BCI1143 PROBLEM SOLVING

ASSIGNMENT 1

SEMESTER I 2022/2023

LECTURER	Nur Farahaina Binti Idris
PROJECT NAME	TommyCat Sdn Bhd (T-Shirt)
SECTION	01G
GROUP MEMBERS	
STUDENT ID	**NAME**
SD22011	Nor Mimi Azura Binti Huzaimi
SD22007	Miza Syazwana Binti Mohd Safian
SD22019	Nur Sabihah Binti Anuar

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1. GROUP MEETING REPORT

WEEK 9 (19/12/2022) 11.00 AM

First thing first, we start by searching for a theme for our case study. We also seek our lecturer's opinion about our theme. To better understand our tasks, we went over the assignment criteria in the rubric. We also spoke about how to organize our case study and allocated the work fairly among each other.

WEEK 10 (1/1/2023) 3.00 PM

We met each other to discuss how to create a case study and find an example on the internet. We finally found one and proceeded to create it using the information we have. The case study was double-checked and corrected by all members. When we had the time, we met the lecturer to have their critiques over our new case study.

WEEK 11 (8/1/2023) 4.00 PM

Due to some uncertainty over the algorithm when we tried to run it, we had to change our case study, which required us to change the algorithm and flowchart structure as well. We find that its difficult to retain the old case study so we proceed to create a new one with the new information and also get opinions from the other classmates.

WEEK 12 (15/1/2023) 7.00 PM

We finally presented the work assigned to our leader and watched the project's progress via IC, PAC, and IPO and fixed the problems when we found it. We also started to be working with desk checking, flowchart with module and algorithms with module and consulting to create it using the note and teaching from the others.

WEEK 13 (17/1/2023) 9.00 AM

We reviewed the content of each assignment to make sure there were no mistakes. We also compiled them into the hard copy before we presented it in front of the lecturer. We found that it still needs a lot of work to do so we fix it before we submit it to the lecturer.

2. CASE STUDY

Tommy Corporation Berhad began its journey as a small trader and exporter of t-shirts. However, as the demand for t-shirts increased, the company decided to expand its operations by setting up a new division, TommyCat Sdn Bhd, which is focused solely on t-shirt manufacturing. It is in Pasir Gudang which is located in the southern state of Johor,Malaysia.The new division is to serve customers from other countries who place orders on an official website online.

TommyCat Sdn Bhd, a company specializing in the production of clothing and accessories, has decided to expand its business overseas by focusing on Asian countries. The company has identified Indonesia, Brunei and Singapore as key markets for its products.

Indonesia is an attractive market for TommyCat due to its large population and growing economy. The country's young and fashion-conscious consumers are seen as a key target market for the company's products. Additionally, Indonesia's close proximity to Malaysia, where TommyCat is based, makes it an ideal market for the company to expand into.

Brunei is another market that TommyCat has identified as a key growth opportunity. The country's small population and high GDP per capita make it an attractive market for luxury and high-end fashion products. Additionally, Brunei's close relationship with Malaysia, as well as its reputation as a wealthy and sophisticated market, make it a prime destination for TommyCat's products.

Singapore is seen as an important market for TommyCat due to its reputation as a hub for luxury fashion in Southeast Asia. Singapore's affluent population and high disposable income make it an ideal market for high-end clothing and accessories. Additionally, Singapore's strategic location makes it an ideal hub for TommyCat to expand its presence in the region

TommyCat Sdn Bhd specializes in producing t-shirts in a range of patterns and they are currently available in many colors and sizes. Thus, the company's t-shirts have become popular among customers due to their high-quality materials and affordable price. As a result, the company has seen a steady increase in sales and has become a leading player in the t-shirt manufacturing industry in Malaysia.

In addition to its t-shirt manufacturing operations, Tommy Corporation Berhad also provides logistics and shipping services to ensure that orders are delivered to customers on time and in good condition. The company has a strong reputation for providing excellent customer service and is committed to meeting the needs of its customers.

