



Addis Ababa science and Technology University

College of electrical and mechanical engineering

Department of Software engineering

Fundamentals of programming 2

Title: Restaurant management system

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*Submission date: sep 06 2021*

## Source code for restaurant management system

```
#include<iomanip>

#include<stdio.h>

#include<iostream>

#include<bits/stdc++.h>

#include<cstring>


using namespace std;

struct Amount {

    string item;

    float price, amount;

    int min;

};

struct Item {

    string item;

    float price;

    float amount;

};

string key;

Item food[7]=

{{"Sandwich",50,0},{ "Shiro",80,0},{ "Kitfo",300,0},{ "Tibs",200,0},{ "Lasagna",120,0},{ "Burger",120,0},{ "Pizza",

125,0}};

Item drink[5]= {{ "Wine",200,0},{ "Soft drink",20,0},{ "Water",15,0},{ "Beer",30,0},{ "Malta",25,0}};

Amount ingre[10]=

{{ "Flour",200,0,20},{ "Sugar",100,0,15},{ "Meat",350,0,35},{ "Bread",100,0,50},{ "Onion",100,0,80}};
```

```

void order(Item food[],Item drink[],float *Bill);

void ingredient(float*bill) ;

void profit(float*bill,float*Bill) ;

void Main_Menu();

void add(Item food[],Item drink[],Amount ingre[]);

void DeleteValues(Item food[],Item drink[],Amount ingre[]);

void Editvalues(Item food[],Item drink[],Amount ingre[]);

void search(Item food[],Item drink[],Amount ingre[]);

void Sorting(Item food[],Item drink[],Amount ingre[]);

int main()
{
    float bill,Bill;

    int x;

    Main_Menu();

level:

    cout<<"\n\t\t Option:";

    cin>>x;

    switch(x) {

case 1:

        order(food,drink,&Bill);

        break;

case 2:

        ingredient(&bill);

        break;

case 3:

```

```

        profit(&bill,&Bill);

        break;

case 4:

        add(food,drink,ingre);

        break;

case 5:

        DeleteValues(food,drink,ingre);

        break;

case 6:

        Editvalues(food,drink,ingre);

        break;

case 7:

        search(food,drink,ingre);

        break;

case 8:

        Sorting(food,drink,ingre);

        break;

default:

        cout<<"Invalid input please try again";

        goto level;

}

return 0;

}

void Main_Menu() { //Display Menu of the program

```

```

cout<<"\n\n\t*****PLANET RESTAURANT*****\n\n";

cout<<"\t\t 1. To order food\n";

cout<<"\t\t 2. To manage Ingredient\n";

cout<<"\t\t 3. To compute profit\n";

cout<<"\t\t 4. To add items\n";

cout<<"\t\t 5. To delete items\n";

cout<<"\t\t 6. To edit items\n";

cout<<"\t\t 7. To search items\n";

cout<<"\t\t 8. To sort items\n";

}

void Sorting(Item food[],Item drink[],Amount ingre[]){//a function to sort items(foor,drink,ingredient)
in acsending order

    int j,i,num;

    Item temp;

    Amount Temp;

cout<<"\t\t1.To sort food item\n\n\t\t2.To sort drink item\n\n\t\t3.To sort ingredient \n";


cout<<"option:";

cin>>num;

if(num==1){

    for(i=0;i<6;i++){

        for(j=i+1;j<7;++j){

            if(strcmp(food[i].item.c_str(),food[j].item.c_str())> 0){

                temp=food[i];

                food[i]=food[j];

                food[j]=temp;

