

Data Structures and Algorithms

SY B. Tech. E&TC | Batch 2017-21

Mini-Project Report

<Shopping cart: SCHEF>

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Objective of the Mini-Project:

For evaluation of an assessment of lab component of the data structure and algorithm course. The project is a shopping cart in which a user can purchase raw material of a particular food item and cook it. This is an initiative for ease of the society and to give them a self sufficiency by cooking their own course of meal and enjoying the taste of their hard work.

Theoretical Background:

- Array: An array is a collection of data that holds fixed number of values of same type such as integers, characters, strings, structures, etc.
Arrays are of two types:
 1. One-dimensional arrays
 2. Multidimensional arrays
- To declare an array: `data_type array name [array size];`
- To initialize array: `int mark[5] = {19, 10, 8, 17, 9};`
- Stacks: It is a linear data structure in which items are added at only one end.
- Stacks are based on LIFO principle, which implies to last in first out.
- Stacks can be declared by: `data_type stack[size];`

Algorithm:

Step 1: Start

Step 2: Defining functions used in program- display, push, display_item. And define stacks 1 and 2.

Step 3: main program- Initialize the variables in the program.

Step 4: Take a user input for username and password. And in a for loop encrypt the password with '*'.

`for(i=0;i<5;i++)`

```
ch = getch()
```

```
password[i] = ch
```

```
ch = '*'
```

```
print("%c",ch)
```

Step 5: Display the menu with individual rates and discount amounts and detailed recipes of each item.

Step 6: In a while loop Add a switch case to ask the user for addition in cart or to display their bill of purchase or to exit the shopping cart.

```
while(1)
```

```
print("Please press\n 1 To order and add items\n 2 To check out and display the items you have ordered\n 3 To exit\n")
```

```
input("%d",&c)
```

```
switch(c)
```

```
1: push()
```

```
2:display_item()
```

```
3:exit(1)
```

Step 7: Calling function push to add items

```
if(top>=max-1)
```

```
then print "cart is overloaded"
```

```
else input dish name
```

```
input quantity required
```

```
top++
```

```
stack1[top]=item
```

```
stack2[top]=qty
```

Step 8: Calling function display_item to display purchased items

If(top==-1) print “cart is empty”

else Using if else convert all the numerical elements in the stack to the corresponding food item for the ease of the user.

Print “purchased items, rate, discount, cost

Step 9: Calculate the total bill amount by simple arithmetic addition and print it.

Step 10: Use repeat and goto to verify the paid amount.

Repeat:

Goto repeat

Step 11: Print Cash received

Step 12: Stop

Program:

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
#include <conio.h>
```

```
#include <string.h>
```

```
int display(); /*FUNCTION PROTOTYPE*/
```

```
void push();
```

```
void display_item();
```

```
#define MAX1 20 /*MAXIMUM NUMBER OF DISHES THAT CAN BE STORED IN CART*/
```

```
#define MAX2 10 /*MAXIMUM NUMBER OF QUANTITY THAT CAN BE STORED*/
```

```
int top=-1, stack1[MAX1], stack2[MAX2];
```

```
int main() /*MAIN PROGRAM*/
{
char password[10],username[10], ch; int i;

printf("*****@ @ @ @ @ @ @ @ WELCOME TO
SCHEF!!@ @ @ @ @ @ @ @*****\n");

printf("\n\nEnter Username: ");

gets(username);

printf("\nHello %s!!!,\n      __^^ Welcome to our Online Shopping!^^__\n",username);

again:

printf("\n\nEnter the password <should be 5 characters>:");

for(i=0;i<5;i++)
{
ch = getch();

password[i] = ch;

ch = '*' ;

printf("%c",ch);

}

printf("\n\n");

display();

return 0;

}

int display() /*DEFINING FUNCTION DISPLAY TO DISPLAY ITEMS IN A MENU*/
```

```

{

int n,no,n1,n2,n3,n4,n5,n6,n7,n8,n9,n10,n11,n12,n13,n14,n15,n16,n17,n18,n19,n20,c ;

printf("\n\n_____
_____");

printf("\n          -----MENU:----- ");

printf("\n_____
__\n");

printf("\n**APPETISERS**\n\n");

printf("1.Chicken Manchow Soup (NON VEG) *250 for 2 \n\nTopped with crunchy noodles and made
with nutritious veggies and chicken cooked in an aromatic dark brown broth,\nthis Indo-Chinese soup has all the
goodness but none of the guilt of raasta Chinese food.\n Cuisine Inspiration : Oriental / Asian\n Difficulty Level
: Easy\n Cooking Time : 10 mins\n Spice Level : Medium\nWHAT WE SEND:\n Olive Oil, Fried Noodles,
Garlic, Ginger, Celery, Carrot, Cabbage, French Beans, Mushroom, Cilantro,\n Scallion, and Vegetable
Stock.\nWHAT YOU NEED:\n Black, Pepper, Medium Pot, Salt\n\n");

