**Assignment 14**

// 1. Create a structure Book with data members as bname, id, author, price.

// Accept the values of all these members from user and display them.

#include <stdio.h>

#include <stdlib.h>

#include <string.h>

int idx = 0;

int size = 5;

void showMenu();

typedef struct Book

{

  int bId;

  char bName[50];

  char author[20];

  float price;

} Book;

void addBookHelper(Book \*B, int noOfBooks)

{

  for (int i = idx; i < noOfBooks; i++, idx++)

  {

    printf("\nEnter Data for %d no Book", idx + 1);

    printf("\nEnter Book id : ");

    scanf("%d", &B[i].bId);

    printf("\nEnter Book Name : ");

    fflush(stdin);

    scanf("%s", B[i].bName);

    printf("\nEnter Author Name : ");

    fflush(stdin);

    gets(B[i].author);

    printf("\nEnter Price : ");

    scanf("%f", &B[i].price);

  }

  // return B;

}

Book \*addBook(Book \*B, int noOfBooks)

{

  if (size - idx < noOfBooks)

  {

    size = 2 \* size + noOfBooks;

    Book \*temp = (Book \*)realloc(B, sizeof(Book) \* size);

    if (temp == NULL)

    {

      printf("\nReallocation Failed");

      return B;

    }

    else

    {

      B = temp;

      addBookHelper(B, noOfBooks);

      return B;

    }

  }

  else if (size > noOfBooks && idx < size)

  {

    addBookHelper(B, noOfBooks);

    return B;

  }

}

void displayAllBooks(Book \*B)

{

  for (int i = 0; i < idx; i++)

  {

    printf("\n\n-------------------------------: Book No %d :-------------------------------", i + 1);

    printf("\n\tBook id : %d", B[i].bId);

    printf("\n\tBook Name : %s", B[i].bName);

    printf("\n\tBook Author : %s", B[i].author);

    printf("\n\tBook Price : %.2f", B[i].price);

  }

}

void main()

{

  //  Book books[20];

  Book \*books = (Book \*)malloc(sizeof(Book) \* size);

  int ch = 0, n;

  do

  {

    showMenu();

    printf("Enter Your Choice");

    scanf("%d", &ch);

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

    switch (ch)

    {

    case 1:

      printf("\n\nEnter How many Books do you want to add ?\n:");

      scanf("%d", &n);

      books = addBook(books, n);

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

      break;

    case 2:

      displayAllBooks(books);

      break;

    case 0:

      printf("\n\nExiting...!");

      break;

    default:

      printf("\n\nInvalid Choice na Bhaii...!");

      break;

    }

  } while (ch != 0);

  //  printf("Ha bhai Chalo dekhte hain isko bhi");

}

void showMenu()

{

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

  printf("\n------------------------------------: Book Management System :-------------------------------------------");

  printf("\n1) Add Books in Book System \t2) Diaplay All Books \n:=>");

  //  printf("\n--------------------------------------------------------------------------------------------------------\n");

}

Output:

PS D:\FBC-1> & 'c:\Users\bhagv\.vscode\...\TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

--------------------------------------------------------------------------------------------------------

------------------------------------: Book Management System :-------------------------------------------

1) Add Books in Book System 2) Diaplay All Books

:=>Enter Your Choice1

--------------------------------------------------------------------------------------------------------

Enter How many Books do you want to add ?

:3

Enter Data for 1 no Book

Enter Book id : 1002

Enter Book Name : Ikigai

Enter Author Name : Rhonda Byrne

Enter Price : 250.45

Enter Data for 2 no Book

Enter Book id : 1001

Enter Book Name : Secret

Enter Author Name : xyz

Enter Price : 503

Enter Data for 3 no Book

Enter Book id : 1003

Enter Book Name : kaslnfiar

Enter Author Name : lrnfiear

Enter Price : 453

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--------------------------------------------------------------------------------------------------------

------------------------------------: Book Management System :-------------------------------------------

1) Add Books in Book System 2) Diaplay All Books

:=>Enter Your Choice2

--------------------------------------------------------------------------------------------------------

-------------------------------: Book No 1 :-------------------------------

Book id : 1002

Book Name : Ikigai

Book Author : Rhonda Byrne

Book Price : 250.45

-------------------------------: Book No 2 :-------------------------------

Book id : 1001

Book Name : Secret

Book Author : xyz

Book Price : 503.00

-------------------------------: Book No 3 :-------------------------------

Book id : 1003

Book Name : kaslnfiar

Book Author : lrnfiear

Book Price : 453.00

--------------------------------------------------------------------------------------------------------

------------------------------------: Book Management System :-------------------------------------------

1) Add Books in Book System 2) Diaplay All Books

:=>Enter Your Choice3

--------------------------------------------------------------------------------------------------------

Invalid Choice na Bhaii...!

