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Directory Structure :

```
$- CSL456-2015CSB1116-QUIZ3.zip
    |--quiz3
        |--\src\main\java\io\vertx
            |--Main.java
            |--MyFirstVerticle.java
        |--Readme.pdf
```

How to Run the Code ?

Requirements :

IDE - IntelliJ IDEA

JDK - 1.8 or later

Open **quiz3** folder , in IntelliJ IDEA .
Wait for dependencies to be installed.
Go to the directory containing java file.
Run **Main.java** , using the IDE .

If everything went fine , then Open browser.

In address bar , type url : (Note by defaults , this program listens @ port 7777

<http://localhost:7777>



Parameters For POS Simulation

No Of POS terminal: No Of Issuing Kiosk:

No Of Transaction per Refresh: No Of Users:

In this You will see form with parameters:

No of POS : # for creating no of POS verticles.

No of KIOSK : # for creating no of KIOSK verticles.

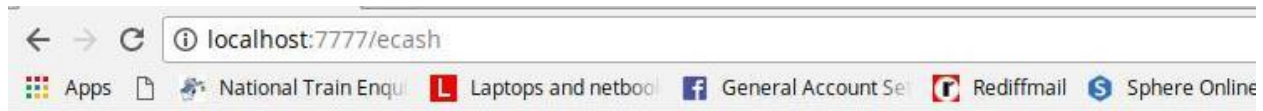
No of Transaction per Refresh : # Transaction rate per refresh

No of User : # for issue Card @KIOSK terminal

Now , Webpage Shows How to Navigate , and go through.
Fill each fields in the form , it is mandatory.

From this page you will redirected to :

<http://localhost:7777/ecash>



Simulation started at port no :7778
Keep Refreshing the page to get updated results.

[Click Here To See the Transactions](#)

Click on the shown button to get transaction details.



Note : If on refreshing , List does not get updated , then Its time to refill the card.
Refer Readme For Syntax ,See Terminal For Card balance

[Refresh List](#)

Top Selling item

Item Name	Quantity
MINERAL WATER BOTTLE	148
PACKED LUNCH	148
LUNCH MEAL	98
BANANA (1Pc)	55
CUP OF MILK 200ML	30
CUP OF TEA	3
BISCUITS(200g)	0

POS Transaction Details

POS no	Transact Amt(Rs.)
1	7939
2	4327
3	7266
4	2873
5	4050

Now Simulation is started @ Port No : 7778 , and each of POS and KIOSK are running @ Port no starting from base Port no 6001 (Note : This can be changed) , till that port , what was given in form .

Say , for eg : Input in form is No of POS = 5 , and No Of KIOSK = 4 .

Then POS will be running on port no from 6001 to 6005 (6001+5 -1) and Kiosk will be running on port no from 6006 to 6009 (6001+5+4-1).

With each press of **Refresh List** button , Transaction are done at POS and KIOSK terminal @ the rate , what was specified in the input.

As shown below with each refresh , list get updated.



Note : If on refreshing , List does not get updated , then Its time to refill the card. Refer Readme For Syntax ,See Terminal For Card balance

Refresh List

Top Selling item

Item Name	Quantity
BANANA (1Pc)	331
LUNCH MEAL	217
MINERAL WATER BOTTLE	148
PACKED LUNCH	148
CUP OF TEA	110
CUP OF MILK 200ML	66
BISCUITS(200g)	0