printf("2.Caesar Salad (VEG) *200 for 2\n\nThe popularity of this salad around the world is most likely
due to a man who claims to have invented the salad,\nCaesar Cardini,not Julius Caesar as many people believe.
Invented one evening when supplies were running low, \nnecessity was Cardini's muse for this 1920's classic.
And like any great salad that gets its swagger from a great\ndressing,you'll be using our signature caesar dressing
to whip up this menu staple in your own kitchen - preferably\n tableside,how it was originally prepared.\n Cuisine
Inspiration : Italian\n Difficulty Level : Easy\n Cooking Time : 10 mins\n Spice Level : N/A\nWHAT WE
SEND:\n Olive Oil, Olives, Caesar Dressing, Fresh Greens, Parmesan Cheese, Croutons.\nWHAT YOU NEED:\n
Black Pepper, Large Pan, Medium Pan, Salt\n\n");

printf("3.Kale Chicken And Grape In Orange Vinaigrette (NON VEG) *250 for 2\n\nKale is one of the
healthiest vegetables around and has brilliant cholesterol lowering abilities.And chicken has\nhigh level of
proteins.In this zesty yet simple salad, there is no cooking involved and you can put this dish\ntogether in a matter
of minutes.The orange dressing along with the almond slivers and juicy grapes adds a satisfying\ncrunch and
heavenly flavour to this hearty salad.\n Cuisine Inspiration : American\n Difficulty Level : Easy\n Cooking Time
: 10 mins\n Spice Level : Low\nWHAT WE SEND:\n Kale Grapes Almond Orange vinaigrette Ricotta Cheese,
chicken\nWHAT YOU NEED:\n Black Pepper,Large Mixing Bowl,Salt\n\n");

```

printf("4.Lahori Chatpate Charee Aloo (VEG) *250 for 2\n\n Discount=30%\n\n Millets and grains are an essential part of winters across India, especially Punjab. Millet flours were used in\nnextensive preparations across Lahore and Amritsar. Here, we bring one such preparation from erstwhile Punjab tossed\nin a tangy dry rub that brings out the Chatpati Punjabiyyat in the potatoes.\n Cuisine Inspiration : Artisanal Indian\n Difficulty Level : Easy\n Cooking Time : 20 mins\n Spice Level : Medium\nWHAT WE SEND:\n Sesame Oil,Baby Potatoes,Charre Aloo Marinade,Tadka Mix,Pomegranate,Chili Flakes, Mustard Paste, Cilantro,\n Basil Leaves, Mint Mayo, Satay Sticks\nWHAT YOU NEED:\n Black Pepper, Large Sauté Pan,Medium Bowl, Salt\n\n");

printf("5.Falafel Bhel (VEG) *250 for 2\n\n Arabic street food meets Mumbai chaat. In this recipe, we are replacing the puffed rice with high fibre,\nprotein-rich falafels making this a guilt free version of our quintessential street food. Mixed in a flavoured yoghurt\nand garnished with pomegranates, you'll be surprised how delicious this fusion tastes...\nthis might just make it to the hall of fame of healthy street food.\n Cuisine Inspiration : Lebanese\n Difficulty Level : Easy\n Cooking Time : 25 mins\n Spice Level : Low\nWHAT WE SEND:\n Puri Sev Zatar Powder Parsley Cucumber Green Chili Tomato Onion Lime Pomegranate Falafel Mixture Flavoured Curd\nWHAT YOU NEED:\n Large Mixing Bowl, Medium Pan, Oil for frying\n\n");

printf("6.Chicken 65 (NON VEG) *250 for 3\n\nChicken 65 is a spicy, deep-fried chicken dish originating from Hotel Buhari, Chennai, India, as an entrée, or\nquick snack.The flavour of the dish can be attributed to red chillies but the exact set of ingredients for the\nrecipe can vary.\nWHAT WE SEND:\nboneless chicken, red chilli powder, turmeric powder, ginger garlic paste, garam masala powder, all purpose flour/maida, corn flour\nbeaten egg, green chillies, curry leaves, yogurt, coriander leaves, lemon, onion\nWHAT YOU NEED:\nLarge Mixing Bowl, Medium Pan, Oil for frying, salt\n\n");

