UTP

UNIVERSITI TEKNOLOGI PETRONAS

STRUCTURED PROGRAMMING PROJECT

TEB1013

LECTURER'S NAME: TS JALE BIN AHMAD

NO.	NAME	PROGRAMME	ID
1	MUHAMMAD ZAHIRUL IMAN BIN MOHAMAD SHAHRUL	CS	19001218
2	MUHAMMAD LUQMANUL HAKEEM BIN AHMAD RIZAL	CS	20001430
3	SYAZWINA BINTI SAIFUL SANY	IS	19001510

TABLE OF CONTENT

NO	CONTENT	PAGE
1.	Introduction & Purposed Program	2
2.	The Software Development	
	2.1 Specifying the problem requirements	3
	2.2 Analyse the problem	3
	2.3 Design the algorithm to solve the problem	
	2.3.1 Pseudocode	4 - 7
	2.3.2 Flowchart	8 - 11
	2.4 Implement the algorithm	
	2.4.1 Source Code	12 - 17
	2.4.2 Source Code Description	18
	2.4.3 User Manual	19
	2.5 Test and verify the completed program	20 - 22
3.	References	23

INTRODUCTION

Master IT is the leading e-commerce platform in Malaysia that located in Kuala Lumpur. A company that building an online shopping and sale marketplace. Hence, Master IT sells items from a variety of categories, including consumer electronics, kitchen goods, toys, sports equipment and groceries. Also, providing customer with a quick, safe and easy online shopping experience through strong support for payment and fulfilment. As a new company, we have been provided the best services for our customer and website development to improve our marketing. Our company consists of 3 group members which is Zahirul, Luqman and Wina. Our vision for this company is to be the first online shopping in Asia that provided the best services to our customers. Hence, our mission is to create a simple and secure mobile marketplace for everyone to buy their items anywhere and anytime without limitation.

PURPOSED PROGRAM

Master IT targets the customers using a laptop, mobile phone or tablet to access the internet, and it performances marketing activity seeks to attract more new customers and generates sales while retaining it position as a leader of online shopping. Moreover, Master IT want to help the customer to purchase their item from our application without wasting their energy by going to the store. Also, during this Covid-19 pandemic we want ensure the customer to less their movement by purchasing from online. Hence, we implement technology proficiency to make sure our business online shopping run smoothly which is by communicate effectively and professional, organize information, provide high quality product and ensure safety transaction.

THE SOFTWARE DEVELOPMENT

2.1 SPECIFYING THE PROBLEM REQUIREMENTS

1. Covid-19 makes normal business activities unavailable.

2. A new digital trading mechanism is needed to prevent the economy from become stagnated.

3. Program that read the user's details and purchasing choice along with displaying them are crucial to be developed.

4. The program is expected to ease the purchasing process by storing and processing the data that was given by user.

2.2 ANALYSE THE PROBLEM

Input:
1. The customer's item choice
2. The quantity of the item(s)
3. The customer's response
4. The customer's details

Output:
1. The customer's details
2. The customer's order details (list of item(s), price, quantity)
3. The sum of all the item(s)

Process:
1. store all the elements of quantity, price, list of item(s) in itemQuantity[100], itemPrice[100], itemlist[100] respectively.
2. totalCurrentItem = price * quantity
3. sum += totalCurrentItem
4. sum += 10 if they want to subscribe membership

2.3 DESIGN THE ALGORITHM TO SOLVE THE PROBLEM

2.3.1 PSEUDOCODE

1.0 Start

2.0 Function display list of items

    2.1 Pass in: nothing

    2.2 Display list of items

    2.3 Pass out: nothing

    2.4 End function

3.0 Function requesting customer details

    3.1 Pass in: nothing

    3.2 Request of customer details

    3.3 Pass out: nothing

    3.4 End function

4.0 Function validating customer input

    4.1 Pass in: customer response

    4.2 Validate customer input

    4.3 Pass out: new response

    4.4 End function

5.0 Function display customer details

    5.1 Pass in: customer details

    5.2 Display customer details

    5.3 Pass out: nothing

    5.4 End function

6.0 Struct to store customer details

7.0 Initializing int itemQuantity[100], choice, i, z, quantity

8.0 Initializing float itemPrice[100], price, sum=0, totalCurrentItem

9.0 Intializing string itemList[100], item, statMember

10.0 Intializing char response = ‘Y’

11.0 Display “WELCOME TO MASTER IT ONLINE SHOPPING”

12.0 Call: display list of items

13.0 while (response==’Y’) do

13.1 Display “Please enter your item choice [1/2/3/4/5/6]: “

13.2 Read choice

13.3 case of choice

13.3.1 case 1 item= “Tripod”, price=22.50

13.3.2 case 2 item= “Toaster”, price=35.20

13.3.3 case 3 item= “Study Lamp”, price=25.00

13.3.4 case 4 item= “Candles”, price=10.90

13.3.5 case 5 item=” Gaming Chair”, price=40.00

13.3.6 case 6 item” Foldable table”, price=20.50

13.3.7 7 Case End

13.4 Display “Quantity:”

13.5 Read quantity

13.6 totalCurrentItem = price*quantity

13.7 sum += totalCurrentItem

13.8 itemQuantity[i] = quantity

13.9 itemPrice[i] = price

13.10 itemList [i] = item

13.11 i++

13.12 Display “Do you want to add another item? [Y/N]:”

13.13 Read response

13.14 do while Loop End

14.0 Call: requesting customer details

15.0 Display “Are you a member of Master IT online? [Y/N]: “

16.0 Read response

16.1 if (response==’N’)

16.2 Display “Would you like to be a part of our member? Only RM10 will be charged! [Y/N]:”

16.3 Read response

16.3.1 If (response ==’Y’)

16.3.1.1 Display “Congratz, you are now a part of the family!”

16.3.2.2 Sum+=10

16.3.3.3 statMember=membership

16.3.2 Else if(response==’N’)

16.3.2 1 Display “Alright!”