```

```

    }    }}

    cout<<"\n\tFood Item"<<"\t price\n";

    cout<<"\n\t*****\n";

    for(i=0;i<7;i++){
cout<<"\n\t"<<food[i].item<<"\t\t"<<food[i].price<<endl;}}

    if(num==2){

        for(i=0;i<4;i++){

            for(j=i+1;j<5;++j){

                if(strcmp(drink[i].item.c_str(),drink[j].item.c_str())> 0){
temp=drink[i];

                drink[i]=drink[j];

                drink[j]=temp;

            }    }}

            cout<<"\n\t Drink "<<"\t\t price\n";

            cout<<"\n\t*****\n";

            for(i=0;i<5;i++){
cout<<"\n\t"<<drink[i].item<<"\t\t"<<drink[i].price<<endl;}}

            if(num==3){

                for(i=0;i<4;i++){

                    for(j=i+1;j<5;++j){

                        if(strcmp(ingre[i].item.c_str(),ingre[j].item.c_str())> 0){
Temp=ingre[i];

                        ingre[i]=ingre[j];

                        ingre[j]=Temp;

                    }    }}

```

```

        cout<<"\n\t ingredient  "<<"\t\t price\n";

        cout<<"\n\t*****\n";

        for(i=0;i<5;i++){
    cout<<"\n\t"<<ingre[i].item<<"\t\t"<<ingre[i].price<<endl;}}
}

void DeleteValues(Item food[],Item drink[],Amount ingre[]){//fuction to delete items either food or
drink or ingredient

    int num,index;

    cout<<"\t\t1.To delete food item\n\n\t\t2.To delete drink item\n\n\t\t3.To delete ingredient
\n";

    cout<<"Option:";

    cin>>num;

    if(num==1){

        for(int i=0;i<7;i++){

            cout<<"\n\tFood Item"<<"\t price\n";

            cout<<"\n\t*****\n";

            cout<<"\n\t"<<food[i].item<<"\t\t"<<food[i].price<<endl;

        }

        cout<<"Enter the Index Number To Delete Value :";

        cin>>index;

        if(index>7||index<0)

        {

            cout<<"Invalid Index Entered-> Valid Range(0-7)"<<endl;

            DeleteValues(food, drink ,ingre);// Recall The Function it self

        }

```

```

else
{
    food[index].item="Null";
    food[index].price=0,food[index].amount=0;
}

cout<<"\n\t\t\ Value Deleted... Successfully "<<endl;

cout<<"\n\n\t*****Displaying food menu*****\n";

cout<<"\n\tFood Item"<<"\t price\n";

for(int i=0;i<5;i++){
cout<<"\n\t-----\n";
cout<<"\n\t"<<food[i].item<<"\t"<<food[i].price<<endl;
    }}

if(num==2){
    cout<<"\n\t_____BEVERAGE MENU_____ \n";

    cout<<"\n\tBeverage Item"<<"\t price";

    for(int i=0;i<5;i++){

        cout<<"\n\tBeverage"<<"\t price\n";

cout<<"\n\t*****\n";
cout<<"\n\t"<<drink[i].item<<"\t"<<drink[i].price<<endl;
    }

    cout<<"Enter the index number you want to delete\n";

    cin>>index;

    if(index>5||index<0)

    {

        cout<<"Invalid Index Entered-> Valid Range(0-5)"<<endl;

```



```

        DeleteValues(food, drink ,ingre);// Recall The Function it self
    }
    else
    {
        drink[index].item="Null";
        drink[index].price=0,drink[index].amount=0;
    }

    cout<<"\n\t\t\ Value Deleted... Successfully "<<endl;

    cout<<"\n\n\t*****Displaying New menu*****\n";
    cout<<"\n\tBeverage Item"<<"\t price";
    for(int i=0;i<5;i++){
    cout<<"\n\t-----";
    cout<<"\n\t"<<drink[i].item<<"\t"<<drink[i].price<<endl;
        }
    }

    if(num==3){
        cout<<"\n\tIngredient Items"<<"\t price";
        for(int i=0;i<5;i++){
            cout<<"\n\tingredient "<<"\t price\n";
        }
        cout<<"\n\t-----";
        cout<<"\n\t"<<ingre[i].item<<"\t"<<ingre[i].price<<endl;
    }

    cout<<"Enter the Index Number To Delete Value :";

    cin>>index;

    if(index>5||index<0)