printf("\n\n**MAIN COURSE**\n\n");

printf("\n7.Vegetable Panang Curry (VEG) *300 for 2\n\n Discount=25%\n\nPanang is a type of red Thai curry that is thick, salty and sweet, with a nutty peanut flavor.\nSkip the store bought version of Thai curry pastes a miss which almost always contain fish sauce or\nshrimp paste and savour our 100% vegetarian version which is the highlight of this dish.\n Cuisine Inspiration : Thai\n Difficulty Level : Easy\n Cooking Time : 30 mins\n Spice Level : Low\nWHAT WE SEND\nOlive oil,Basmati rice,Ginger & garlic paste,Panang curry paste,Coconut milk powder,Red bell pepper,Broccoli,\nFrench beans,Zucchini,Scallions,Lemon,Peanuts\nWHAT YOU NEED:\n Black Pepper,Large Pot,Medium Pot,Salt\n\n");

printf("8.Desi Ratatouille Makhni with Onion Pulao (VEG) *300 for 2\n\n This is an intriguing Indian twist on a French classic.\n Our signature makhni gravy forms the base for a medley of veggies found abundantly in Mediterranean cooking.\nServed with a side of onion rice, this flavourful dish is sure to win hearts whatever

food camp you belong to.\nCuisine Inspiration : Artisanal Indian \n Difficulty Level : Easy\n Cooking Time : 35 mins\n Spice Level : Medium \nWhat we Send: Olive Oil, Garlic, Cumin Seeds, Chilli Powder, Makhni Gravy, Cream, Fried Onions, Basmati Rice, Paneer, Zucchini, Bell Pepper,\n Onion, Tomato, Cilantro, Parathas (optional)\nWhat you Need:Black Pepper, Large Pan, Medium Pot, Salt\n\n");

printf("9.Desi Khurchan Quesadilla with Jalapeno Grape Salsa (VEG) *400 for 2\n\nIn this Indo-Mexican fusion, you will be sautéing fresh veggies in our spicy & tangy spice mix mixed with cheese.\nThe side of grape jalapeno salsa is a welcome twist from the traditional salsa recipe and rounds about this dish perfectly.\n Cuisine Inspiration : Mexican\n Difficulty Level : Easy\n Cooking Time : 30 mins\n Spice Level : Medium\nWHAT WE SEND\nOlive Oil, Onion, Garlic, Zucchini, Baby Corn, Carrot, Bell Peppers, Cilantro, Tortilla wraps, Cheddar Cheese, Grapes, Jalapeno, Sour Cream, Khurchan Spice Mix\nWHAT YOU NEED\nBlack Pepper, Large Non-stick Pan, Salt\n\n");

printf("10.Penne In Roasted Tomato Sauce (VEG) *300 for 2\n\n Whole wheat penne is a quick, healthy meal any night of the week. The secret sauce (quite literally) is our in-house roasted\n tomato coulis which has all the creaminess of a pasta sauce without any dairy used whatsoever. Who said healthy can't be tasty! \nCuisine Inspiration : Italian\n Difficulty Level : Easy\n Cooking Time : 25 mins\n Spice Level : Low\n \nWHAT WE SEND:\nOlive Oil, Whole Wheat Penne, Chili Flakes, Garlic, Kale, Sundried Tomato, Olives, Basil, Roasted tomato, coulis, Parmesan Cheese.\nWHAT YOU NEED:\n Black Pepper, Large Pan, Large Pot, Medium Pot, Salt\n\n");

printf("11.Vegetable Lasagna (VEG) *350 for 2\n\n Discount=30%\n\nLasagna is one of those perfect comfort foods that's appropriate for almost every culinary situation,\nalthough it can take hours to make. This quick and easy lasagna will blow your mind. In this recipe, you'll use lasagna sheets with a creamy, smooth béchamel sauce\nand tangy tomato concasse for a dish that preserves the deep, rich flavors of the classic but serves it in a fraction of the time.\n Cuisine Inspiration : Italian\n Difficulty Level : Medium\n Cooking Time : 35 mins\n Spice Level : Medium\nWHAT WE SEND:\n Olive Oil, Lasagna Sheets, Onion, Garlic, Chili Flakes, Zucchini, Bell Pepper, Basil Leaves, Tomato, Concasse, White Sauce, Mozzarella Cheese,\nParmesan Cheese, Paper Mould\nWHAT YOU NEED:\n Black Pepper, Large Non-stick Pan, Medium Bowl, Oven\n\n");