16.3.2 2 statMember=Non-membership

16.4 else if(response==’Y’)

16.4.1 statMember=membership

17.0 Call: display customer details

18.0 for (int j=0; j<z; j++)

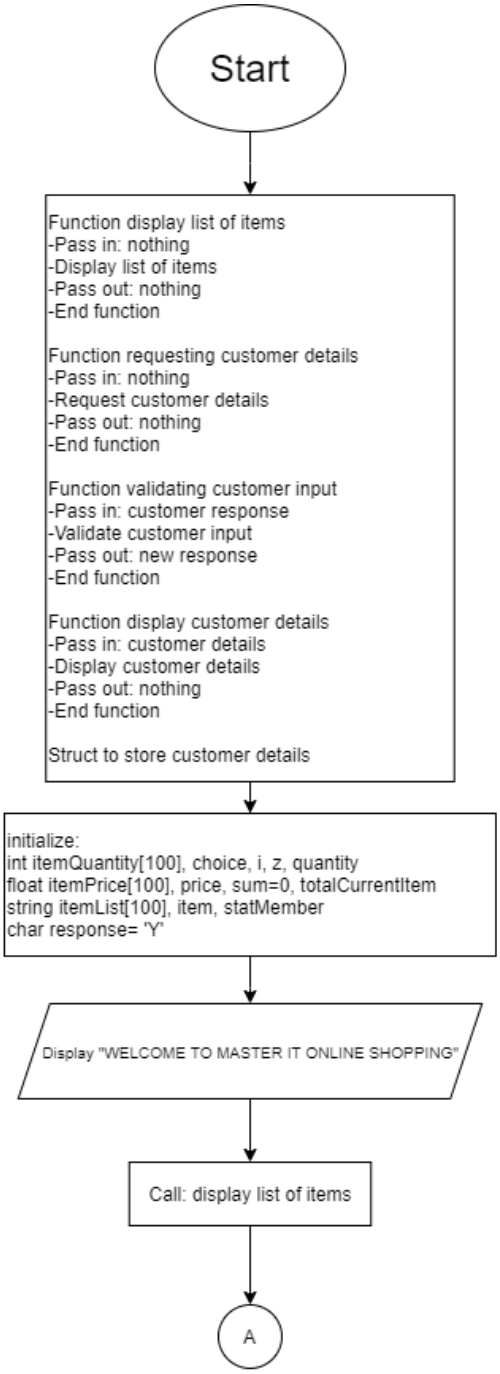
18.1 Display itemlist[j], “RM”, itemPrice[j], itemQuantity[j]