--------------------------------------------------------------------------------------------------------

------------------------------------: Book Management System :-------------------------------------------

1) Add Books in Book System 2) Diaplay All Books

:=>Enter Your Choice0

--------------------------------------------------------------------------------------------------------

Exiting...!

PS D:\FBC-1>

// 2. Create a structure Time with data members as hrs, min, sec. Accept the values of all these members from user and display them. Also perform addition of two time variables and display the result. If sec goes beyond 60, carry it to min etc. Add a method to convert the given time into sec.

#include <stdio.h>

int showMenu();

typedef struct Time

{

    int HH;

    int MM;

    int SS;

} Time;

// Store Time

void storeTime(Time \*time)

{

    int hour, min, sec;

    printf("\nEnter Time in Hour Minute Seconds Format");

    printf("\nHOUR:");

    scanf("%d", &hour);

    time->HH = hour;

    printf("\nMIN:");

    scanf("%d", &min);

    time->MM = min;

    printf("\nSEC:");

    scanf("%d", &sec);

    time->SS = sec;

}

// Display Time

void displayTime(Time \*t)

{

    printf("\n\nTime in (HH:MM:SS) => %d:%d:%d ", t->HH, t->MM, t->SS);

}

// Add Two Times

Time addTwoTimes(Time \*t1, Time \*t2)

{

    Time temp;

    temp.HH = t1->HH + t2->HH;

    temp.MM = t1->MM + t2->MM;

    temp.SS = t1->SS + t2->SS;

    return temp;

}

// Convert in sensible time

Time formatTime(Time \*time)

{

    Time temp;

    int tS = 0, tM = 0, tH = 0;

    // temp.MM = (time->MM) + time->SS / 60;

    // temp.SS = time->SS % 60;

    // temp.HH = (time->HH) + time->MM / 60;

    // temp.MM = time->MM % 60;

    temp.MM = time->MM + time->SS / 60;

    temp.SS = time->SS % 60;

    temp.HH = time->HH + temp.MM / 60;

    temp.MM = temp.MM % 60;

    return temp;

}

// Convert Whole Time in Seconds

int convertInSec(Time \*time)

{

    int tSec = (time->HH \* 3600) + time->MM \* 60 + time->SS;

    return tSec;

}

void main()

{

    int ch = 0;

    Time time1, time2, temp;

    int tFch;

    do

    {

        ch = showMenu();

        switch (ch)

        {

        case 1:

            storeTime(&time1);

            break;

        case 2:

            storeTime(&time2);

            break;

        case 3:

            printf("\n--------------------------------------------: Time 1 :---------------------------------------------------");

            displayTime(&time1);

            printf("\n--------------------------------------------: Time 2 :---------------------------------------------------");

            displayTime(&time2);

            break;

        case 4:

            printf("\n------------------------------------: Addition Of Both times :-------------------------------------------");

            temp = addTwoTimes(&time1, &time2);

            displayTime(&temp);

            break;

        case 5:

            printf("\n-----------------------------------------: Format Time :------------------------------------------------");

            printf("\nEnter Your Choice \n1) Format Time 1 \t2) Format Time 2 \n:");

            scanf("%d", &tFch);

            switch (tFch)

            {

            case 1:

                printf("\n--------------------------------------: Formated Time 1 :---------------------------------------------");

                temp = formatTime(&time1);

                displayTime(&temp);

                break;

            case 2:

                printf("\n--------------------------------------: Formated Time 2 :---------------------------------------------");

                temp = formatTime(&time2);

                displayTime(&temp);

                break;

            default:

                printf("Invalid Choice!!!");

                break;

            }

            break;

        case 6:

            printf("\n--------------------------------------: Convert Time in Seconds :---------------------------------------------");

            printf("\nEnter Your Choice \n1) Convert Time 1 \t2) Convert Time 2 \n:");

            scanf("%d", &tFch);

            switch (tFch)

