VENDING MACHINE

PROJECT REPORT

Submitted by

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BACHELOR OF TECHNOLOGY
in
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SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

KATTANKULATHUR - 603203

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BONAFIDE CERTIFICATE

Certified that this Project Report titled **"VENDING MACHINE"** is the bonafide work done by<S.KOUSHIVISHAL><RA2211026010384>,<J.BRIJESH><RA2211026010443>, <H.KISHORE KHANNAN> <RA22110266010409> who completed the project under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other work.

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1.PROBLEM STATEMENT

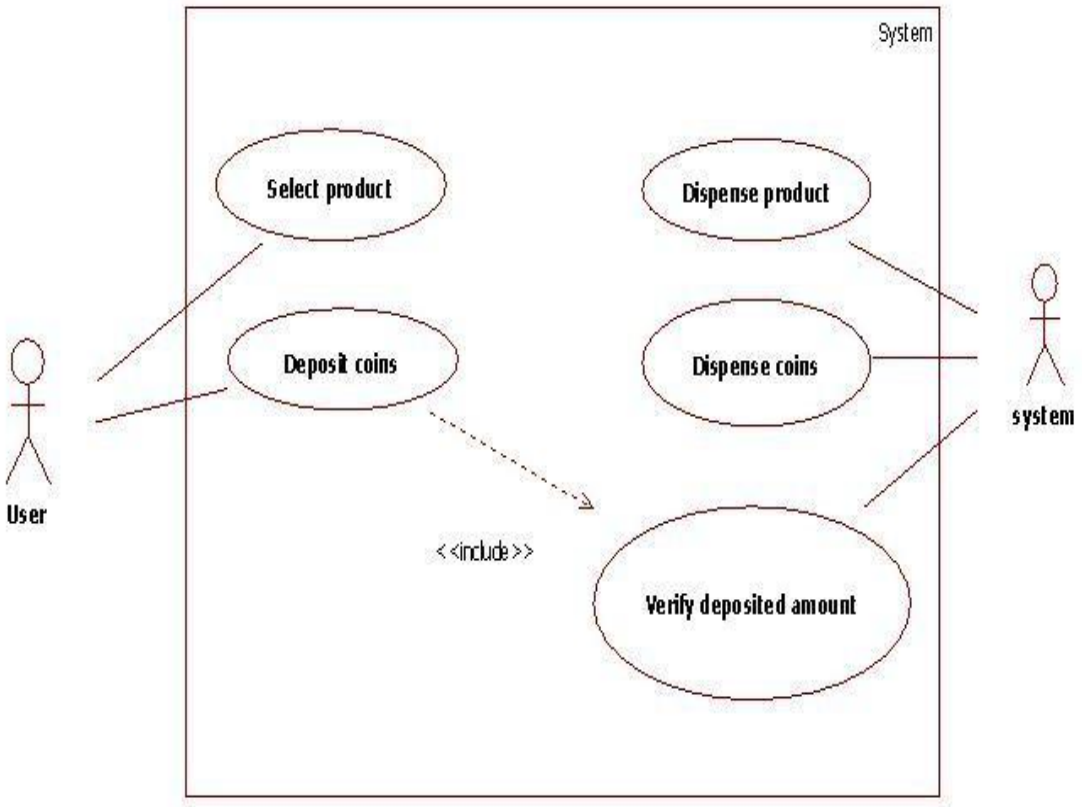
This mini project aims to build a vending machine using C++ code for getting a desired output wherein the menu is shown as well the total sum of the items chosen in the vending machine. This program presents the user w/ a choice of your 5 favourite beverages (Coke, Water, Sprite,..). Then allow the user to choose a beverage by entering a number 1-5. Output which beverage they choose.