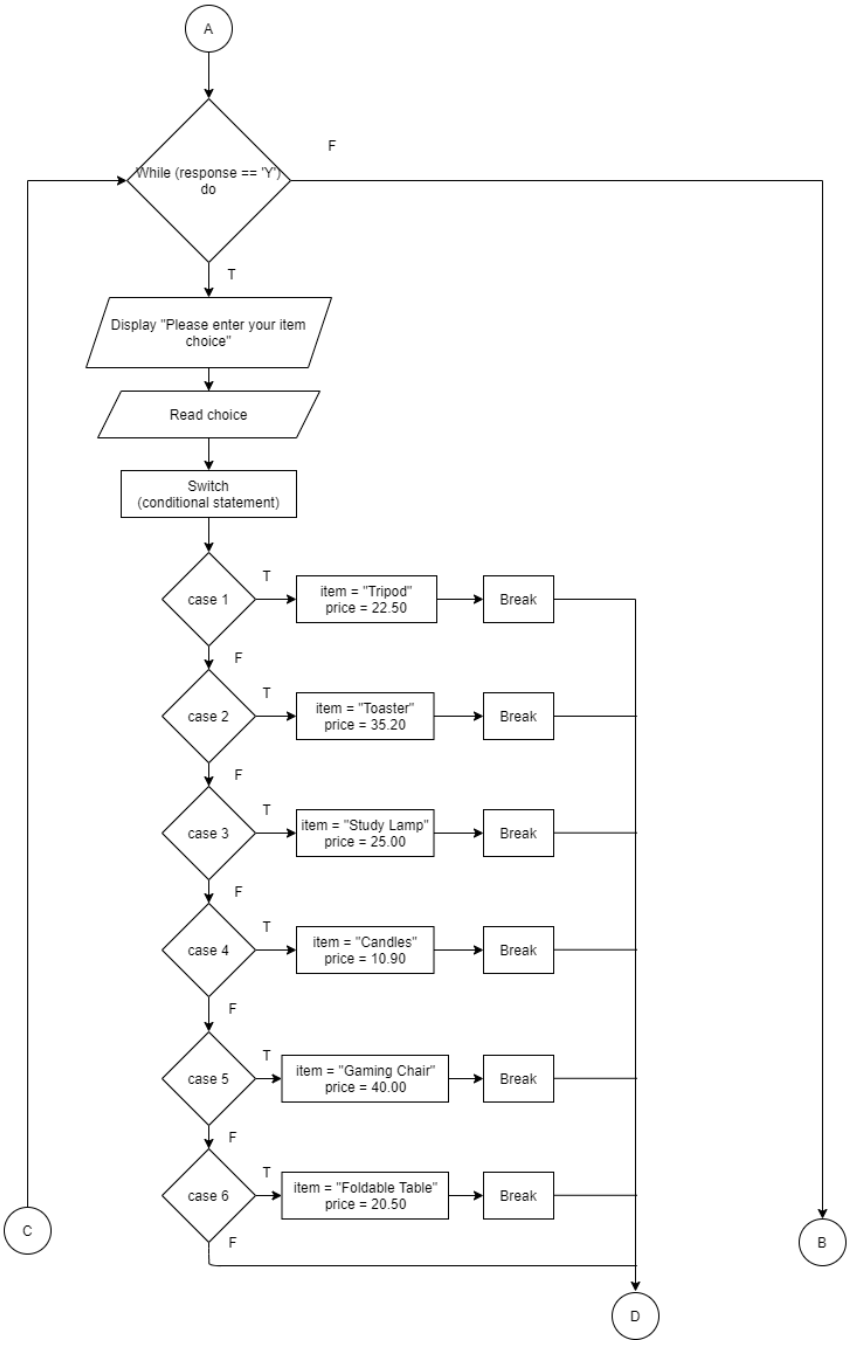
18.2 End for

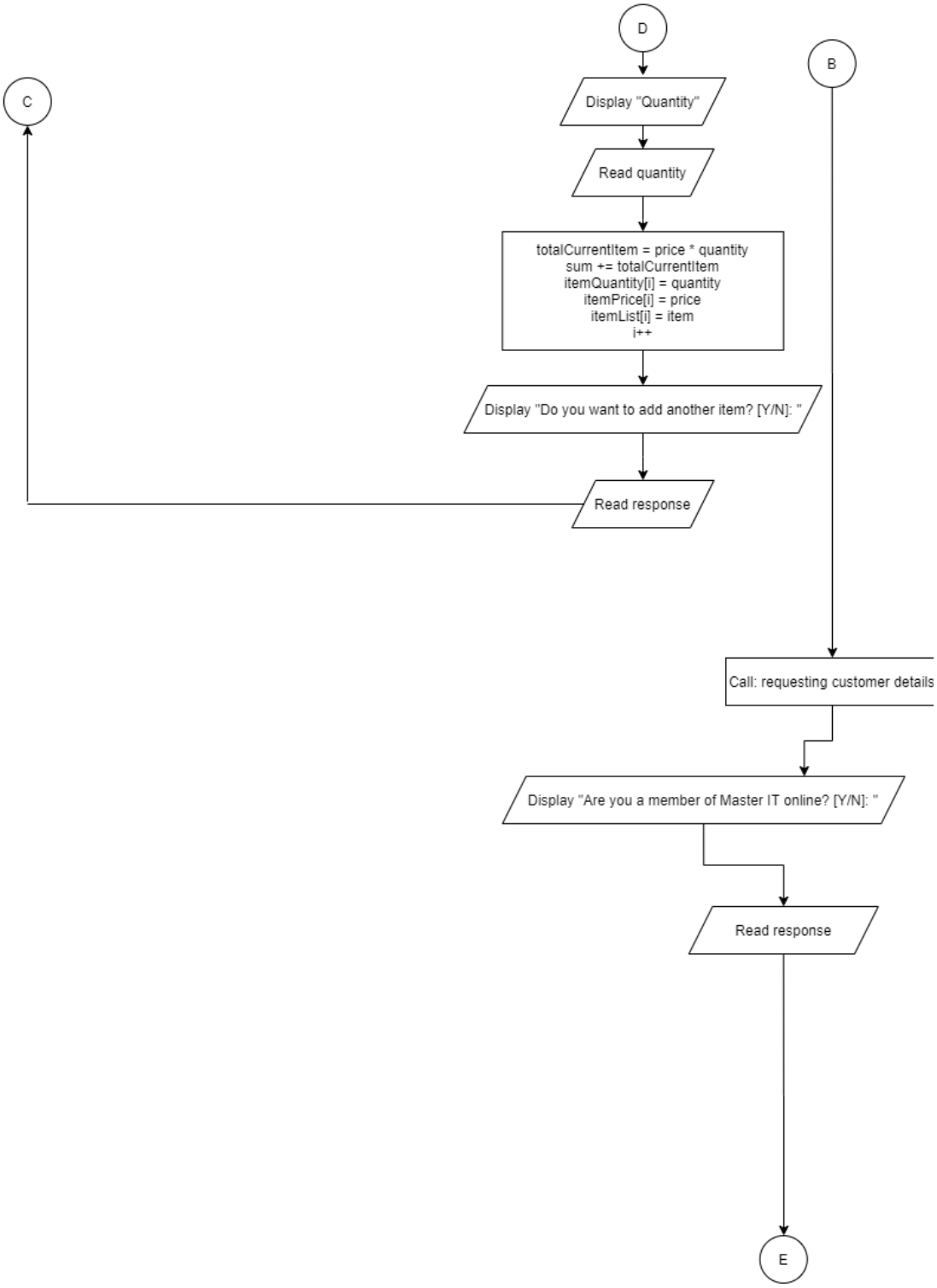
19.0 Display “The total price of all the items is RM”, sum