printf("12.Honey Sriracha Veggies Over Buttered Noodles (VEG) *300 for 2\n\nSavoury, buttery with a tint of heat – these honey sriracha veggies over noodles are easy and crazy delicious\nand will take your Sriracha addiction to the next level.\nCuisine Inspiration : Chinese\n Difficulty Level : Easy\n Cooking Time : 15 mins\n Spice Level : Medium\nWHAT WE SEND:\n Sesame Oil, Butter, Garlic, Mushrooms, Broccoli, Zucchini, Baby corn, Sriracha-Honey Sauce, Noodle, Scallions, Sesame seeds, Corn flour\nWHAT YOU NEED:\n Strainer, Large Wok (or Kadai), Medium Pot\n\n");

printf("13.Potato Rosemary Pizza (VEG) *250 for 2\n\nPotatoes on pizza? It's true. Ditch the traditional tomato sauce and venture into this heavenly combo of potatoes\nand rosemary over white sauce – it'll knock your socks off!\n Cuisine Inspiration : Italian\n Difficulty Level : Medium\n Cooking Time : 30 mins\n Spice Level : Low\n WHAT WE SEND:\nOlive Oil, Garlic,Rosemary, Potato, Onion, Pizza Dough, Flour,White Sauce, Mozzarella Cheese, Butter Paper.\n WHAT YOU NEED:\nBaking Tray, Black Pepper, Large Non-stick Pan, Medium Bowl, Salt\n\n");

printf("14.Charmoula Spiced Burger (VEG) *450 for 2\n\n Discount=40%\n\n In this recipe, you will be making wholesome veggie burgers then slathering them with a zesty charmoula mayonnaise.\n Charmoula powder is a traditional Moroccan seasoning with deep and savoury flavours of cumin, coriander, sweet paprika, and citrus.\nThe result is a simply delicious take on an American classic. \n Cuisine Inspiration : American\n Difficulty Level : Easy\n Cooking Time : 35 mins\n Spice Level : Medium\n WHAT WE SEND:\nOlive oil, Garlic, Green Chili, Vegetable Mix, Tomato, Fresh Green Burger Mix Batter, Mix Breadcrumbs, Cheese Slice, Charmoula Mayo Burger Buns.\nWHAT YOU NEED\n Black Pepper, Large Non-stick Pan, Medium Bowl, Salt.\n\n");

printf("\n **DESSERTS**\n\n");

printf("15.Oreo Cheesecake Truffles (VEG) *200 for 2\n\n Discount=20%\n\nThis is the stuff that dreams are made of: Oreo cookie crumbs are blended with cream cheese and covered with a chocolate\nshell for the best-tasting truffles ever. \n Cuisine Inspiration : American\n Difficulty Level : Easy\n Cooking Time : 10 mins\n Spice Level : N/A\nWHAT WE SEND\n Oreo Cookies, Philadelphia Cream Cheese, Chocolate Skewers.\nWHAT YOU NEED:\n Medium Bowl, Small Pot\n\n");

printf("16.Chocolate Canberry Modak (VEG) *300 for 2 \n\nOn this auspicious occasion of Ganeshotsav, we bring you Lord Ganesha's favorite sweet dish, modak in a modernized version where you'll be making up modaks out of a\n chocolate cranberry and mawa mixture and garnishing it with pistachio powder.\n Makes 8 - 10 pieces. \nCuisine Inspiration : Indian\n Difficulty Level : Easy\n Cooking Time : 40 Mins\n Spice Level : N/A\n WHAT WE SEND\n Mawa, Sugar, Dark Chocolate, Cocoa Powder, Milk Powder, Dried Cranberry, Pistachio Powder, Mould\n WHAT YOU NEED\n Grater, Medium Bowl, Medium Pan.\n\n");

printf("17.Gulab Jamun (VEG) *250 for 2\n\nGulab Jamun is one of India's most popular sweet. These deep-fried dumplings/donuts made of dried milk [khoya] are dipped in a rose-cardamom flavored sugar syrup\nand make quite a treat.\n Cuisine Inspiration : Indian\n Difficulty Level : Easy\n Cooking Time : 40 Mins\n Spice Level : N/A\nWHAT WE SEND:\n khoya, all purpose flour, cardamom powder, baking powder, ghee, milk, sugar, rose water\nWHAT YOU NEED:\n Grater, Medium Bowl, Medium Pan\n\n");