Overall, Tommy Corporation Berhad's decision to expand its operations by setting up TommyCat Sdn Bhd has proven to be a successful move. The company's focus on producing high-quality t-shirts and providing excellent customer service has allowed it to grow and establish itself as a leading player in the industry.

In order to explain the different sales of t-shirts according to customer groups, we can analyze the data by breaking it down into different segments. For example, we can look at sales by age group, gender, location, and income level.

One possible explanation for the sales differences could be that certain age groups have different preferences for the material of t-shirts which is cotton, jersey and microfiber when they purchase. For example, younger customers may be more likely to buy trendy, fashionable t-shirts, while older customers may prefer more classic styles. Additionally, men and women may have different preferences for t-shirt designs and cuts, which could also affect sales.

Another explanation could be that sales vary depending on the location of customers. Customers living in urban areas may be more likely to buy trendy, fashionable t-shirts, while those living in rural areas may prefer more classic styles.

Additionally, customers living in different regions may have different preferences for the types of t-shirts they purchase, which could also affect sales.

Income level could also play a role in t-shirt sales. Customers with higher incomes may be more likely to buy luxury t-shirts, while those with lower incomes may prefer more affordable options.

Overall, there are many different factors that can affect t-shirt sales, and it is important to analyze the data in order to understand the specific reasons for the differences in sales among customer groups.

Material of T-shirt	Cotton	Jersey	Microfiber
T-shirt code	C	J	M
Price per bundle	RM 200.00	RM 400.00	RM 600.00

Table 1

Country	Indonesia	Brunei	Singapore
Code	I	B	S
Total Quantity (sets)	Shipping Fee		
1-199	RM 25	RM 30	
200-399	RM 50	RM 55	
400- 599	RM 100	RM 105	
>600	RM 150	RM 155	

Table 2

EXPECTED INPUT

Client Name? Mellisa
Address? KM20 TUAH STREET , DUBAI CITY , BRUNEI
Bill date? 15/ 01/ 2023
T-shirt code?M
Color? Black
Size? M
Quantity/ set? 250
Anymore order? (1=Yes/ 0=No) :0
Country Code? B

EXPECTED OUTPUT

```
/tmp/hwzJPnogDw.o
=============== WELCOME TO TOMMYCAT WEBSITE ===============
Enter Client Name : Melissa
Enter Address : KM20 TUAH STREET, DUBAI CITY, BRUNEI
Enter Bill Date : 15/01/2023
============================================================

Enter T-Shirt Code (C= Cotton, J= Jersey ,M= Microfibre): M
Enter Colour :Black
Enter Size : M
Enter Quantity: 250
Type of T-Shirt : Microfibre
Price : RM150000.00
Total Price : RM150000.00
Anymore order? (1= Yes/ 0= No) : 0
============================================================
Enter Country Code (I= Indonesia, B= Brunei, S= Singapore) : B
Total Quantity : 250
Shipping Fee : RM55.00
============================================================

Total Payment: RM150055.00

THANK YOU FOR SHOPPING WITH US XOXO <<33
```

3. EARLY ANALYSIS OF CASE STUDY (Heuristic or Algorithmic with explanation)

The algorithmic algorithm is a step-by-step process that follows a set of rules and procedures to solve a problem. In this case, the problem is the lack of clear details on the orders from foreign customers for TommyCat Sdn Bhd.

Step 1: Identify the problem:
The problem in this case is the lack of clear details on the orders from foreign customers for TommyCat Sdn Bhd. This is causing difficulties in managing their export operations and fulfilling orders in a timely and efficient manner.

Step 2: Gather data:
Collect data on the current process of managing foreign orders, including information on customer details, product details, and shipping information. Also, gather data on the number of orders received, the number of orders fulfilled, and the time it takes to fulfill each order.

Step 3: Analyze the data:
Analyze the data to identify patterns and trends in the order management process. Look for areas where there are delays or inefficiencies in the process.

Step 4: Identify possible solutions:
Based on the analysis of the data, identify possible solutions to the problem. Consider options such as implementing a new order management system, automating the process of order taking, and inventory management.