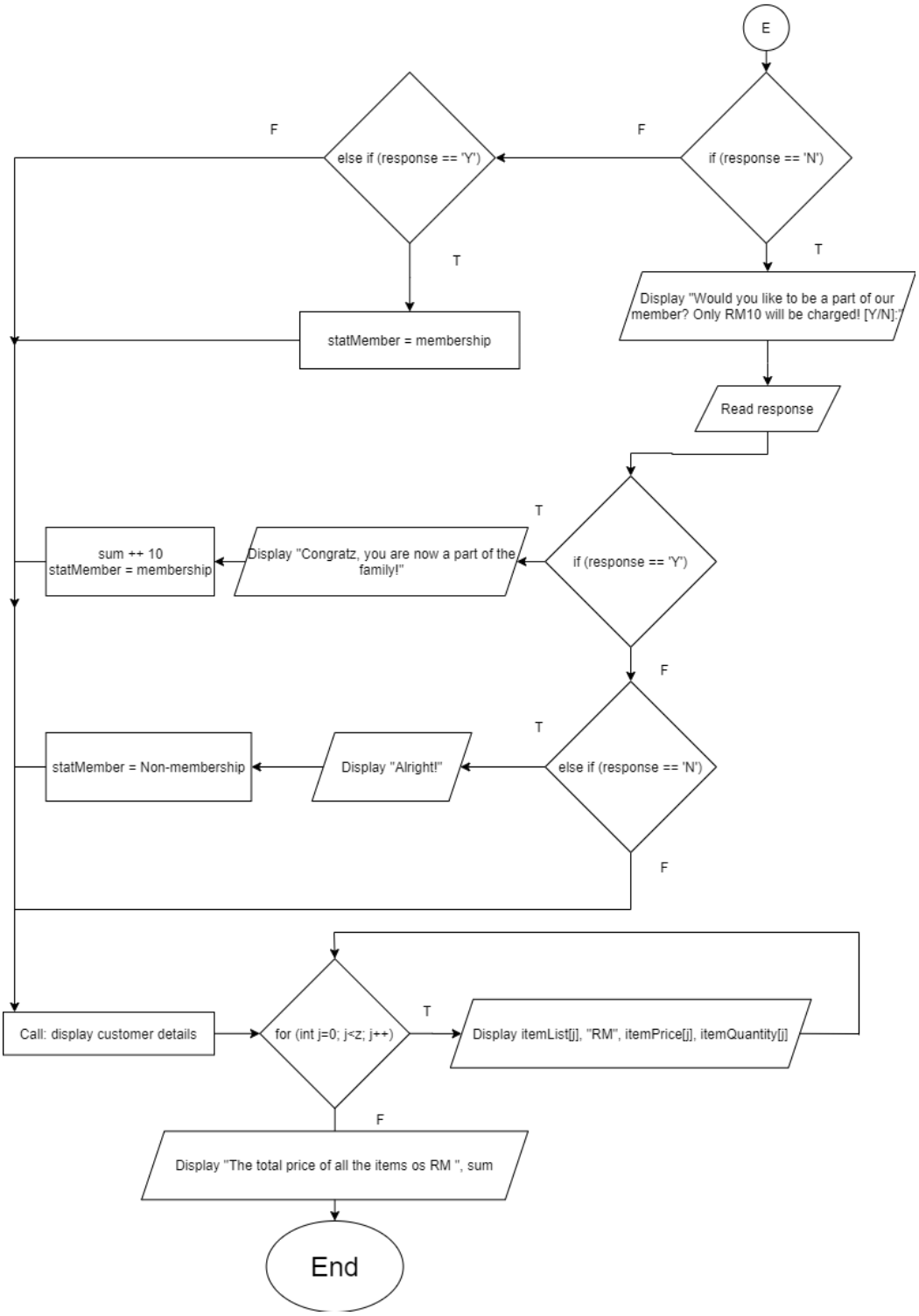
20.0 end

2.3.2 FLOWCHART




A
While (response == 'Y') do
F
T
Display "Please enter your item choice"
Read choice
Switch (conditional statement)
case 1
T
item = "Tripod" price = 22.50
Break
F
case 2
T
item = "Toaster" price = 35.20
Break
F
case 3
T
item = "Study Lamp" price = 25.00
Break
F
case 4
T
item = "Candles" price = 10.90
Break
F
case 5
T
item = "Gaming Chair" price = 40.00
Break
F
case 6
T
item = "Foldable Table" price = 20.50
Break
F
C
B
D


D
B
C
Display "Quantity"
Read quantity
totalCurrentItem = price * quantity
sum += totalCurrentItem
itemQuantity[i] = quantity
itemPrice[i] = price
itemList[i] = item
i++
Display "Do you want to add another item? [Y/N]: "
Read response
Call: requesting customer details
Display "Are you a member of Master IT online? [Y/N]: "
Read response
E


E
if (response == 'N')
F
else if (response == 'Y')
F
T
Display "Would you like to be a part of our member? Only RM10 will be charged! [Y/N]:"
T
statMember = membership
Read response
if (response == 'Y')
T
Display "Congratz, you are now a part of the family!"
sum ++ 10
statMember = membership
F
else if (response == 'N')
T
Display "Alright!"
statMember = Non-membership
F
Call: display customer details
for (int j=0; j<z; j++)
T
Display itemList[j], "RM", itemPrice[j], itemQuantity[j]
F
Display "The total price of all the items os RM ", sum
End