```

```

{
    cout<<"Invalid Index Entered-> Valid Range(0-5)"<<endl;

    DeleteValues(food, drink ,ingre);// Recall The Function it self
}

else
{
    ingre[index].item="Null";

    ingre[index].price=0,ingre[index].amount=0;
}

cout<<"\n\t\t Value Deleted... Successfully "<<endl;

cout<<"\n\n\t*****Displaying Ingredient *****\n";

cout<<"\n\tIngredient Items"<<"\t price";

for(int i=0;i<5;i++){
cout<<"\n\t-----";

cout<<"\n\t"<<ingre[i].item<<"\t"<<ingre[i].price<<endl;

}}

cout<<"Press any key to continue or 0 to quit\n";

cin>>key;

if(key!="0"){
    main();
}

/*void Sorting(Item food[],Item drink[],Amount ingre[]){

    sort(food[0].item,food[7].item);

    for(int i=0;i<7;i++){

        cout<<food[i].item;

```

```
}}*/
```

```
void Editvalues(Item food[],Item drink[],Amount ingre[])//function to modify or edit  
items(food,drink,ingerident)
```

```
{
```

```
    int index,num;
```

```
    cout<<"\t\t1.To edit food item \n\n\t\t2.To edit drink item \n\n\t\t3.To edit ingredient\n";
```

```
    cout<<"choice:\n";
```

```
        cin>>num;
```

```
        if(num==1){
```

```
            cout<<"\n\tFood Item"<<"\t price";
```

```
            for(int i=0;i<7;i++){
```

```
cout<<"\n\t-----";
```

```
cout<<"\n\t"<<food[i].item<<"\t"<<food[i].price<<endl;
```

```
        }
```

```
        cout<<"Enter the index you want to edit";
```

```
        cin>>index;
```

```
        if(index>7||index<0){
```

```
            cout<<"Invalid Index Entered-> Valid Range(0-7)"<<endl;
```

```
        Editvalues(food, drink ,ingre);// Recall The Function it self
```

```
    }
```

```
    else{
```

```
        cout<<"Enter name of item:\n";
```

```
        cin>>food[index].item;
```

```
        cout<<"Enter price of item:\n";
```

```
        cin>>food[index].price;
```

```

}

cout<<"\n\t\t\ Value Edited Successfully "<<endl;

    cout<<"\n\n\t*****Displaying food menu*****\n";

    cout<<"\n\tFood Item"<<"\t price";

    for(int i=0;i<7;i++){

cout<<"\n\t-----";

cout<<"\n\t"<<food[i].item<<"\t"<<food[i].price<<endl;

    }

}

    if(num==2){

        cout<<"\n\tDrink Item"<<"\t price";

        for(int i=0;i<5;i++){

cout<<"\n\t-----";

cout<<"\n\t"<<drink[i].item<<"\t"<<drink[i].price<<endl;

        }

        cout<<"Enter the index you want to edit";

        cin>>index;

        if(index>5||index<0){

            cout<<"Invalid Index Entered-> Valid Range(0-7)"<<endl;

            Editvalues(food, drink ,ingre);// Recall The Function it self

        }

        else{

            cout<<"Enter name of item:\n";

            cin>>drink[index].item;

            cout<<"Enter price of item:\n";

```

```

        cin>>drink[index].price;
    }

    cout<<"\n\t\t Value Edited Successfully "<<endl;

    cout<<"\n\n\t*****Displaying beverage menu*****\n";

    cout<<"\n\tDrink Item"<<"\t price";

    for(int i=0;i<5;i++){
    cout<<"\n\t-----";

    cout<<"\n\t"<<drink[i].item<<"\t"<<drink[i].price<<endl;

        }

    if(num==3){

        cout<<"\n\tIngredinet"<<"\t price";

        for(int i=0;i<5;i++){
    cout<<"\n\t-----";

    cout<<"\n\t"<<ingre[i].item<<"\t"<<ingre[i].price<<endl;

        }

        cout<<"Enter the index you want to edit";

        cin>>index;

        if(index>5||index<0){

            cout<<"Invalid Index Entered-> Valid Range(0-5)"<<endl;

            Editvalues(food, drink ,ingre);// Recall The Function it self

        }

        else{

            cout<<"Enter name of item:\n";

            cin>>ingre[index].item;

            cout<<"Enter price of item\n";