            {

            case 1:

                printf("\n--------------------------------------: Converted Time 1 :---------------------------------------------");

                printf("\nTotal Seconds :%d", convertInSec(&time1));

                break;

            case 2:

                printf("\n--------------------------------------: Convertted Time 2 :---------------------------------------------");

                printf("\nTotal Seconds :%d", convertInSec(&time2));

                break;

            default:

                printf("Invalid Choice!!!");

                break;

            }

            break;

        case 0:

            printf("\n\nExiting....");

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

            break;

        default:

            printf("Invalid Choice!!!");

            break;

        }

    } while (ch != 0);

}

int showMenu()

{

    int ch;

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

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

    printf("\n\t                            \tEnter Your Choice \n\n1) Store Time1          \t 2) Store Time2 \t 3) Display both Times \n4) Additio of both times \t 5) Convert Time \t 6) Cover Time Into Seconds \n : ");

    scanf("%d", &ch);

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

    return ch;

}

Output:

PS D:\FBC-1> & 'c:\Users\bhagv\.vscode\..\TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

---------------------------------------------------------------------------------------------------------

---------------------------------------------: Time :----------------------------------------------------

Enter Your Choice

1) Store Time1 2) Store Time2 3) Display both Times

4) Additio of both times 5) Convert Time 6) Cover Time Into Seconds

: 1

--------------------------------------------------------------------------------------------------------

Enter Time in Hour Minute Seconds Format

HOUR:23

MIN:69

SEC:78

---------------------------------------------------------------------------------------------------------

---------------------------------------------: Time :----------------------------------------------------

Enter Your Choice

1) Store Time1 2) Store Time2 3) Display both Times

4) Additio of both times 5) Convert Time 6) Cover Time Into Seconds

: 2

--------------------------------------------------------------------------------------------------------

Enter Time in Hour Minute Seconds Format

HOUR:67

MIN:66

SEC:89

---------------------------------------------------------------------------------------------------------

---------------------------------------------: Time :----------------------------------------------------

Enter Your Choice

1) Store Time1 2) Store Time2 3) Display both Times

4) Additio of both times 5) Convert Time 6) Cover Time Into Seconds

: 3

--------------------------------------------------------------------------------------------------------

--------------------------------------------: Time 1 :---------------------------------------------------

Time in (HH:MM:SS) => 23:69:78

--------------------------------------------: Time 2 :---------------------------------------------------

Time in (HH:MM:SS) => 67:66:89

---------------------------------------------------------------------------------------------------------

---------------------------------------------: Time :----------------------------------------------------

Enter Your Choice

1) Store Time1 2) Store Time2 3) Display both Times

4) Additio of both times 5) Convert Time 6) Cover Time Into Seconds

: 4

--------------------------------------------------------------------------------------------------------

------------------------------------: Addition Of Both times :-------------------------------------------

Time in (HH:MM:SS) => 90:135:167

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---------------------------------------------: Time :----------------------------------------------------

Enter Your Choice

1) Store Time1 2) Store Time2 3) Display both Times

4) Additio of both times 5) Convert Time 6) Cover Time Into Seconds

: 5

--------------------------------------------------------------------------------------------------------

-----------------------------------------: Format Time :------------------------------------------------

Enter Your Choice

1) Format Time 1 2) Format Time 2

:1

--------------------------------------: Formated Time 1 :---------------------------------------------

Time in (HH:MM:SS) => 24:10:18

---------------------------------------------------------------------------------------------------------

---------------------------------------------: Time :----------------------------------------------------

Enter Your Choice

1) Store Time1 2) Store Time2 3) Display both Times

4) Additio of both times 5) Convert Time 6) Cover Time Into Seconds

: 5

--------------------------------------------------------------------------------------------------------

-----------------------------------------: Format Time :------------------------------------------------

Enter Your Choice

1) Format Time 1 2) Format Time 2

:2

--------------------------------------: Formated Time 2 :---------------------------------------------

Time in (HH:MM:SS) => 68:7:29

---------------------------------------------------------------------------------------------------------

---------------------------------------------: Time :----------------------------------------------------

Enter Your Choice

1) Store Time1 2) Store Time2 3) Display both Times

4) Additio of both times 5) Convert Time 6) Cover Time Into Seconds

: 6

--------------------------------------------------------------------------------------------------------