Step 5: Evaluate the solutions:
Evaluate the different solutions by considering factors such as cost, feasibility, and potential impact on the business.

Step 6: Implement the solution:
Choose the most appropriate solution and implement it. This may involve training employees on new software or procedures, and making necessary changes to the current process.

Step 7: Monitor and evaluate the effectiveness of the solution:
Monitor the effectiveness of the solution by tracking the number of orders received, the number of orders fulfilled, and the time it takes to fulfill each order. Evaluate the solution regularly to ensure it is meeting the desired goals and make necessary adjustments

4. PROBLEM ANALYSIS CHART (PAC)

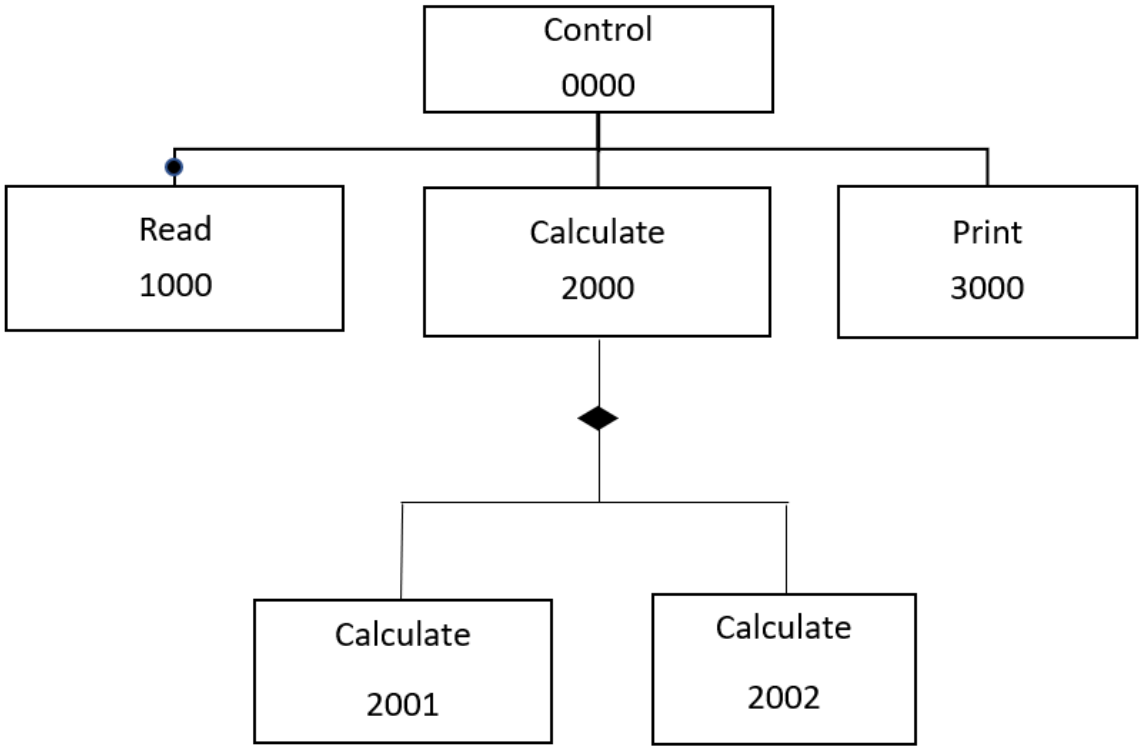
Given Data	Required Result
Client_Name Address Bill_Date T-shirt_Code Colour Size Quantity Control Country_Code	T-shirt_Code Material_of_Tshirt Color Size Quantity Price Client_Name Address Bill_Date Total_Price Country_Code Total_Quantity Shipping_Fee Total_Payment
Processing Required	**Solution Alternative**
1. OrderSystem() 2. Total_Price = 0.00 3. Toal_Quantity = 0 4. Enter Client_Name 5. Enter Address 6. Enter Bill_Date 7. DO 8. Enter T-shirt_Code 9. Enter Colour 10. Enter Size 11. Enter Quantity	1. Define price of the T-shirt is constant. 2. Define Client_Name, Address, Bill_Date, T-shirt_Code, Colour, Size, Quantity, Control, Country_Code as input value.

```
12. If T-shirt_Code == ‘C’ Then
13.     Material_T-shirt == “Cotton”
14.     Price = Quantity * 200
15. ElseIf Tshirt_Code == ‘J’ Then
16.     Material_T-shirt == “Jersey”
17.     Price = Quantity * 400
18. ElseIf T-shirt_Code == ‘M’ Then
19.     Material_T-shirt == “Microfibre”
20.     Price = Quantity * 600
21. Else
22.     Print “Invalid Material”
23. EndIf
24. Total_Quantity = Quantity
25. Total_Price = Price
26. Print T-shirt_Code
27. Print Type_of_T-shirt
28. Print Color
29. Print Size
30. Print Quantity
31. Print Price
32. Print “Anymore Order? (1 for Yes/
    0 for No)”
33. Enter Anymore_Order
34. While Anymore_Order ==0
35. End while
36.     Enter Country_Code
37.     If Country_Code == ‘I’ Then
38.         If Total_Quantity < 200
    Then
39.             Shipping_Fee == 25
```

```
40.          ElseIf Total_Quantity < 400
    Then
41.              Shipping_Fee == 50
42.          ElseIf Total_Quantity < 600
    Then
43.              Shipping_Fee == 100
44.          Else
45.              Shipping_Fee == 150
46.          EndIf
47.     ElseIf Country_Code == 'B' ||
    Country_Code == 'S' Then
48.          If Total_Quantity < 200
    Then
49.              Shipping_Fee == 30
50.         ElseIf Total_Quantity < 400
    Then
51.              Shipping_Fee == 55
52.         ElseIf Total_Quantity < 600
    Then
53.              Shipping_Fee == 105
54.          Else
55.              Shipping_Fee == 155
56.          EndIf
57.     Else
58.          Print "System Error"
59.      EndIf
60.      Total_Payment = Total_Price +
    Shipping_Fee
61.    Print Client_Name
62.     Print Address
```