```

```

        cin>>ingre[index].price;
    }

    cout<<"\n\t\t Value Edited Successfully "<<endl;

    cout<<"\n\t\t*****Displaying ingredient*****\n";

    cout<<"\n\tIngredient"<<"\t price";

    for(int i=0;i<5;i++){
    cout<<"\n\t-----";

    cout<<"\n\t"<<ingre[i].item<<"\t"<<ingre[i].price<<endl;

        }}}

    cout<<"Press any key to continue or 0 to quit\n";

    cin>>key;

    if(key!="0"){

        main();

    }}

void ingredient(float*bill) { // Stock Managment ; to manage ingerdient, get notification when
ingredinet is low

    float p;

    cout<<"Please buy ingredients and fill the following information\n";

    for(int i=0; i<5; i++) {

        cout<<"How much "<<ingre[i].item<<" did you buy\n";

        cin>>ingre[i].amount;

        * bill=ingre[i].amount*ingre[i].price;

        if(ingre[i].amount<ingre[i].min) {

            cout<<"Insufficient amount of "<<ingre[i].item<<endl;

```

```

    }
}

cout<<"Press any key to continue or 0 to Exit\n";

cin>>key;

if(key!="0"){

    main();

}}

void search(Item food[],Item drink[],Amount ingre[])//function to search items (food,drink,ingerdient)
{
    string item;

    int num;

    cout<<"\t\t1.To search food \n\n\t\t2.To search drink \n\n\t\t3.To search ingredient\n";

    cout<<"choice:";

    cin>>num;

    if(num==1){

        cout<<"Enter the food item name you want to search\n ";

        cin>>item;

        for(int i=0;i<7;i++){

            if(item==food[i].item){

                cout<<"item found!!!\n";

                cout<<"\n\tFood"<<"\t price\n";

                cout<<"\n\t-----\n";

                cout<<"\t"<<food[i].item<<"\t" <<food[i].price<<endl;

```

```

    }

}}

if(num==2){

    cout<<"enter the drink item name you want to search\n ";

    cin>>item;

    for(int i=0;i<5;i++){

        if(item==drink[i].item){

            cout<<"item found!!!\n";

            cout<<"\n\t drink"<<"    \t price\n";

            cout<<"\n\t-----\n";

            cout<<"\t"<<drink[i].item<<"\t    "<<drink[i].price<<endl;

        } }

    }

    if(num==3){

        cout<<"enter the ingredient name you want to search\n ";

        cin>>item;

        for(int i=0;i<5;i++){

            if(item==ingre[i].item){

                cout<<"item found!!!\n";

                cout<<"\n\t Ingredient"<<"    \t price\n";

                cout<<"\n\t-----\n";

                cout<<"\t"<<ingre[i].item<<"\t    "<<ingre[i].price<<endl;