POS Transaction Details

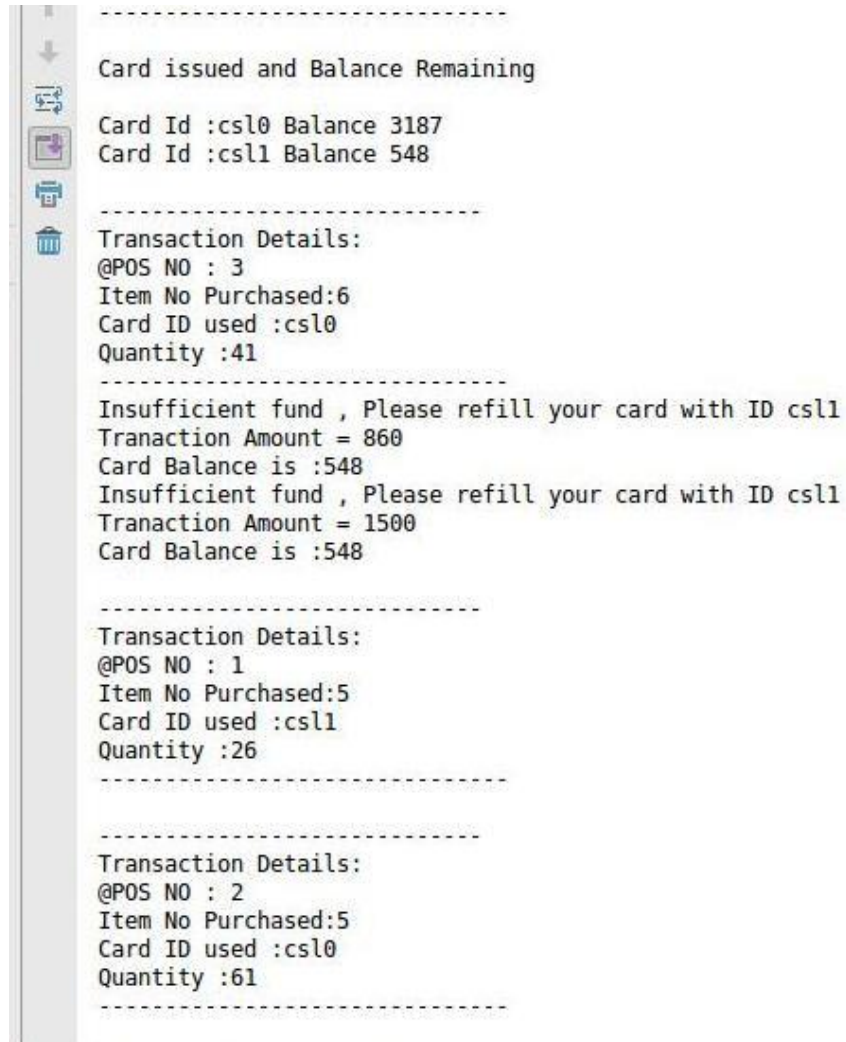
POS no	Transact Amt(Rs.)
1	7939
2	4327
3	10510
4	3755
5	4050

Note : If on refresh , the list does not get updated , that means within that refresh , the transaction required , more money in card , so we must refill that card.

Refill can also simulated but for the sake of clarity , it was not done , so that its effect can be seen .

This Insufficient fund and all other relevant flow of program is outputted in the terminal , you can have a look at them.

Shown below image is of terminal showing relevant Details.



```
-----  
Card issued and Balance Remaining  
Card Id :csl0 Balance 3187  
Card Id :csl1 Balance 548  
-----  
Transaction Details:  
@POS NO : 3  
Item No Purchased:6  
Card ID used :csl0  
Quantity :41  
-----  
Insufficient fund , Please refill your card with ID csl1  
Tranaction Amount = 860  
Card Balance is :548  
Insufficient fund , Please refill your card with ID csl1  
Tranaction Amount = 1500  
Card Balance is :548  
-----  
Transaction Details:  
@POS NO : 1  
Item No Purchased:5  
Card ID used :csl1  
Quantity :26  
-----  
Transaction Details:  
@POS NO : 2  
Item No Purchased:5  
Card ID used :csl0  
Quantity :61  
-----
```

Each POS has Query Params as :

/?qty=[quantity]&itemId=[1-7]&cardId=[csl[0-noOfUser]]

qty = this can be anything , and appropriate feedback is if quantity exceed stock .

itemId = this has to be between 1-7 , as list of item taken in simulation is 7 . As per instruction .

cardId = it is of format csl0 , csl1 csl[noOfUser] .

Each KIOSK has Query Params as :

/?cardId=csl[0-noOfUser]&bal=[Amount]

cardId = it is of format csl0 , csl1 csl[noOfUser] .

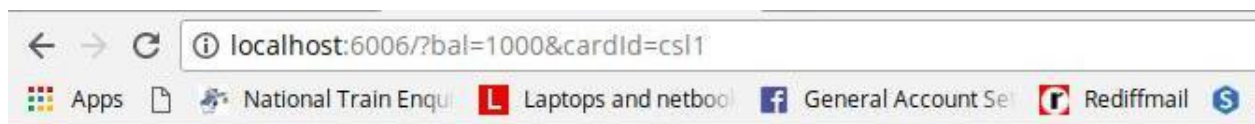
bal = it is amount of money you want to add or refill.

How to refill your card / Issue a card ?

Go to any KIOSK port no , Say it is running at port no 6006 , then the URL would be similar to :

<http://localhost:6006/?cardId=csl1&bal=1000>

After this ,card will be refilled if this card was already present in the database , otherwise it will issue a card , with balance and cardId as stated in query params.



Refilled the Card Successfully

Balance now on CARD ID : csl1IS : Rs1236

Important Note :

When you run the program for the first time , please note @ what port no POS and KIOSK are there , and what are the card issued till now i.e CARD ID .(If you want to do manual transaction) This list is displayed on the terminal at the start of the program.