

Develop manage customer of a company OOP application with following components and requirements:

1. Create MVC console application in NetBean:

- a. Define class Customer with following attributes and methods: **(2 marks)**
 - + CustomerID, Name, Phone, Date of Birth, homenetwork
 - + Constructors, get/set(), toString()
 - + Method for check and return homenetwork(if phone start "098" homenetwork is "Viettel", if phone start "090" homenetwork is "VinaPhone", if phone start "093" homenetwork is "Mobiphone").
- b. Define class Company with following attributes and methods: **(2.5 marks)**
 - + List of Customer
 - + Read text file to load data for Company– company.txt is provided
 - + Update homenetwork information
 - + Search Customer by different criteria
 - + Sort by many different criteria
- b. Develop CompanyManagement class for application **(4 marks)**
 - + Application menu for application include: Display all customers, update homenetwork, search Customer(search Customer by ID and search Customer has DOB before date that user input), sort customers descending by name , statistical amount Customer by homenetwork.(1 mark)
 - Hint: An abstract Menu class is provided for use in the application. Override method execute()
 - + Method for display all customers from console (0.5 mark)
 - + Method for update homenetwork from console (0.5 mark)
 - + Method for seaching Customer(search Customer by ID and search Customer has DOB before date that user input) (1 marks)
 - + Method for sort customers descending by name(0.5 mark)
 - + statistical amount Customer by homenetwork(0.5 mark)

2. Technical requirements((1.5 marks):

- + Create package **model** for Customer and Company class, **view** for Menu and **controller** for CompanyManagement class(0.5 mark)
- + Validate for CustomerID has 4 characters and starts with "KH" (Example: KH01). Error message: "The CustomerID does not accept the format (fading KH and has 4 keys)"(0.5 mark).

+ Validate for Date of Birth correct format dd/mm/yyyy. Error message: " Date of Birth must be in the correct Date format: dd/mm/yyyy"(0.5 mark).

+ User interface as sample images below.

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Customer Management System
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```
-----  
1.List all customers  
2.Update Network  
3.Customer Search  
4.Sort customer by Name  
5.Statistical homenetwork  
6.Exit  
-----
```

```
Enter selection..1
```

```
List of Customers
```

```
-----  
KH01 | Jonh Horstman | 0985405999 | 12/10/2000 |  
KH02 | John Smith | 0906567789 | 11/09/1995 |  
KH04 | Cays Horstman | 0908778887 | 23/01/1959 |  
KH05 | Peter Jackson | 0939123121 | 02/11/1998 |  
KH06 | victoria beckham | 0935277899 | 01/01/2000 |  
-----
```

```
Total : 5 customers.
```

```
Enter selection..2
```

```
List of Customers
```

```
-----  
KH01 | Jonh Horstman | 0985405999 | 12/10/2000 | Viettel  
KH02 | John Smith | 0906567789 | 11/09/1995 | VinaPhone  
KH04 | Cays Horstman | 0908778887 | 23/01/1959 | VinaPhone  
KH05 | Peter Jackson | 0939123121 | 02/11/1998 | Mobiphone  
KH06 | victoria beckham | 0935277899 | 01/01/2000 | Mobiphone  
-----
```

```
Total : 5 customers.
```

Enter selection..3

Customer Searching

1.Find by ID

2.Find by DOB

Enter selection..1

Enter Customer ID:

KH05

List of Customers

KH05		Peter Jackson		0939123121		02/11/1998		Mobiphone
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Total : 1 customers.

Customer Searching

1.Find by ID

2.Find by DOB

Enter selection..2

Enter Date :

01/01/2000

List of Customers

KH02		John Smith		0906567789		11/09/1995		VinaPhone
------	--	------------	--	------------	--	------------	--	-----------

KH04		Cays Horstman		0908778887		23/01/1959		VinaPhone
------	--	---------------	--	------------	--	------------	--	-----------

KH05		Peter Jackson		0939123121		02/11/1998		Mobiphone
------	--	---------------	--	------------	--	------------	--	-----------

Total : 3 customers.

Enter selection..4

List of Customers

KH04		Cays Horstman		0908778887		23/01/1959		VinaPhone
------	--	---------------	--	------------	--	------------	--	-----------

KH02		John Smith		0906567789		11/09/1995		VinaPhone
------	--	------------	--	------------	--	------------	--	-----------

KH01		Jonh Horstman		0985405999		12/10/2000		Viettel
------	--	---------------	--	------------	--	------------	--	---------

KH05		Peter Jackson		0939123121		02/11/1998		Mobiphone
------	--	---------------	--	------------	--	------------	--	-----------

KH06		victoria beckham		0935277899		01/01/2000		Mobiphone
------	--	------------------	--	------------	--	------------	--	-----------

Enter selection..5

Company has 1 Customer of Viettel

List of Customers

KH01 | Jonh Horstman | 0985405999 | 12/10/2000| Viettel

Total : 1 customers.

Company has 2 Customer of vinaphone

List of Customers

KH02 | John Smith | 0906567789 | 11/09/1995| VinaPhone
KH04 | Cays Horstman | 0908778887 | 23/01/1959| VinaPhone

Total : 2 customers.

Company has 2 Customer of Mobiphone

List of Customers

KH05 | Peter Jackson | 0939123121 | 02/11/1998| Mobiphone
KH06 | victoria beckham | 0935277899 | 01/01/2000| Mobiphone

Total : 2 customers.

**Notice: Student must strictly follow all requirements as describe above for marking,
Any modification the requirement detail is not allowed and will get no mark!**