```



```
}}}
```

```
cout<<"Press any key to continue or 0 to quit\n";
```

```
cin>>key;
```

```
if(key!="0"){
```

```
    main();
```

```
} }
```

```
void prepaid_card(float b) { //function to provide prepaid card to customer after they order what they want
```

```
    string p_word;
```

```
    float in,tip,y;
```

```
    char choice;
```

```
    cout<<"\nEnter your card password\n";
```

```
    cin>>p_word;
```

```
    cout<<"Enter the amount of money in your card\n";
```

```
    cin>>in;
```

```
    if(b<=in) {
```

```
        cout<<"Your bill is paid successfully\n";
```

```
        cout<<"Would you like to give Tip(YorN)\n";
```

```
choose:
```

```
    cin>>choice;
```

```
    switch(choice) {
```

```
        case 'Y':
```

```
        case 'y':
```

```
            cout<<"Enter amount of tip you want to give\n";
```

```

    cin>>tip;

    cout<<"Thanks for your tip\n";

    y=in-(tip+b);

    cout<<"Your remaining amount is "<<y<<endl;

    break;
case 'N':
case 'n':

    y=in-b;

    cout<<"Your remaining amount in your card is "<<y<<endl;

    break;
default:

    cout<<"Invalid input please Try again\n";

    goto choose;
}

cout<<"Delivery or Remote order( D or R)\n";

// Remote order and delivery service

char de;

cin>>de;

string t_num;

string address,s_address;

switch(de) {

case 'R':

case 'r':

    cout<<"Enter your table number\n";

    cin>>t_num;

```

```

        cout<<"Your order will be right away Thanks\n";

        break;

    case 'D':

    case 'd':

        cout<<"Enter your address \n";

        cin>>address;

        cout<<"Name of your street\n";

        cin>>s_address;

        cout<<"Your order will be there with in half hour\n";

        cout<<"Thank you for choosing us\n";

    }

}

else {

    cout<<"Your balance is insufficient please recharge your card first\n";

}

cout<<"Press any key to continue or 0 to quit\n";

cin>>key;

if(key!="0"){ main();}

}

void add(Item food[],Item drink[], Amount ingre[]){//a function to add items(food,drink,ingerident)

    int index,size,num;

    cout<<"\t\t1.To add food\n\n\t\t2.To add drink\n\n\t\t3.To add ingredient\n";

    cin>>num;

    Item *ptr =    new Item[size];

    Amount *ptrr= new Amount[size];

```

```

        if(num==1){
            cout<<"\n\tFood"<<"\t price";

            for(int i=0;i<7;i++){
cout<<"\n\t-----";

cout<<"\n\t"<<food[i].item<<"\t\t"<<food[i].price<<endl;

            }

            cout<<"Enter the amount of item";

            cin>>size;

            for(int i=0;i<size;i++){

                cout<<"Enter name of food item "<<i+1;

                cin>>food[i].item;

                cout<<"Enter the price of food item "<<i+1;

                cin>>food[i].price;}

            cout<<"Items Added\n ";

            for(int i=0;i<7;i++){

cout<<"\n\t-----";

cout<<"\n\t"<<food[i].item<<"\t"<<food[i].price<<endl;

            }

for(int i=0;i<size;i++){

    cout<<"\n\t-----";

    cout<<"\n\t"<<food[i].item<<"\t"<<food[i].price<<endl;

    }

        delete []ptr;

    }

    if(num==2){

```

```

        for(int i=0;i<5;i++){
cout<<"\n\t-----";
cout<<"\n\t"<<drink[i].item<<"\t"<<drink[i].price<<endl;
    }

    cout<<"Enter the amount of item:";

    cin>>size;

    for(int i=0;i<size;i++){

        cout<<"Enter the name of the item "<<i+1;

        cin>>drink[i].item;

        cout<<"Enter the price of drink item" <<i+1;

        cin>>drink[i].price;

        for(int i=0;i<5;i++){
cout<<"\n\t-----";
cout<<"\n\t"<<drink[i].item<<"\t"<<drink[i].price<<endl;
    }
for(int i=0;i<size;i++){
    cout<<"\n\t-----";
    cout<<"\n\t"<<drink[i].item<<"\t"<<drink[i].price<<endl;
    }}

    delete []ptr;}

    if(num==3){

        cout<<"\tingredient\t\tprice";

                                for(int i=0;i<5;i++){

cout<<"\n\t-----";

cout<<"\n\t"<<ingre[i].item<<"\t\t" <<ingre[i].price<<endl;