--------------------------------------: Convert Time in Seconds :---------------------------------------------

Enter Your Choice

1) Convert Time 1 2) Convert Time 2

:1

--------------------------------------: Converted Time 1 :---------------------------------------------

Total Seconds :87018

---------------------------------------------------------------------------------------------------------

---------------------------------------------: Time :----------------------------------------------------

Enter Your Choice

1) Store Time1 2) Store Time2 3) Display both Times

4) Additio of both times 5) Convert Time 6) Cover Time Into Seconds

: 6

--------------------------------------------------------------------------------------------------------

--------------------------------------: Convert Time in Seconds :---------------------------------------------

Enter Your Choice

1) Convert Time 1 2) Convert Time 2

:2

--------------------------------------: Convertted Time 2 :---------------------------------------------

Total Seconds :245249

---------------------------------------------------------------------------------------------------------

---------------------------------------------: Time :----------------------------------------------------

Enter Your Choice

1) Store Time1 2) Store Time2 3) Display both Times

4) Additio of both times 5) Convert Time 6) Cover Time Into Seconds

: 7

--------------------------------------------------------------------------------------------------------

Invalid Choice!!!

---------------------------------------------------------------------------------------------------------

---------------------------------------------: Time :----------------------------------------------------

Enter Your Choice

1) Store Time1 2) Store Time2 3) Display both Times

4) Additio of both times 5) Convert Time 6) Cover Time Into Seconds

: 0

--------------------------------------------------------------------------------------------------------

Exiting....

--------------------------------------------------------------------------------------------------------

PS D:\FBC-1>

// 3. Write a program to create an array for 10 players. For each player store name, no. of matches played, runs, wickets takes.

// a. Create function to Accept the information of each player.

// b. Create function to display the information of all the players

// c. Display the information of player who made maximum runs and the one who took maximum number of wickets.

#include <stdio.h>

#include <string.h>

typedef struct Player

{

    char name[20];

    int noOfMatchesPlayed;

    int runs;

    int wickets;

} Player;

// Accepting Information Of Each Player

void storePlayer(Player \*player)

{

    printf("\nEnter Player Name :");

    // gets(player->name);

    scanf("%s", player->name);

    printf("\nEnter No of Matches Played :");

    scanf("%d", &player->noOfMatchesPlayed);

    printf("\nEnter No of Runs :");

    scanf("%d", &player->runs);

    printf("\nEnter No of Wickets :");

    scanf("%d", &player->wickets);

}

// Accept Multiple players

void storePlayers(Player \*player, int noOfPlayers, int \*ind)

{

    for (int i = 0; i < noOfPlayers; i++, (\*ind) = (\*ind) + 1)

    {

        printf("\n-------------------------------------------: Payer %d :-------------------------------------------------", (\*ind) + 1);

        storePlayer(&player[\*ind]);

    }

}

// Display One Player

void displayOnePlayer(Player \*player)

{

    printf("\nName :%s", player->name);

    printf("\nMatches Played :%d", player->noOfMatchesPlayed);

    printf("\nTotal Runs : %d", player->runs);

    printf("\nTotal Wickets :%d ", player->wickets);

}

// Display All Players

void displayAllPlayers(Player \*player, int size)

{

    for (int i = 0; i < size; i++)

    {

        printf("\n-----------------------------------------: Payer %d :------------------------------------------------", i + 1);

        displayOnePlayer(&player[i]);

    }

}

// Maximum Runs

int maxRuns(Player \*player, int size)

{

    int maxInd = 0;

    int max = player[maxInd].runs;

    for (int i = 1; i < size; i++)

    {

        if (max < player[i].runs)

        {

            max = player[i].runs;

            maxInd = i;

        }

    }

    return maxInd;

}

// Max Wickets

int maxWickets(Player \*player, int size)

{

    int maxInd = 0;

    int max = player[maxInd].wickets;

    for (int i = 1; i < size; i++)

    {

        if (max < player[i].wickets)

        {

            max = player[i].wickets;

            maxInd = i;

        }

    }

    return maxInd;

}

int showMenu()

{

    int ch;

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

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

    printf("\n\t                            \tEnter Your Choice \n\n1) Add Players          \t 2)  Display All Players \n3) Display Player With maximum Runs \t 4) Display Player With maximum Wickets \n : ");

    scanf("%d", &ch);