2.4 IMPLEMENT THE ALGORITHM

2.4.1 SOURCE CODE

```
#include <iostream>
#include <iomanip>  //to use setprecision()
#include <cctype>   //to use toupper()
using namespace std;

//Function stubs
void itemList();
void customerDetails();
char newResponse(char);
void displayCustomerDetails(string, int, string, string, string);

struct CUSDETAILS //Data Structures
{
      string name;
      int contactNum;
      string address;
      string email;
} Details;


int main ()
{
      //Initializing the variables
      int itemQuantity[100], choice, i, z, quantity;
      float itemPrice [100], price, sum = 0, totalCurrentItem;
      string itemlist [100], item, statMember;
      char response = 'Y';

      string membership[2] = {"Member" , "Non-member"};

      cout << "=====================================================";
      cout << "\n        WELCOME TO MASTER IT ONLINE SHOPPING!\n";
      cout << "=====================================================\n\n";

      itemList(); //Calling function

      do //Do / while loop to ask the customer whether to add item(s) or
not
      {
            cout << "\nPlease enter your item choice [1/2/3/4/5/6] : ";
            cin >> choice;



            if (cin.fail() || choice != 1 && choice != 2 && choice != 3 &&
choice != 4 && choice != 5 && choice != 6)
            {
```

```
            cout << "Invalid response. Please enter the provided options.
[1/2/3/4/5/6] : ";
                  cin.clear();
                  cin.ignore();
                  continue;
            }

            switch(choice) //selection to choose items
            {
                  case 1:
                        item = "Tripods";
                        price = 22.50;
                        break;

                  case 2:
                        item = "Toaster";
                        price = 35.20;
                        break;

                  case 3:
                        item = "Study Lamp";
                        price = 25.00;
                        break;

                  case 4:
                        item = "Candles";
                        price = 10.90;
                        break;

                  case 5:
                        item = "Gaming chair";
                        price = 40.00;
                        break;

                  case 6:
                        item = "Foldable table";
                        price = 20.50;
                        break;

            }

            //Calculates the sum of all items chosen
            cout << "Quantity : ";
            cin >> quantity;
            while(cin.fail()){ //If input is false, will enter the loop,
else continue as usual
                  cin.clear();
                  cin.ignore();
```

```
                cout << "Invalid response. Please enter the quantity :";
                cin >> quantity;
                if (cin.fail())
                {
                      continue; //Continue to loop whenever user input
other than int
                }else {
                      break; //Break the loop when user input int
                }
          }
          totalCurrentItem = price*quantity;
          sum += totalCurrentItem ;
          cout << "-------------------------------------------------\n";

          //Inserting elements in their position respectively
          itemQuantity[i] = quantity;
          itemPrice[i] = price;
          itemlist[i] = item ;
          i++;

          cout << "Do you want to add another item? [Y/N] : ";
          cin >> response;
          response = toupper(response); // Making sure that the char
will always be capitalized

          // Loop for when responses besides Y/N are inputted
          while (response != 'Y' && response != 'N')
          {
                response = newResponse(response);
          }

     }while (response == 'Y');
     cout << "\n\n\n";
     customerDetails(); //Calling function

     cout << "\nAre you a member of Master IT online? [Y/N]: ";
     cin >> response;
     response = toupper(response); // Making sure that the char will
always be capitalized

     while (response != 'Y' && response != 'N')
          {
                response = newResponse(response);
          }

     if (response == 'N')
     {
          cout << "\nBe part of our member! Many prizes awaits by using
```

```
the points collected thorugh your purchases!! \n";
            cout << "Would you like to be a part of our member? Only RM10
will be charged!  [Y/N] : ";



             cin >> response;
            response = toupper(response); // Making sure that the char
will always be capitalized
            while (response != 'Y' && response != 'N')
            {
                  response = newResponse(response);
            }

            if (response == 'Y')
            {
                  cout << "\nCongratz, You are now a part of the
family!\n";
                  sum += 10;
                  statMember=membership[0];
                  z=i+1;
                  itemlist[i] = "Membership";
                  itemPrice[i] = 10;
                  itemQuantity[i] = 1;
            }

            else if (response == 'N')
            {
                  cout << "\nAlright!\n";
                  statMember=membership[1];
                  z=i;
            }
      }

      else if (response == 'Y')
      {
            statMember=membership[0];
            z=i;
      }

      displayCustomerDetails(Details.name,Details.contactNum,Details.addre
ss,Details.email,statMember); //Calling function

      for(int j = 0 ; j < z ; j++) //Displaying the elements in the array
                  {
                        cout << itemlist[j] << " \tRM" << fixed
```

```
<<setprecision(2) << itemPrice[j] << "\t\t  " << itemQuantity[j] << endl;
                  }
      cout << "=============================================\n";

      cout << "The total price of all the items is RM" << sum;
      cout << "\n=============================================\n";

      return 0;
}




void itemList() //Function to display list of items with price
{
      cout << "-----------------------------------------------";
      cout << "\n\t      ITEM AVAILABILITY";
      cout << "\n-----------------------------------------------";
      cout << "\n[1]Tripod \t\t- RM22.50 ";
      cout << "\n[2]Toaster \t\t- RM35.20 ";
      cout << "\n[3]Study Lamp \t\t- RM25.00";
      cout << "\n[4]Candles \t\t- RM10.90";
      cout << "\n[5]Gaming chair \t- RM40.00";
      cout << "\n[6]Foldable table \t- RM20.50";
      cout << "\n-----------------------------------------------";
}

void customerDetails() //Function to prompt customer's details
{
      cin.ignore();
      cout << "Please fill in your details for delivery purposes: \n";
      cout << "Full name \t: ";
      getline(cin , Details.name);
      cout << "Contact number \t: ";
      cin >> Details.contactNum;
      cin.ignore();
      cout << "Delivery Address: ";
      getline(cin , Details.address);
      cout << "Email \t\t: ";
      cin >> Details.email;
}
```

```
void displayCustomerDetails(string name, int contactNum, string address,
string email,string statMember)
{
	//Displaying the customer and order's details.
	cout << "\n=============================================\n";
	cout << "\t	Your Details\n";
	cout << "=============================================\n";
	cout << "Name \t\t : " << name;
	cout << "\nContact Number \t :(+60) " << contactNum;
	cout << "\nDelivery Address : " << address;
	cout << "\nEmail \t\t : " << email;
	cout << "\nMembership Status: " << statMember;

	cout << "\n=============================================\n";
	cout << "\t	Order Details";
	cout << "\n=============================================\n";

	cout << "Item\t\tPrice\t\tQuantity\n";
	cout << "---------------------------------------------\n";
}




char newResponse(char response)
{
	cout << "Invalid response. Please enter the provided options. [Y/N]
: ";
	cin >> response;
	response = toupper(response); // Making sure that the char will
always be capitalized
	return response;
}
```

2.4.2 SOURCE CODE DESCRIPTION

Selection

1. This apply for choosing on items availability from Master IT Online Shopping.
2. If the users respond ‘Y’, it will display items availability for users to choose.
3. If the users respond ‘N’, it will ask to fill in users details for delivery purposes.