```

printf("18.Ras Malai (VEG) *200 for 2\n\nRas malai or rossomalai is a dessert originating from the Bengal
region of the Indian subcontinent. The name ras malai is the Hindi cognate\nwhich comes from two words in
Bengali: rosh, meaning 'juice', and molai, meaning 'cream'. It has been described as a rich cheesecake without a
crust.\n Cuisine Inspiration : Indian\n Difficulty Level : Easy\n Cooking Time : 40 Mins\n Spice Level :
N/A\nWHAT WE SEND:\n milk, lemon juice, green cardamom pods, saffron, sugar, pistachios\nWHAT YOU
NEED:\n Grater, Medium Bowl, Medium Pan\n\n");

```

```

printf("19.Chocolate Sondesh(VEG) *200 for 2\n\nOld world meets new...we have given a chocolaty twist
to a Bengali classic sweet in this sondesh recipe. You'll be adding cocoa powder to make the sondesh and\n
garnishing it with chocolate sprinkles...this is a great way to introduce this traditional sweet to the kids...and adults
as well. KhoobBhalo!\nMakes 8-10 pcs.\n Cuisine Inspiration : Indian\n Difficulty Level : Medium\n Cooking
Time : 20 mins\n Spice Level : N/A\nWHAT WE SEND:\n Paneer, Nolengur, Cardamom Powder, Milk Powder,
Cocoa Powder, Chocolate Chips.\nWHAT WE NEED:\n Grater,Medium Pan\n\n");

```

```

printf("20.Nolen Gurer(VEG) *150 for 2\n\nNolen Gurer (date palm jaggery) Sondesh is a deliciously
finger licking recipe to treat your family and friends and surprisingly simple to make.\nKhoobBhalo! Makes 8 to
10 pcs.\n Cuisine Inspiration : Indian\n Difficulty Level : Medium\n Cooking Time : 20 mins\n Spice Level :
N/A\nWHAT WE SEND:\n Paneer, Nolengur, Cardamom Powder, Milk Powder.\nWHAT YOU NEED:\n
Grater, Medium Pan.\n\n");

```

```

while(1) /*INFINITE LOOP, WILL END WHEN CHOICE IS 3*/

{

    printf("Please press\n 1 To order and add items\n 2 To check out and display the items you have
ordered\n 3 To exit\n");

    scanf("%d",&c);

    switch(c)

    {

        case 1: push(); /*CALLING FUNCTION PUSH TO ADD DISHES*/

        break;

```

```

        case 2: display_item(); /*CALLING FUNCTION DISPLAY_ITEM TO DISPLAY ORDERED
DISHES*/

        break;

        case 3: exit(1);

        default: printf("SORRY! You have entered a wrong choice\n");

    }

}

return 0;

}

void push() /*DEFINING FUNCTION PUSH TO ADD ITEMS IN THE CART*/

{

int item,qty;

if(top>= MAX1-1)

{

    printf("The cart is overloaded\n");

}

else

{

    printf("Enter the serial number of the dish you want to order:\n");

    scanf("%d", &item);

    printf("Enter the quantity you require for this dish:\n");

    scanf("%d",&qty);

```

```

    top++;

    stack1[top]=item;

    stack2[top]=qty;

}

}

void display_item() /*DEFINING FUNCTION DISPLAY_ITEM TO DISPLAY THE ORDERED ITEMS,
THEIR INDIVIDUAL RATES, QUANTITY, COST AND TOTAL BILL AMOUNT*/

{ char y;

int i;

float cost1=0,cost2=0,cost3=0,cost5=0,cost6=0,cost8=0,cost9=0,cost10=0,totalc;

int
price1,price2,price3,price4,price5,price6,price7,price8,price9,price10,price11,price12,price13,price14,price15,p
rice16,price17,price18,price19,price20;

float cost12=0,cost13=0,cost16=0,cost17=0,cost18=0,cost19=0,cost20=0,cash;

float discount4,discount7,discount11,discount14,discount15,cost4=0,cost7=0,cost11=0,cost14=0,cost15=0;

float
adiscout1=0,adiscout2=0,adiscout3=0,adiscout4=0,adiscout5=0,adiscout6=0,adiscout7=0,adiscout8=0
,adiscout9=0,adiscout10=0,adiscout11=0,adiscout12=0,adiscout13=0,adiscout14=0,adiscout15=0,adisc
out16=0,adiscout17=0,adiscout18=0,adiscout19=0,adiscout20=0;

if(top==-1)

{

printf("\nCart is empty!!");

}

else

```

```

{

    printf("\nYou have purchased the following items:\n");

    printf("ITEMS                                QUANTITY    RATE
DISCOUNT(percentage)    TOTAL COST\n");

    for(i=top;i>=0;--i)

    {

        if(stack1[i]==1)

        {

            price1=250;

            cost1=price1*stack2[i];

            printf("Chicken Manchow Soup          %d      %d      %d
%f\n ",stack2[i],price1,adiscout1,cost1);

        }

        else if(stack1[i]==2)

        {

            price2=200;

            cost2=price2*stack2[i];

            printf("Caesar Salad                %d      %d      %d
%f\n",stack2[i],price2,adiscout2,cost2);

        }

        else if(stack1[i]==3)

        {

            price3=250;

```

```

        cost3=price3*stack2[i];

        printf("Kale Chicken And Grape In Orange Vinaigrette           %d           %d
%d
        %f\n",stack2[i],price3,adiscout3,cost3);

    }else if(stack1[i]==4)