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

    return ch;

}

void main()

{

    int index = 0, ch, noOfplayers;

    Player player[10];

    do

    {

        ch = showMenu();

        switch (ch)

        {

        case 1:

            printf("\n-----------------------------------------: Add Players :------------------------------------------------");

            printf("\nHow Many players do you want to add (1-10):");

            scanf("%d", &noOfplayers);

            storePlayers(player, noOfplayers, &index);

            break;

        case 2:

            displayAllPlayers(player, index);

            break;

        case 3:

            printf("\n-------------------------------------: Players With max Runs :-------------------------------------------");

            int indR = maxRuns(player, index);

            displayOnePlayer(&player[indR]);

            break;

        case 4:

            printf("\n-----------------------------------: Players With max Wickets :------------------------------------------");

            int indW = maxWickets(player, index);

            displayOnePlayer(&player[indW]);

            break;

        // case 5:

        //     break;

        case 0:

            printf("\nExiting..................................");

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

            break;

        default:

            printf("\nInvalid Choice....!");

            break;

        }

    } while (ch != 0);

}

Output:

PS D:\FBC-1\FB\CProg\Assignments\Assignment14\output> & .\'q3Playe.exe'

---------------------------------------------------------------------------------------------------------

--------------------------------------------: Player :---------------------------------------------------

Enter Your Choice

1) Add Players 2) Display All Players

3) Display Player With maximum Runs 4) Display Player With maximum Wickets

: 1

--------------------------------------------------------------------------------------------------------

-----------------------------------------: Add Players :------------------------------------------------

How Many players do you want to add (1-10):5

-------------------------------------------: Payer 1 :-------------------------------------------------

Enter Player Name :jasdvhjas

Enter No of Matches Played :2875

Enter No of Runs :46534

Enter No of Wickets :324

-------------------------------------------: Payer 2 :-------------------------------------------------

Enter Player Name :skmwaekr

Enter No of Matches Played :5463

Enter No of Runs :4325

Enter No of Wickets :43543

-------------------------------------------: Payer 3 :-------------------------------------------------

Enter Player Name :skbkajseo

Enter No of Matches Played :674576

Enter No of Runs :324435345

Enter No of Wickets :5464

-------------------------------------------: Payer 4 :-------------------------------------------------

Enter Player Name :asdioael

Enter No of Matches Played :243

Enter No of Runs :46457

Enter No of Wickets :546

-------------------------------------------: Payer 5 :-------------------------------------------------

Enter Player Name :sdgst

Enter No of Matches Played :8776

Enter No of Runs :34444

Enter No of Wickets :3

---------------------------------------------------------------------------------------------------------

--------------------------------------------: Player :---------------------------------------------------

Enter Your Choice

1) Add Players 2) Display All Players

3) Display Player With maximum Runs 4) Display Player With maximum Wickets

: 2

--------------------------------------------------------------------------------------------------------

-----------------------------------------: Payer 1 :------------------------------------------------

Name :jasdvhjas

Matches Played :2875

Total Runs : 46534

Total Wickets :324

-----------------------------------------: Payer 2 :------------------------------------------------

Name :skmwaekr

Matches Played :5463

Total Runs : 4325

Total Wickets :43543

-----------------------------------------: Payer 3 :------------------------------------------------

Name :skbkajseo

Matches Played :674576

Total Runs : 324435345

Total Wickets :5464

-----------------------------------------: Payer 4 :------------------------------------------------

Name :asdioael

Matches Played :243

Total Runs : 46457

Total Wickets :546

-----------------------------------------: Payer 5 :------------------------------------------------

Name :sdgst

Matches Played :8776

Total Runs : 34444

Total Wickets :3

---------------------------------------------------------------------------------------------------------

--------------------------------------------: Player :---------------------------------------------------

Enter Your Choice

1) Add Players 2) Display All Players

3) Display Player With maximum Runs 4) Display Player With maximum Wickets

: 3

--------------------------------------------------------------------------------------------------------

-------------------------------------: Players With max Runs :-------------------------------------------

Name :skbkajseo

Matches Played :674576

Total Runs : 324435345

Total Wickets :5464

---------------------------------------------------------------------------------------------------------

--------------------------------------------: Player :---------------------------------------------------