Repetition

1. This apply for users to choose the option to continue purchasing order or not.
2. While the respond is not valid, it will prompt another new respond.

Array

1. This apply to save the information of quantity items, items’ price, and items’ list.
2. Also, to determine the users whether they have a membership from Master IT or not.

Struct

1. This apply to ask the users’ details for delivery purposes.

Function

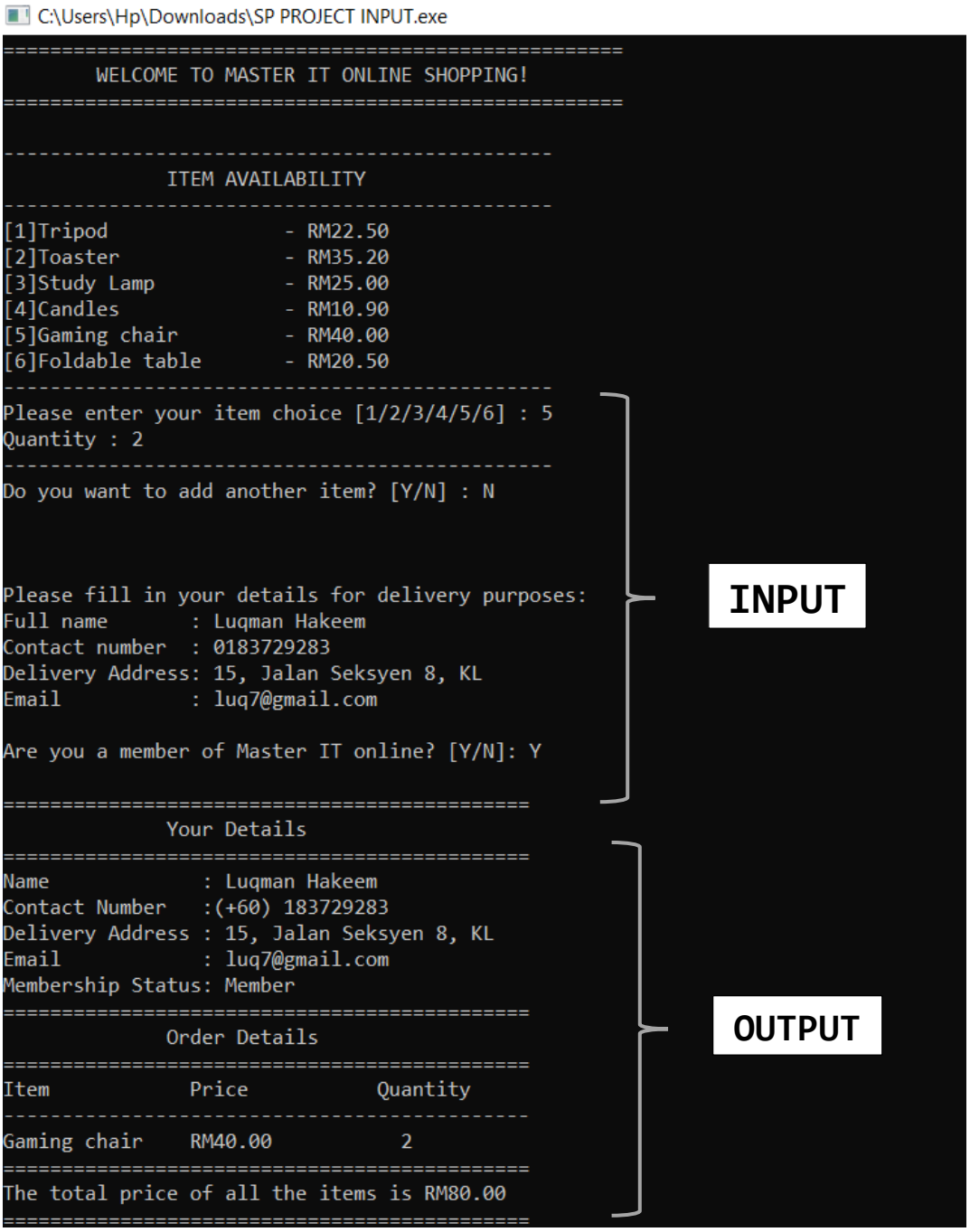
1. This apply to display the items availability from Master IT Online Shopping for the users to choose.
2. Also, it will prompt the users’ details during the process of ordering the items, and display them by the end of the program.
3. While the respond is not valid, it will prompt another new respond

2.4.3 USER MANUAL

1. Users start the program.
2. Users choose their desired item based on the screen selection.
3. Users enter their items choice.
4. Users enter the number of quantity item.
5. Users choose to add another item on screen selection
6. Users fill in their details which is consists of Full name, Contact number, Delivery address and Email.
7. Users enter whether they are member of Master IT online.
8. If the users are not a member of Master IT, it display if the member wanted to join membership that will cost RM10.
9. If the users are a member of Master IT, it will automatically display users details and order details with total price of all items.
10. Program End