    {

        price4=250;

        discount4=0.3;

        adiscout4=price4-(discount4*price4);

        cost4=adiscout4*stack2[i];

        printf("Lahori Chatpate Charee Aloo           %d           %d           30
%f\n",stack2[i],price4,cost4);

    }else if(stack1[i]==5)

    { price5=250;

        cost5=price5*stack2[i];

        printf("Falafel Bhel           %d           %d           %d
%f\n",stack2[i],price5,adiscout5,cost5);

    }else if(stack1[i]==6)

    { price6=250;

        cost6=price6*stack2[i];

        printf("Chicken 65           %d           %d           %d
%f\n",stack2[i],price6,adiscout6,cost6);

    }else if(stack1[i]==7)

    { price7=300;

        discount7=0.25;

```

```

        adiscount7=price7-(discount7*price7);

        cost7=adiscount7*stack2[i];

        printf("Vegetable Panang Curry                %d        %d        25
%f\n",stack2[i],price7,cost7);

    }else if(stack1[i]==8)

    {   price8=300;

        cost8=price8*stack2[i];

        printf("Desi Ratatouille Makhni with Onion Pulao                %d        %d
%d        %f\n",stack2[i],price8,adiscount8,cost8);

    }else if(stack1[i]==9)

    {   price9=300;

        cost9=price9*stack2[i];

        printf("Desi Khurchan Quesadilla with Jalapeno Grape Salsa                %d        %d
%d        %f\n",stack2[i],price9,adiscount9,cost9);

    }else if(stack1[i]==10)

    {   price10=300;

        cost10=price10*stack2[i];

        printf("Penne In Roasted Tomato Sauce                %d        %d        %d
%f\n",stack2[i],price10,adiscount10,cost10);

    }else if(stack1[i]==11)

    {   price11=350;

        discount11=0.3;

        adiscount11=price11-(discount11*price11);

        cost11=adiscount11*stack2[i];

```

```

        printf("Vegetable Lasagna                %d      %d      30
%f\n",stack2[i],price11,cost11);

    }else if(stack1[i]==12)

    {   price12=300;

        cost12=price12*stack2[i];

        printf("Honey Sriracha Veggies Over Butterd Noodles                %d      %d
%d
%f\n",stack2[i],price12,adiscout12,cost12);

    }else if(stack1[i]==13)

    {   price13=250;

        cost13=price13*stack2[i];

        printf("Potato Rosemary Pizza                %d      %d      %d
%f\n",stack2[i],price13,adiscout13,cost13);

    }else if(stack1[i]==14)

    {   price14=450;

        discount14=0.4;

        adiscout14=price14-(discount14*price14);

        cost14=adiscout14*stack2[i];

        printf("Charmoula Spiced Burger                %d      %d      40
%f\n",stack2[i],price14,cost14);

    }else if(stack1[i]==15)

    {   price15=200;

        discount15=0.2;

        adiscout15=price15-(discount15*price15);

        cost15=adiscout15*stack2[i];

```

```

printf("Oreo Cheesecake Truffles           %d      %d      20
%f\n",stack2[i],price15,cost15);

}else if(stack1[i]==16)

{   price16=300;

    cost16=price16*stack2[i];

    printf("Chocolate Canberry Modak       %d      %d      %d
%f\n",stack2[i],price16,adiscout16,cost16);

}else if(stack1[i]==17)

{   price17=250;

    cost17=price17*stack2[i];

    printf("Gulab Jamun                   %d      %d      %d
%f\n",stack2[i],price17,adiscout17,cost17);

}else if(stack1[i]==18)

{   price18=200;

    cost18=price18*stack2[i];

    printf("Ras Malai                     %d      %d      %d
%f\n",stack2[i],price18,adiscout18,cost18);

}else if(stack1[i]==19)

{   price19=200;

    cost19=price19*stack2[i];

    printf("Chocolate sondesh             %d      %d      %d
%f\n",stack2[i],price19,adiscout19,cost19);

}else if(stack1[i]==20)

{   price20=150;

```



```

        cost20=price20*stack2[i];

        printf("Nolen Gurer                                %d          %d          %d\n",stack2[i],price20,adiscout20,cost20);

    }

}

repeat:

totalc=cost1+cost2+cost3+cost4+cost5+cost6+cost7+cost8+cost9+cost10+cost11+cost12+cost13+cost14+cost15+cost16+cost17+cost18+cost19+cost20;

printf("\nThe total bill amount is Rs %f\n",totalc);

printf("\nEnter the cash paid: Rs");

scanf("%f",&cash);

if(cash!=totalc)

{

    printf("\nPlease pay correct amount\n\n");

    goto repeat;