Enter Your Choice

1) Add Players 2) Display All Players

3) Display Player With maximum Runs 4) Display Player With maximum Wickets

: 4

--------------------------------------------------------------------------------------------------------

-----------------------------------: Players With max Wickets :------------------------------------------

Name :skmwaekr

Matches Played :5463

Total Runs : 4325

Total Wickets :43543

---------------------------------------------------------------------------------------------------------

--------------------------------------------: Player :---------------------------------------------------

Enter Your Choice

1) Add Players 2) Display All Players

3) Display Player With maximum Runs 4) Display Player With maximum Wickets

: 5

--------------------------------------------------------------------------------------------------------

Invalid Choice....!

---------------------------------------------------------------------------------------------------------

--------------------------------------------: Player :---------------------------------------------------

Enter Your Choice

1) Add Players 2) Display All Players

3) Display Player With maximum Runs 4) Display Player With maximum Wickets

: 0

--------------------------------------------------------------------------------------------------------

Exiting..................................

--------------------------------------------------------------------------------------------------------

PS D:\FBC-1\FB\CProg\Assignments\Assignment14\output>

// 4. Point of Sale System: Build a simple point of sale system using structures to represent products with attributes like name, price, and quantity. Allow users to add items to a cart and calculate the total cost.

#include <stdio.h>

#include <string.h>

typedef struct Product

{

    int id;

    char name[20];

    float price;

    int quantity;

} Product;

// All Products

void hardCodedProducts(Product \*product)

{

    product[0] = (Product){1, "Laptop", 65000.00, 10};

    product[1] = (Product){2, "Smartphone", 35000.00, 20};

    product[2] = (Product){3, "Tablet", 20000.00, 15};

    product[3] = (Product){4, "Headphones", 5000.00, 30};

    product[4] = (Product){5, "Keyboard", 2000.00, 50};

    product[5] = (Product){6, "Mouse", 1000.00, 100};

    product[6] = (Product){7, "Monitor", 15000.00, 8};

    product[7] = (Product){8, "Printer", 10000.00, 12};

    product[8] = (Product){9, "Webcam", 2000.00, 25};

    product[9] = (Product){10, "Microphone", 3000.00, 40};

    product[10] = (Product){11, "Speaker", 5000.00, 35};

    product[11] = (Product){12, "Hard Drive", 8000.00, 20};

    product[12] = (Product){13, "RAM", 5000.00, 50};

    product[13] = (Product){14, "Power Supply", 3000.00, 40};

    product[14] = (Product){15, "SD Card", 1000.00, 100};

}

// Display One Product

void showOneProduct(Product \*product)

{

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

    printf("\n| Product Id : %-18d |", product->id);

    printf("\n| Product Name : %-16s |", product->name);

    printf("\n| Product Price : %-15.2f |", product->price);

    printf("\n| Available quantity : %-10d |", product->quantity);

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

}

// Display All Products

void showRoom(Product \*product)

{

    for (int i = 0; i < 15; i++)

    {

        printf("\n\tProduct No : %d ", i + 1);

        showOneProduct(&product[i]);

    }

}

int searchProduct(Product \*product, char prodName[20])

{

    for (int i = 0; i < 15; i++)

    {

        if (strcmp(product[i].name, prodName) == 0)

        {

            return i;

        }

    }

    return -1;

}

// Add To Cart

typedef struct Bill

{

    int id;

    char name[20];

    int quantity;

    float price;

} Bill;

// Add to cart

int addTOCart(Product \*product, Bill \*bill)

{

    printf("\nEnter Name of Product You want to add in your cart :");

    char prodName[20];

    int qty = 0;

    fflush(stdin);

    gets(prodName);

    int index = searchProduct(product, prodName);

    if (index == -1)

    {

        printf("\nNo such Product found..!");

        return -1;

    }

    else

    {

        printf("\nSelected Product Details Are : ");

        showOneProduct(&product[index]);

        // printf("\n\nEnter The quantity You want to add in cart 1-%d : ", product[index].quantity);

        // scanf("%d", &qty);

        // if (qty > product[index].quantity)

        // {

        //     printf("\n Invalid Input");

        //     printf("\n\nEnter The quantity You want to add in cart 1-%d : ", product[index].quantity);

        //     scanf("%d", &qty);