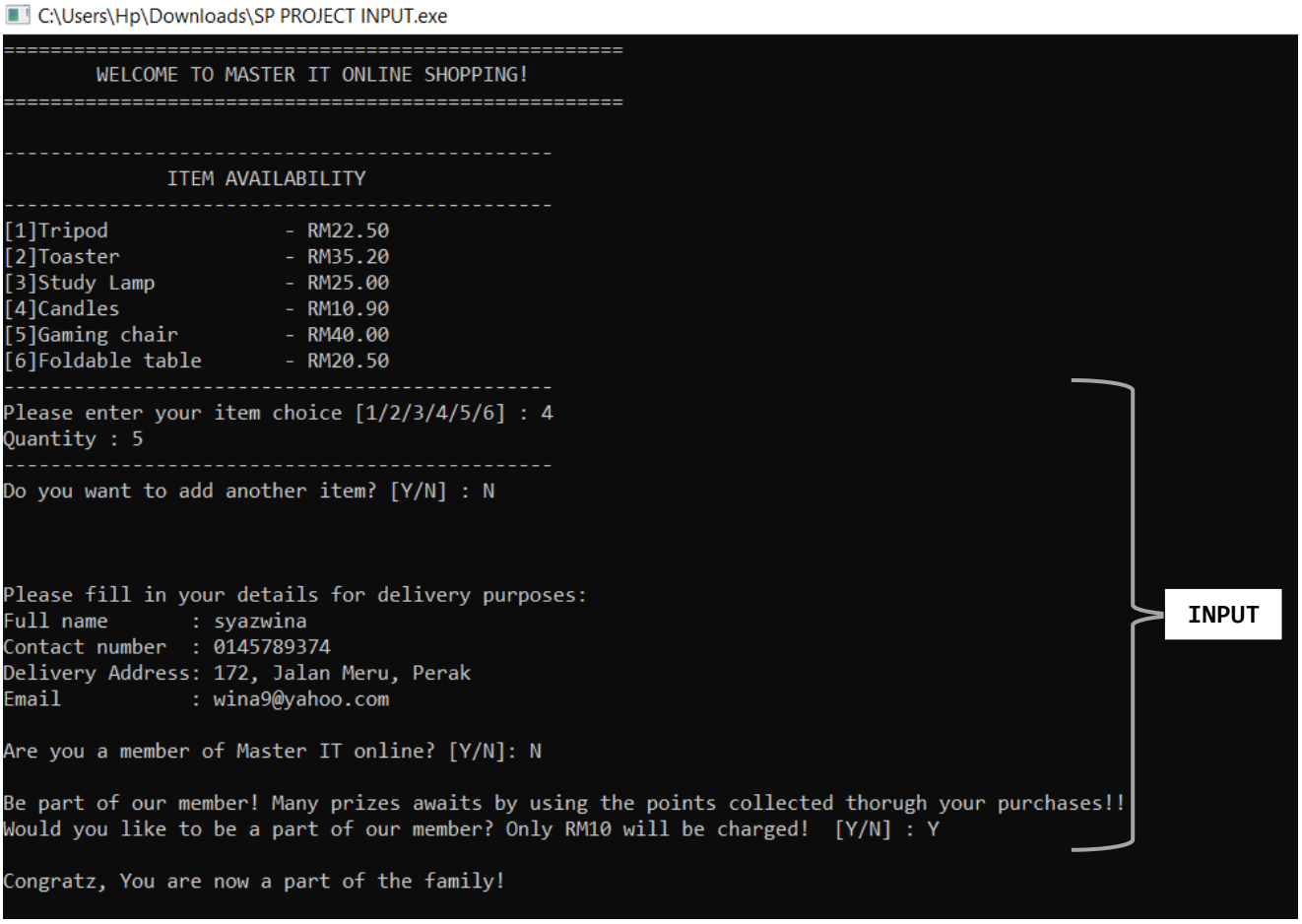
2.5 TEST AND VERIFY THE COMPLETED PROGRAM

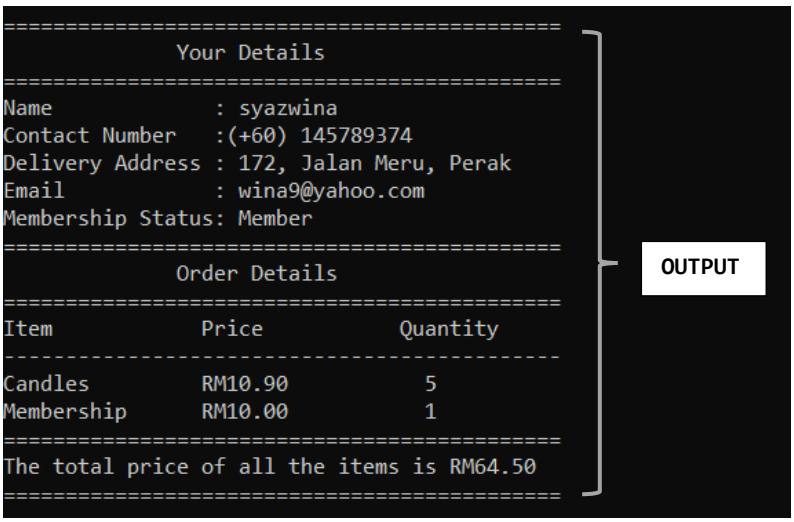
1. Customer already registered membership



INPUT: 5, 2, N, Luqman Hakeem, 0183729283, 15, Jalan Seksyen 8, KL, luq7@gmail.com, Y.