}

printf("\nCash Recieved!!\n");

printf("\n          =====");

printf("\n          | NO CREDIT OF THE ADDITIONAL DUTY OF |");

printf("\n          | CUSTOMS LEVIED UNDER SECTION (5) OF |");

```

```

printf("\n          | SECTION-3 OF THE CUSTOMS TARIFF ACT |");

printf("\n          | HAVE BEEN AVAILED/SHALL BE ADMISSABLE |");

printf("\n          =====");

printf("\n          (^~^)THANK YOU.VISIT US AGAIN!!(^~^)");

printf("\n          THANK YOU FOR USING OUR SERVICE!!\n\n");

printf("Press n to exit SCHEF");

scanf("%c",y);

if(y=='n')

{

    exit(1);

}

}

```

Output Screenshots:

Output 1: The picture below show the input of username and encrypted password and the beginning of the menu.

```
C:\Users\DELL\Documents\17070123105\shoppingcart_105_120.exe
*****@@@@@@@@ WELCOME TO SCHEF!!@@@@@@@@*****

Enter Username: [0x7FFE00DA680] ANOMALY: meaningless REX prefix used
SURBHI

Hello SURBHI!!!,
    __^^ Welcome to our Online Shopping!^^__

Enter the password <should be 5 characters>:*****

-----MENU:-----

**APPETISERS**

1.Chicken Manchow Soup (NON VEG) *250 for 2

Topped with crunchy noodles and made with nutritious veggies and chicken cooked in an aromatic dark brown broth,
this Indo-Chinese soup has all the goodness but none of the guilt of raasta Chinese food.
  Cuisine Inspiration : Oriental / Asian
  Difficulty Level : Easy
  Cooking Time : 10 mins
  Spice Level : Medium
WHAT WE SEND:
  Olive Oil, Fried Noodles, Garlic, Ginger, Celery, Carrot, Cabbage, French Beans, Mushroom, Cilantro,
  Scallion, and Vegetable Stock.
WHAT YOU NEED:
  Black, Pepper, Medium Pot, Salt

2.Caesar Salad (VEG) *200 for 2

The popularity of this salad around the world is most likely due to a man who claims to have invented the salad,
Caesar Cardini,not Julius Caesar as many people believe. Invented one evening when supplies were running low,
necessity was Cardini's muse for this 1920's classic. And like any great salad that gets its swagger from a great
dressing,you'll be using our signature caesar dressing to whip up this menu staple in your own kitchen - preferably
tableside,how it was originally prepared.
  Cuisine Inspiration : Italian
  Difficulty Level : Easy
```

Output 2: The menu is shown in this screenshot.

```
C:\Users\DELL\Documents\17070123105\shoppingcart_105_120.exe
Cooking Time : 10 mins
Spice Level : N/A
WHAT WE SEND:
  Olive Oil, Olives, Caesar Dressing, Fresh Greens, Parmesan Cheese, Croutons.
WHAT YOU NEED:
  Black Pepper, Large Pan, Medium Pan, Salt

3.Kale Chicken And Grape In Orange Vinaigrette (NON VEG) *250 for 2

Kale is one of the healthiest vegetables around and has brilliant cholesterol lowering abilities.And chicken has
high level of proteins.In this zesty yet simple salad, there is no cooking involved and you can put this dish
together in a matter of minutes.The orange dressing along with the almond slivers and juicy grapes adds a satisfying
crunch and heavenly flavour to this hearty salad.
  Cuisine Inspiration : American
  Difficulty Level : Easy
  Cooking Time : 10 mins
  Spice Level : Low
WHAT WE SEND:
  Kale Grapes Almond Orange vinaigrette Ricotta Cheese, chicken
WHAT YOU NEED:
  Black Pepper, Large Mixing Bowl, Salt

4.Lahori Chatpate Charee Aloo (VEG) *250 for 2

Discount=30

Millets and grains are an essential part of winters across India, especially Punjab. Millet flours were used in
extensive preparations across Lahore and Amritsar. Here, we bring one such preparation from erstwhile Punjab tossed
in a tangy dry rub that brings out the Chatpati Punjabiyyat in the potatoes.
  Cuisine Inspiration : Artisanal Indian
  Difficulty Level : Easy
  Cooking Time : 20 mins
  Spice Level : Medium
WHAT WE SEND:
  Sesame Oil, Baby Potatoes, Charre Aloo Marinade, Tadka Mix, Pomegranate, Chili Flakes, Mustard Paste, Cilantro,
  Basil Leaves, Mint Mayo, Satay Sticks
WHAT YOU NEED:
  Black Pepper, Large Saut0 Pan, Medium Bowl, Salt

5.Falafel Bhel (VEG) *250 for 2

Arabic street food meets Mumbai chaat. In this recipe, we are replacing the puffed rice with high fibre,
protein-rich falafels making this a guilt free version of our quintessential street food. Mixed in a flavoured yoghurt
and garnished with pomegranates, you'll be surprised how delicious this fusion tastes...
```

Output 3: The output below shows the last part of the menu.