        // }

        do

        {

            printf("\nEnter The quantity You want to add in cart 1-%d : ", product[index].quantity);

            scanf("%d", &qty);

            if (qty < 1 || qty > product[index].quantity)

                printf("\nInvalid quantity! Please enter a valid quantity.\n");

        } while (qty < 1 || qty > product[index].quantity);

        bill->id = product[index].id;

        strcpy(bill->name, product[index].name);

        bill->price = product[index].price;

        bill->quantity = qty;

        return 1;

    }

}

float calculateTotalOfProduct(Bill \*bill)

{

    // int total = 0;

    // for (int i = 0; i < bill->quantity; i++)

    // {

    //     total += bill->price;

    // }

    // return total;

    return bill->quantity \* bill->price;

}

void oneProdBill(Bill \*bill)

{

    // printf("\t %d \t %s \t %d \t %.2f \t %d", bill->id, bill->name, bill->quantity, bill->price, calculateTotalOfProduct(bill));

    printf("|  %-7d | %-15s | %-3d | %-7.2f | %-6.2f |", bill->id, bill->name, bill->quantity, bill->price, calculateTotalOfProduct(bill));

}

void printBill(Bill \*bill, int totalProd)

{

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

    printf("\n| Sr.No |    Id    |      Name       | Qty |  Price  | Total |");

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

    for (int i = 0; i < totalProd; i++)

    {

        printf("\n|  %-5d", i + 1);

        oneProdBill(&bill[i]);

    }

}

float calculateFinalBill(Bill \*bill, int noOfProducts)

{

    float totalBill = 0;

    for (int i = 0; i < noOfProducts; i++)

    {

        totalBill += calculateTotalOfProduct(&bill[i]);

    }

    return totalBill;

}

int showMenu()

{

    int ch;

    printf("\nEnter your choice : \n 1) Add Products in cart \t0) Exit : ");

    scanf("%d", &ch);

    return ch;

}

void main()

{

    int ch;

    // printf("Ha bhai Bola bhai");

    Product product[15];

    hardCodedProducts(product);

    char choice;

    printf("\n\n List Of All Products \n");

    showRoom(product);

    do

    {

        ch = showMenu();

        Bill bill[20];

        int i = 0;

        if (ch == 0)

        {

            break;

        }

        else if (ch == 1)

        {

            do

            {

                int id = addTOCart(product, &bill[i]);

                if (id == 1)

                {

                    i++;

                }

                else if (id == -1)

                {

                    i = i;

                }

                printf("\nDo You Want to Add More Product (Y/N) : ");

                fflush(stdin);

                scanf("%c", &choice);

            } while (choice == 'y' || choice == 'Y');

            printBill(bill, i);

            printf("\nGross Total : %.2f", calculateFinalBill(bill, i));

        }

        else

        {

            printf("\nInvalid Choice...!");

        }

    } while (ch != 0);

}

Output:

PS D:\FBC-1> & 'c:\Users\bhagv\.vscode\...\TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