2.MODULES OF PROJECT

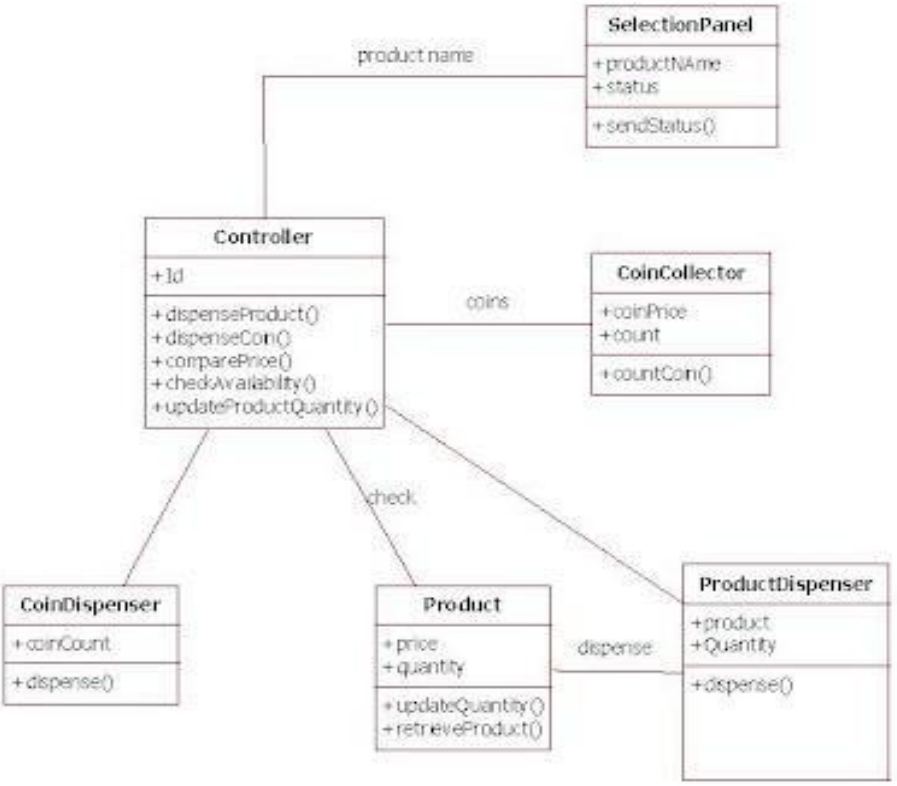
1. Display a list of drinks on the screen
2. Allow the user to either quit or pick a drink
3. If the user picks a drink, he or she will then enter the amount of money to be inserted into the machine