```
C:\Users\DELL\Documents\17070123105\shoppingcart_105_120.exe
WHAT WE SEND:
khoya, all purpose flour, cardamom powder, baking powder, ghee, milk, sugar, rose water
WHAT YOU NEED:
Grater, Medium Bowl, Medium Pan

18.Ras Malai (VEG) *200 for 2

Ras malai or rossomalai is a dessert originating from the Bengal region of the Indian subcontinent. The name ras malai is the Hindi cognate
which comes from two words in Bengali: rosh, meaning 'juice', and molai, meaning 'cream'. It has been described as a rich cheesecake without a crust.
Cuisine Inspiration : Indian
Difficulty Level : Easy
Cooking Time : 40 Mins
Spice Level : N/A
WHAT WE SEND:
milk, lemon juice, green cardamom pods, saffron, sugar, pistachios
WHAT YOU NEED:
Grater, Medium Bowl, Medium Pan

19.Chocolate Sondesh(VEG) *200 FOR 2

Old world meets new...we have given a chocolaty twist to a Bengali classic sweet in this sondesh recipe. You'll be adding cocoa powder to make the sondesh and
garnishing it with chocolate sprinkles...this is a great way to introduce this traditional sweet to the kids...and adults as well. KhoobBhalo!
Makes 8-10 pcs.
Cuisine Inspiration : Indian
Difficulty Level : Medium
Cooking Time : 20 mins
Spice Level : N/A
WHAT WE SEND:
Paneer, Nolengur, Cardamom Powder, Milk Powder, Cocoa Powder, Chocolate Chips.
WHAT WE NEED:
Grater,Medium Pan

20.Nolen Gurer(VEG) *150 for 2

Nolen Gurer (date palm jaggery) Sondesh is a deliciously finger licking recipe to treat your family and friends and surprisingly simple to make.
KhoobBhalo! Makes 8 to 10 pcs.
Cuisine Inspiration : Indian
Difficulty Level : Medium
Cooking Time : 20 mins
Spice Level : N/A
WHAT WE SEND:
Paneer, Nolengur, Cardamom Powder, Milk Powder.
WHAT YOU NEED:
Grater, Medium Pan.
```

Output 4: The output below shows the items being added one by one to the cart

```
C:\Users\DELL\Documents\17070123105\shoppingcart_105_120.exe
Please press
1 To order and add items
2 To check out and display the items you have ordered
3 To exit
1
Enter the serial number of the dish you want to order:
18
Enter the quantity you require for this dish:
2
Please press
1 To order and add items
2 To check out and display the items you have ordered
3 To exit
1
Enter the serial number of the dish you want to order:
14
Enter the quantity you require for this dish:
1
Please press
1 To order and add items
2 To check out and display the items you have ordered
3 To exit
1
Enter the serial number of the dish you want to order:
8
Enter the quantity you require for this dish:
3
Please press
1 To order and add items
2 To check out and display the items you have ordered
3 To exit
1
Enter the serial number of the dish you want to order:
2
Enter the quantity you require for this dish:
2
Please press
1 To order and add items
2 To check out and display the items you have ordered
3 To exit
2
You have purchased the following items:
```

Output 5: The output below has the items the user has purchased its rate, discount and cost after discount.

```

You have purchased the following items:
ITEMS                                QUANTITY    RATE    DISCOUNT(percentage)    TOTAL COST
Caesar Salad                        2            200         0            400.000000
Desi Ratatouille Makhni with Onion Pulao 3            300         0            900.000000
Charmoula Spiced Burger             1            450        40            270.000000
Ras Malai                           2            200         0            400.000000

The total bill amount is Rs 1970.000000

Enter the cash paid: Rs 1970

Cash Recieved!!

=====
| NO CREDIT OF THE ADDITIONAL DUTY OF |
| CUSTOMS LEVIED UNDER SECTION (5) OF |
| SECTION-3 OF THE CUSTOMS TARIFF ACT |
| HAVE BEEN AVAILED/SHALL BE ADMISSABLE |
=====

(^~^~)THANK YOU.VISIT US AGAIN!!(^~^~)

THANK YOU FOR USING OUR SERVICE!!

Press n to exit SCHEF
-----
Process exited after 65.84 seconds with return value 3221225477
Press any key to continue . . .

```

Conclusion:

We hence conclude that using the above program, we can design a basic shopping cart. And the user can have a great experience of the product purchasing process.