List Of All Products

Product No : 1

-----------------------------------

| Product Id : 1 |

| Product Name : Laptop |

| Product Price : 65000.00 |

| Available quantity : 10 |

-----------------------------------

Product No : 2

-----------------------------------

| Product Id : 2 |

| Product Name : Smartphone |

| Product Price : 35000.00 |

| Available quantity : 20 |

-----------------------------------

Product No : 3

-----------------------------------

| Product Id : 3 |

| Product Name : Tablet |

| Product Price : 20000.00 |

| Available quantity : 15 |

-----------------------------------

Product No : 4

-----------------------------------

| Product Id : 4 |

| Product Name : Headphones |

| Product Price : 5000.00 |

| Available quantity : 30 |

-----------------------------------

Product No : 5

-----------------------------------

| Product Id : 5 |

| Product Name : Keyboard |

| Product Price : 2000.00 |

| Available quantity : 50 |

-----------------------------------

Product No : 6

-----------------------------------

| Product Id : 6 |

| Product Name : Mouse |

| Product Price : 1000.00 |

| Available quantity : 100 |

-----------------------------------

Product No : 7

-----------------------------------

| Product Id : 7 |

| Product Name : Monitor |

| Product Price : 15000.00 |

| Available quantity : 8 |

-----------------------------------

Product No : 8

-----------------------------------

| Product Id : 8 |

| Product Name : Printer |

| Product Price : 10000.00 |

| Available quantity : 12 |

-----------------------------------

Product No : 9

-----------------------------------

| Product Id : 9 |

| Product Name : Webcam |

| Product Price : 2000.00 |

| Available quantity : 25 |

-----------------------------------

Product No : 10

-----------------------------------

| Product Id : 10 |

| Product Name : Microphone |

| Product Price : 3000.00 |

| Available quantity : 40 |

-----------------------------------

Product No : 11

-----------------------------------

| Product Id : 11 |

| Product Name : Speaker |

| Product Price : 5000.00 |

| Available quantity : 35 |

-----------------------------------

Product No : 12

-----------------------------------

| Product Id : 12 |

| Product Name : Hard Drive |

| Product Price : 8000.00 |

| Available quantity : 20 |

-----------------------------------

Product No : 13

-----------------------------------

| Product Id : 13 |

| Product Name : RAM |

| Product Price : 5000.00 |

| Available quantity : 50 |

-----------------------------------

Product No : 14

-----------------------------------

| Product Id : 14 |

| Product Name : Power Supply |

| Product Price : 3000.00 |

| Available quantity : 40 |

-----------------------------------

Product No : 15

-----------------------------------

| Product Id : 15 |

| Product Name : SD Card |

| Product Price : 1000.00 |

| Available quantity : 100 |

-----------------------------------

Enter your choice :

1) Add Products in cart 0) Exit : 1

Enter Name of Product You want to add in your cart :Lptop

No such Product found..!

Do You Want to Add More Product (Y/N) : Y

Enter Name of Product You want to add in your cart :Laptop

Selected Product Details Are :

-----------------------------------

| Product Id : 1 |

| Product Name : Laptop |

| Product Price : 65000.00 |

| Available quantity : 10 |

-----------------------------------

Enter The quantity You want to add in cart 1-10 : 34

Invalid quantity! Please enter a valid quantity.

Enter The quantity You want to add in cart 1-10 : 5

Do You Want to Add More Product (Y/N) : Y

Enter Name of Product You want to add in your cart :Keyboard

Selected Product Details Are :

-----------------------------------

| Product Id : 5 |

| Product Name : Keyboard |

| Product Price : 2000.00 |

| Available quantity : 50 |

-----------------------------------

Enter The quantity You want to add in cart 1-50 : 23

Do You Want to Add More Product (Y/N) : Y

Enter Name of Product You want to add in your cart :Monitor

Selected Product Details Are :

-----------------------------------

| Product Id : 7 |

| Product Name : Monitor |

| Product Price : 15000.00 |

| Available quantity : 8 |

-----------------------------------

Enter The quantity You want to add in cart 1-8 : 4

Do You Want to Add More Product (Y/N) : Y

Enter Name of Product You want to add in your cart :Kanda Bhaji

No such Product found..!

Do You Want to Add More Product (Y/N) : Y

Enter Name of Product You want to add in your cart :SD Card

Selected Product Details Are :

-----------------------------------

| Product Id : 15 |

| Product Name : SD Card |

| Product Price : 1000.00 |

| Available quantity : 100 |

-----------------------------------

Enter The quantity You want to add in cart 1-100 : 45

Do You Want to Add More Product (Y/N) : Y

Enter Name of Product You want to add in your cart :Mouse

Selected Product Details Are :

-----------------------------------

| Product Id : 6 |

| Product Name : Mouse |

| Product Price : 1000.00 |

| Available quantity : 100 |

-----------------------------------

Enter The quantity You want to add in cart 1-100 : 22

Do You Want to Add More Product (Y/N) : n

------------------------------------------------------------

| Sr.No | Id | Name | Qty | Price | Total |

------------------------------------------------------------

| 1 | 1 | Laptop | 5 | 65000.00 | 325000.00 |

| 2 | 5 | Keyboard | 23 | 2000.00 | 46000.00 |

| 3 | 7 | Monitor | 4 | 15000.00 | 60000.00 |

| 4 | 15 | SD Card | 45 | 1000.00 | 45000.00 |

| 5 | 6 | Mouse | 22 | 1000.00 | 22000.00 |

Gross Total : 498000.00

Enter your choice :

1) Add Products in cart 0) Exit : 3

Invalid Choice...!

Enter your choice :

1) Add Products in cart 0) Exit : 0

PS D:\FBC-1>