3.DIAGRAMS

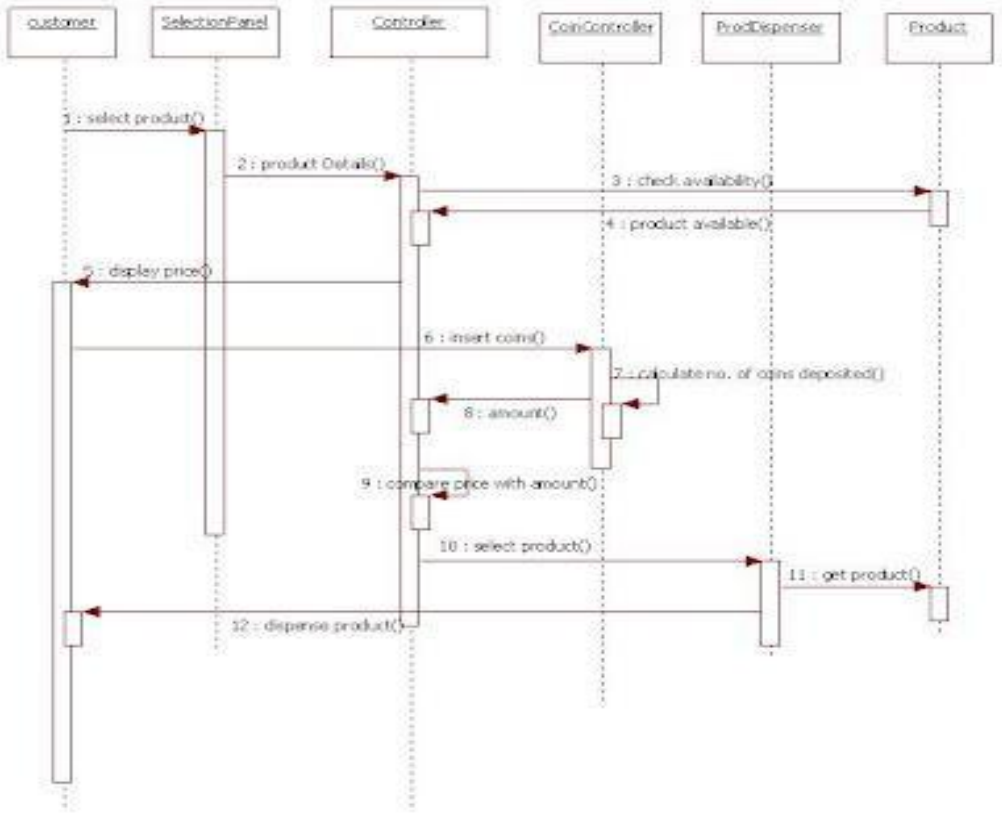
USECASE DIAGRAM



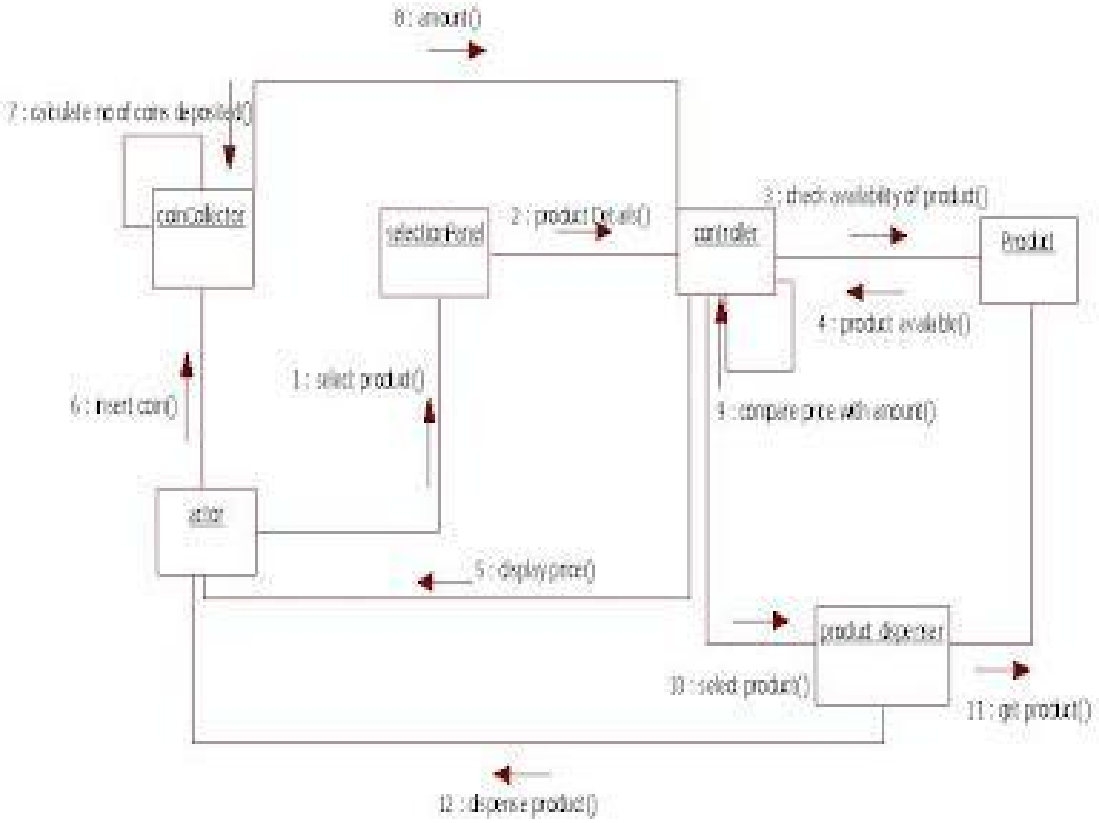
CLASS DIAGRAM



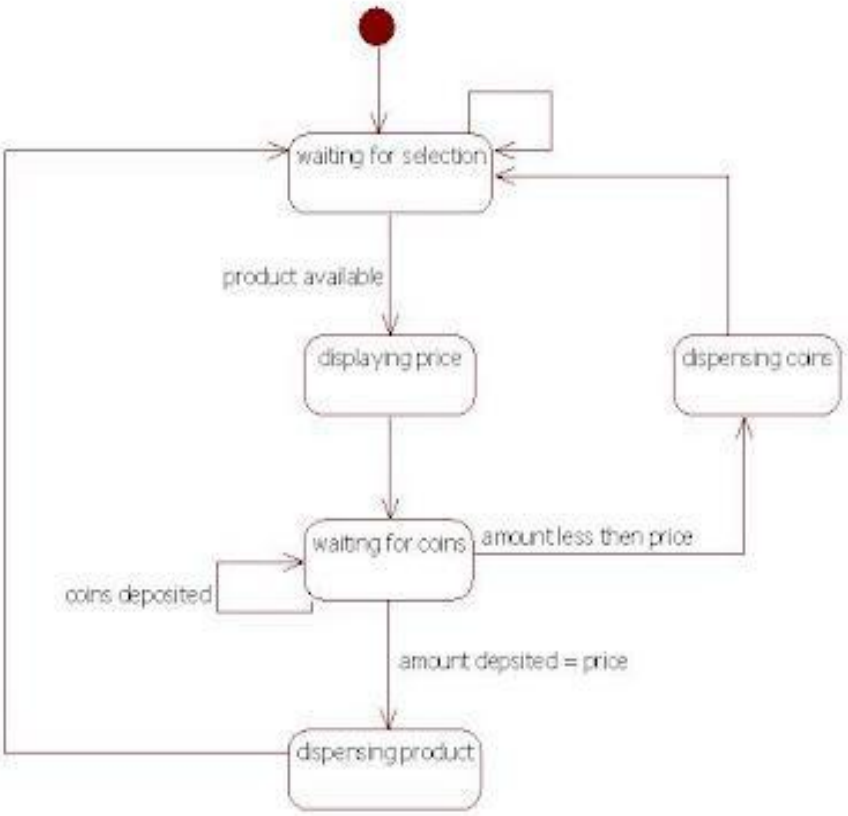
SEQUENCE DIAGRAM



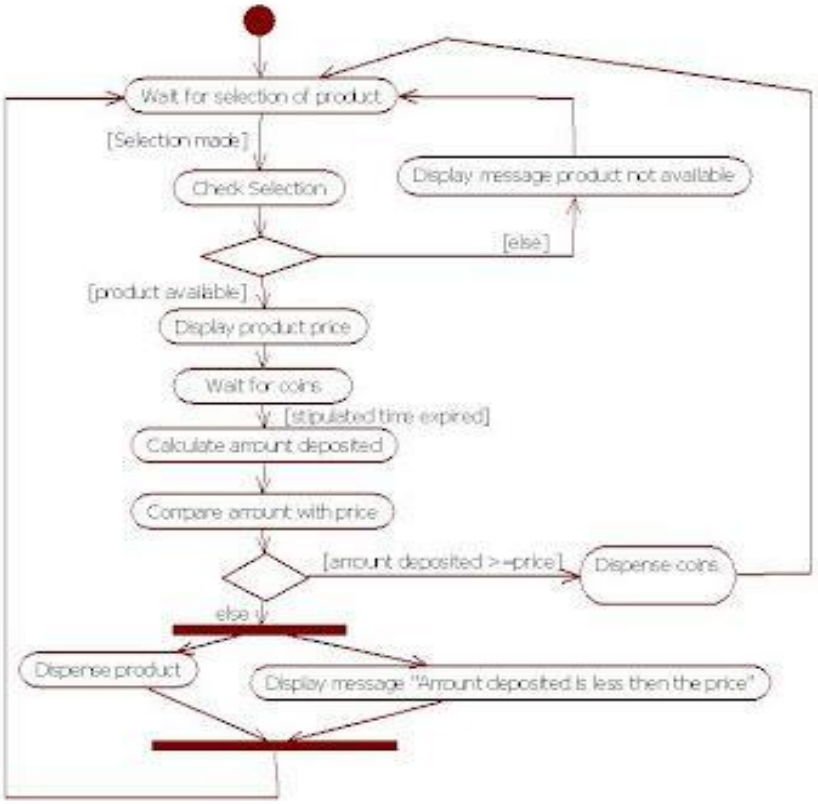
COLLABORATION DIAGRAM



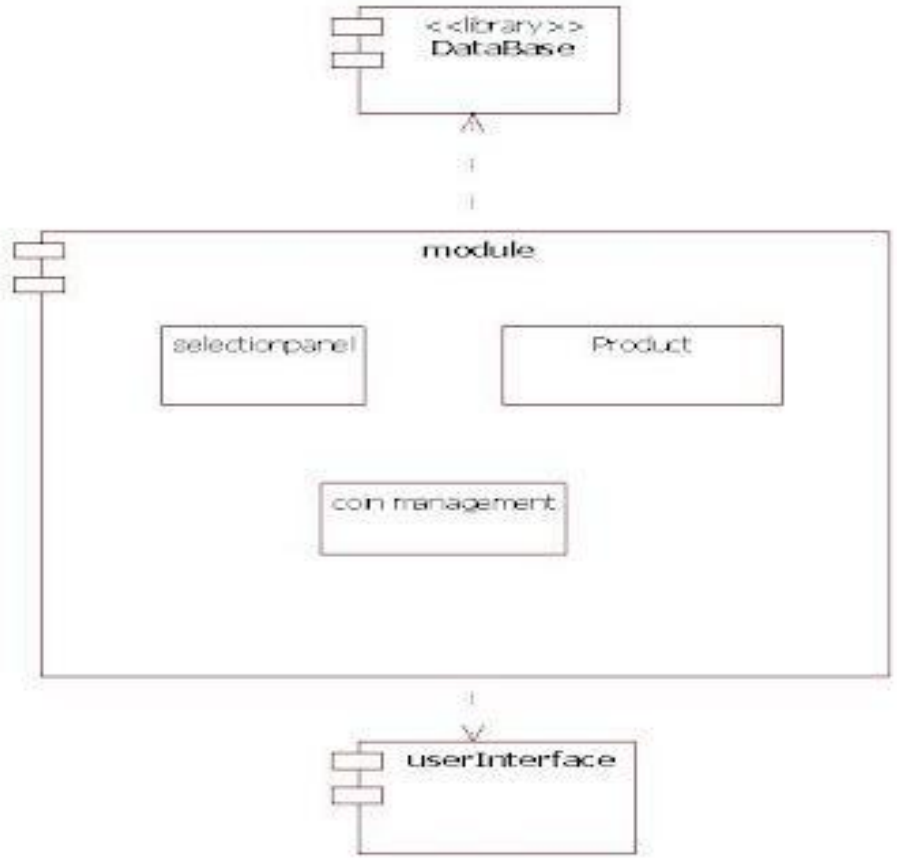
STATE CHART DIAGRAM



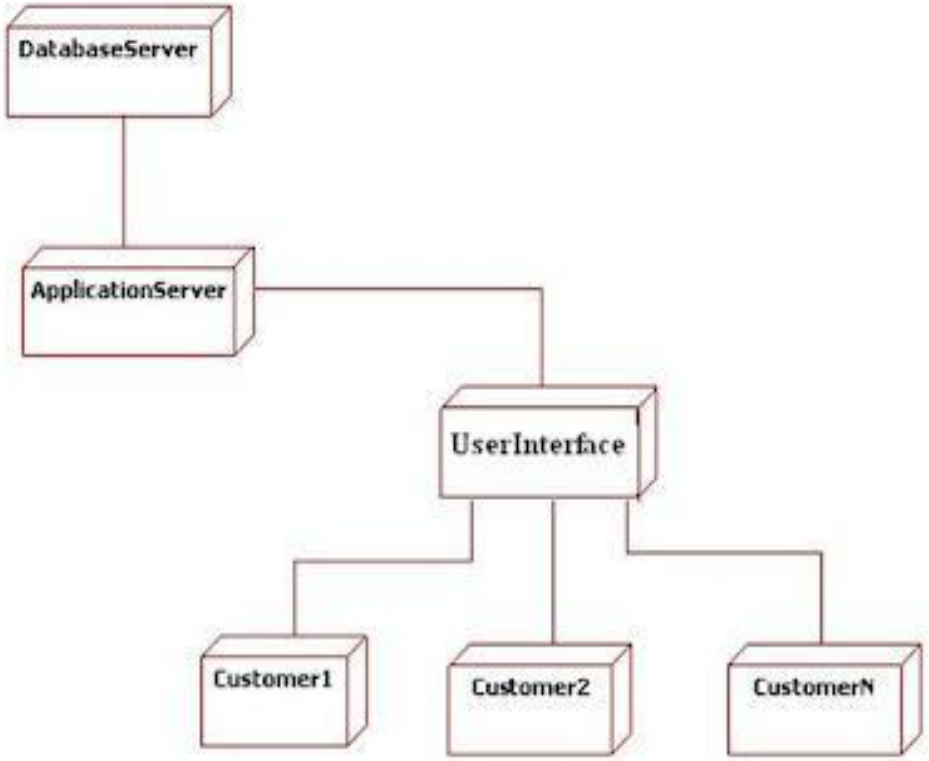
ACTIVITY DIAGRAM



COMPONENT DIAGRAM



DEPLOYMENT DIAGRAM


DatabaseServer
ApplicationServer
UserInterface
Customer1
Customer2
CustomerN

4.CODE

```
#include<iostream>
#include <stdlib.h>