```

```

    }

    cout<<"Enter the amount of ingredient";

    cin>>size;

    for(int i=0;i<size;i++){

        cout<<"Enter the name of ingredinet "<<i+1;

        cin>>ingre[i].item;

        cout<<"Enter the price of ingredinet "<<i+1;

        cin>>ingre[i].price;

        for(int i=0;i<5;i++){

            cout<<"\n\t-----";

            cout<<"\n\t"<<ingre[i].item<<"\t"<<ingre[i].price<<endl;

        }

    for(int i=0;i<size;i++){

        cout<<"\n\t-----";

        cout<<"\n\t"<<ingre[i].item<<"\t"<<ingre[i].price<<endl;

    }

    delete []ptrr;

    }}

    cout<<"Press any key to continue or 0 to quit\n";

    cin>>key;

    if(key!="0"){

        main();

    }

}

void order(Item food[], Item drink[],float *Bill) { //fuction to order food and drink for the customer

```

```

int ch,cho,add;

char choose;

float bill=0,bill_1=0,bill_a=0,bill_b=0,bill_c=0,bill_d=0;

cout<<"*****HELLO MR/MRS WELCOME TO PLANET RESTURANT*****"<<endl;

cout<<"\n\tFOOD MENU:::::::::::::PRICE\n";

for(int i=0;i<7;i++){

cout<<"\n\t" << " " <<food[i].item << " " <<food[i].price<<" <===\n"<<endl;

}

cout<<"-----\n";

cout<<"\n\tBEVERAGE MENU:::::::::::::PRICE::\n";

for(int i=0; i<5; i++) {

cout<<"\n\t" << " " <<drink[i].item<< " " <<drink[i].price<<" <===\n"<<endl;

}

cout<<"Enter your choice of Food\n";

cin>>ch;

for(int i=0; i<7; i++) {

if(i+1==ch) {

food[i].item;

cout<<"Enter amount of " <<food[i].item<<" you want\n";

cin>>food[i].amount;

bill_a=food[i].price*food[i].amount;

cout<<"Is there any thing you want to add (y/n)\n";

cin>>choose;

if(choose=='y'){

cout<<"Enter your choice of food\n";

```

```

cin>>add;

for(int i=0; i<7; i++) {

if(i+1==add) {

    food[i].item;

    cout<<"Enter amount of "<<food[i].item<<" you want\n";

    cin>>food[i].amount;

        bill_b=food[i].price*food[i].amount;

        bill=bill_a+bill_b;

        break;

    }

    }}

    }

    else if(choose=='n'){

        bill_a;

    }

}

cout<<"Enter your choice of drink\n";

cin>>cho;

for(int i=0; i<5; i++) {

    if(i+1==cho) {

        drink[i].item;

        cout<<"Enter amount of "<<drink[i].item<<" you want\n";

        cin>>drink[i].amount;

```



```

    bill_c=drink[i].price*drink[i].amount;

    cout<<"Is there any thing you want to add(y/n)\n";

    cin>>choose;

    if(choose=='y'){

        cout<<"Enter your choice of drink\n";

        cin>>add;

        for(int i=0; i<7; i++) {

            if(i+1==add) {

                drink[i].item;

                cout<<"Enter amount of "<<drink[i].item<<" you want\n";

                cin>>drink[i].amount;

                bill_d=drink[i].price*drink[i].amount;

                bill_1=bill_c+bill_d;

                break;

            }}}

        else if(choose=='n'){

            bill_c;

        }}

        *Bill = bill+bill_a+bill_1+bill_c;

        cout<<"\tTOTAL PRICE OF YOUR ORDER IS = "<<*Bill;

        prepaid_card(*Bill);

        cout<<"press any key to continue 0 to exit\n";

        cin>>key;

```

```
if (key!="0"){  
    main();  
}  
}
```

```
void profit(float*bill,float*Bill) { //to compute the profit of the resturant  
if(*bill==0||*Bill==0){  
    cout<<"No existing record";  
    cout<<"\n----Fill some records first----\n";  
    main();  
    }  
float pro=bill-Bill;  
cout<<"The resturant profit from existing records "<<pro;  
    }
```