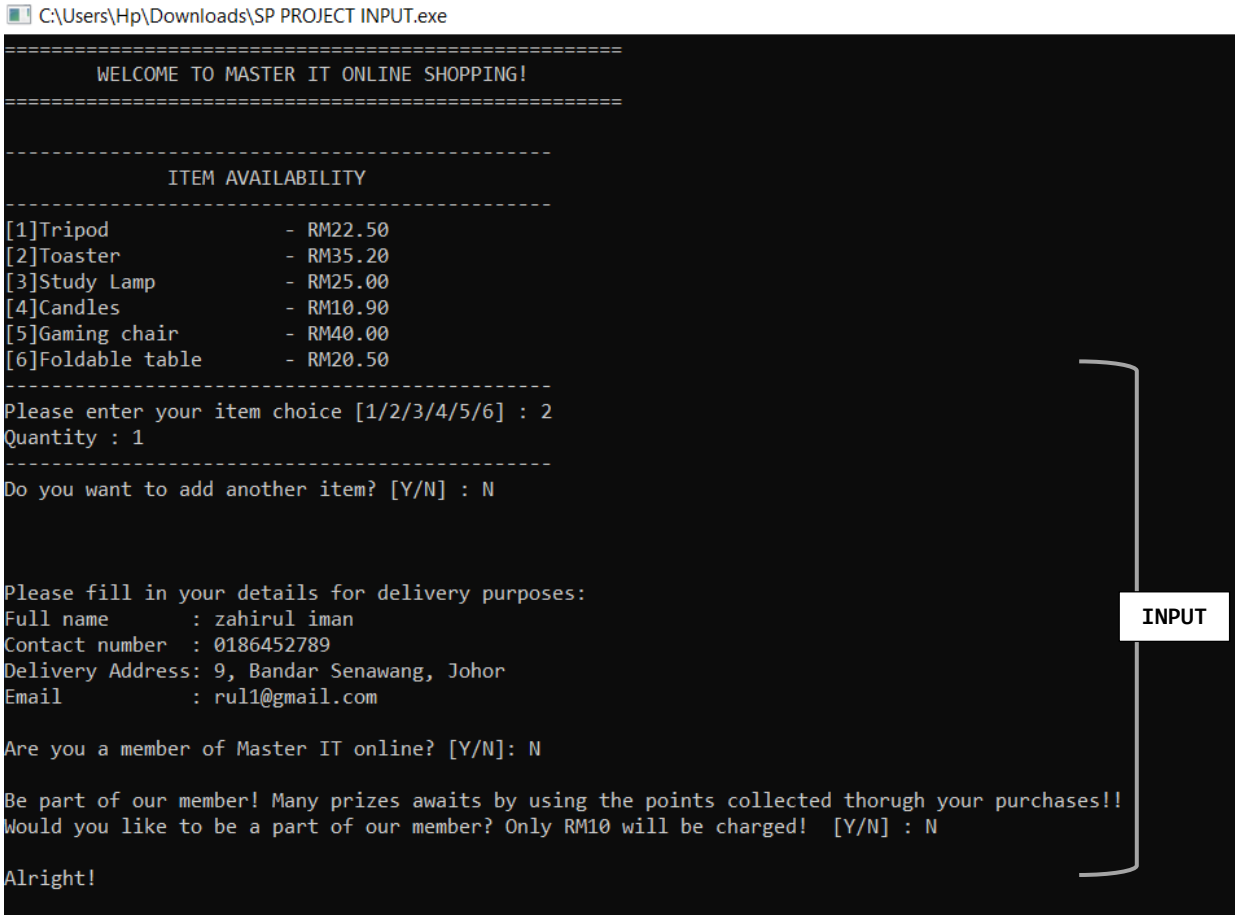
2. Customer that do not have membership and want to register a new membership.

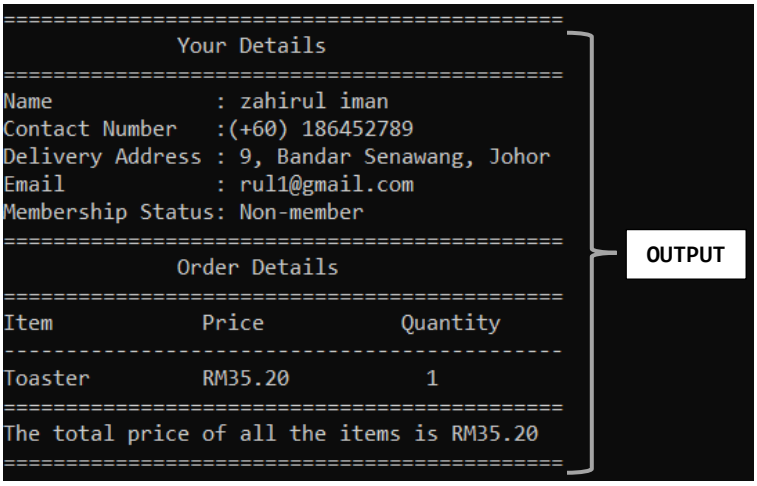




INPUT: 4, 5, N, syazwina, 0145789374, 172, Jalan Meru, Perak, wina9@yahoo.com, N,Y.

3. Customer that do not have membership and did not want to register a new membership





INPUT: 2, 1, N, zahirul iman, 0186452789, 9, Bandar Senawang, Johor, rul1@gmail.com, N, N.

References

Dixon, J. (2015, November 30). How would you explain what a source code is to non technical person . p. 1.

lisalugo. (2011, 7 28). *Sample User Manual.* Retrieved from slideshare: https://www.slideshare.net/lisalugo/sample-user-manual-8714674

Oeie, S. J. (2015, July 2). *How Lazada Outranked the rest*. Retrieved from Think with Google: https://www.thinkwithgoogle.com/intl/en-apac/marketing-strategies/app-and-mobile/how-lazada-outranked-the-rest/

Vermeulen, F. (2019, 2 05). User Manual Template Case Study: Startup Creates a Compliant Manual (in less Than 3 weeks). p. 10.