#include <string.h>
#include <iomanip>
using namespace std;

struct softdrink{
char  name[20];
float price;
unsigned quantity;
};



int main()
{
softdrink drink[5];


strcpy(drink[0].name,"Cola"); drink[0].price=0.75;
drink[0].quantity=20;
strcpy(drink[1].name,"Root Beer"); drink[1].price=0.75;
drink[1].quantity=20;
strcpy(drink[2].name,"Lemon Lime"); drink[2].price=0.75;
drink[2].quantity=20;
strcpy(drink[3].name,"Grape Soda"); drink[3].price=0.80;
drink[3].quantity=20;
strcpy(drink[4].name,"Cream Soda"); drink[4].price=0.80;
drink[4].quantity=20;


std::cout << std::fixed;
std::cout << std::setprecision(4);


int choice = 1;


while(choice != 6){
cout<<"\n 1)
"<<drink[0].name<<"\t\t"<<drink[0].price<<"\t("<<drink[0].quantity<<"
) remaining";
```

```
cout<<"\n 2)
"<<drink[1].name<<"\t\t"<<drink[1].price<<"\t("<<drink[1].quantity<<"
) remaining";
cout<<"\n 3)
"<<drink[2].name<<"\t\t"<<drink[2].price<<"\t("<<drink[2].quantity<<"
) remaining";
cout<<"\n 4)
"<<drink[3].name<<"\t\t"<<drink[3].price<<"\t("<<drink[3].quantity<<"
) remaining";
cout<<"\n 5)
"<<drink[4].name<<"\t\t"<<drink[4].price<<"\t("<<drink[4].quantity<<"
) remaining";
cout<<"\n 6) Leave the drink machine \n\n";
cout<<"\n Choose one:";
cin>>choice;

if(choice >=1 && choice <=5)
{
    if(drink[choice-1].quantity == 0)
    {
        cout<<"\n No more " << drink[choice-1].name <<" Available
..";
        getchar(); getchar();continue;
    }
}

if(choice == 6)
cout<<"Thank for using it !!";
else if(choice <= 5)
{
float money;
cout<<"\n Enter any amount of money: ";
cin>>money;

float price;
if(choice>=1 && choice <=3)
{
price = .75;
```

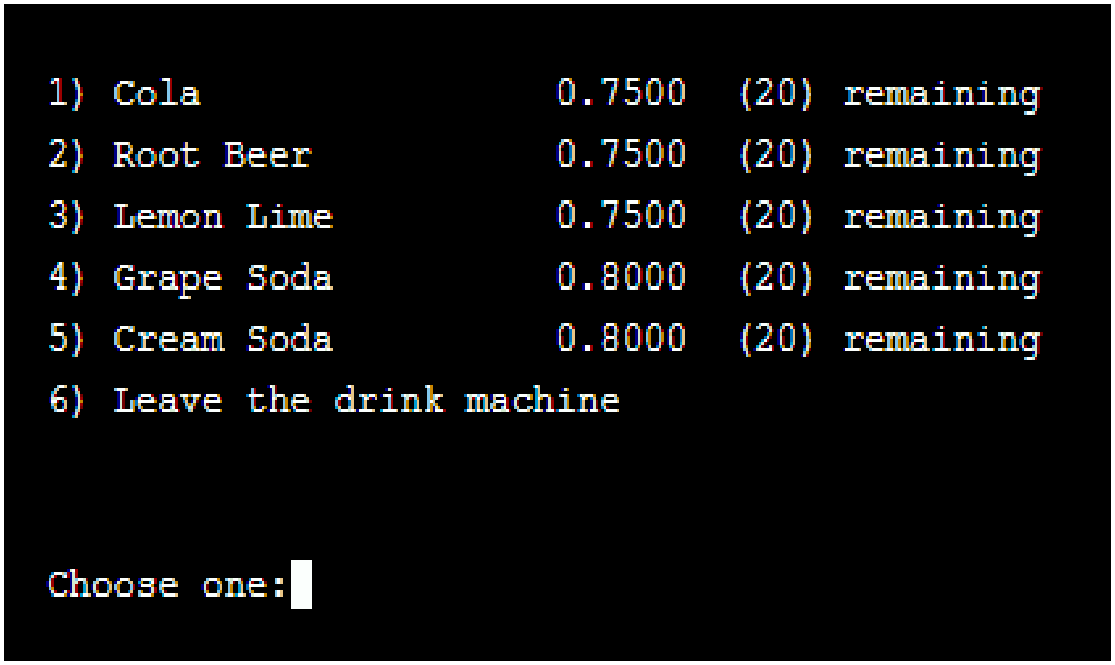
```
if((money < price)){
cout<<"\n Enter sufficient amount ";
getchar(); getchar();
continue;
}
}
else if(choice ==4 || choice ==5)
{
price = .80;
if((money < price)){
cout<<"\n Enter sufficient amount ";
getchar();getchar();
continue;
}
}
cout<<"\n Thum, thum, thum, splat !";
cout<<"\n Enjoy your beverage ";
cout<<"\n\n Change calcualted : "<< money-price;
cout<<"\n You change, "<<money-price<<" just droped into the Change
Dispenser.";
drink[choice-1].quantity = drink[choice-1].quantity - 1;

cout<<"\n There are "<< drink[choice-1].quantity <<" drinks of that
type left";

getchar();
getchar();


}
else
{
cout<<"\n Warning : Invalid Choice ";
}
```

OUPUT SCREESHOT:



5.CONCLUSION AND RESULTS

THUS, VENDING MACHINE PROGRAM HAS BEEN CREATED SUCCESFULLY AND IMPLEMENTED IN C++ COMPILER

6.REFERENCE

- **https://www.cppbuzz.com/programs/c++/c++-program-of-drinking-machine**
- **https://github.com/ThomasEhling/Vending_Machine_System**
- **https://medium.com/swlh/vending-machine-design-a-state-design-pattern-approach-5b7e1a026cd2**