63. Print Bill_Date 64. Print Total_Price 65. Print Country_Code 66. Print Total_Quantity 67. Print Shipping_Fee 68. Print Total_Payment 69. End	

5. INTERACTIVITY CHART (IC)



6. INPUT PROCESSING OUTPUT (IPO)

Input	Processing	Module Reference	Output
Client_Name Address Bill_Date T-shirt_Code Colour Size Quantity Control Country_Code	1. OrderSystem() 2. Total_Price = 0.00 3. Total_Quantity = 0 4. Enter Client_Name 5. Enter Address 6. Enter Bill_Date 7. DO 8. Enter T-shirt_Code 9. Enter Colour 10. Enter Size 11. Enter Quantity 12. If T-shirt_Code == 'C' Then 13. Type_of_T-shirt == "Cotton" 14. Price = Quantity * 200 15. ElseIf T-shirt_Code == 'J' Then 16. Type_of_T-shirt == "Jersey" 17. Price = Quantity * 400 18. ElseIf T-shirt_Code == 'M' Then	Read Read Read Read Read Read Calc Calc Calc Calc Calc Calc	

	19. Type_of_T-shirt == "Microfibre"	Calc	
	20. Price = Quantity * 600	Calc	
	21. Else	Print	"Invalid Material"
	22. Print "Invalid Material"		
	23. EndIf	Calc	
	24. Total_Price += Price	Print	Material_of_T-shirt
	25. Print Material of_T-shirt	Print	Price
	26. Print Price	Print	Total_Price
	27. Print Total_Price	Print	"Anymore Order? (1 for Yes/ 0 for No)"
	28. Print "Anymore Order? (1 for Yes/ 0 for No)"	Read	
	29. Enter Anymore Order	Control	
	30. While Anymore Order ==0		
	31. End while	Read	
	32. Enter Country_Code		
	33. If Country_Code == 'I' Then	Calc	
	34. If Total_Quantity < 200 Then	Calc	
	35. Shipping_Fee == 25	Calc	
	36. ElseIf Total_Quantity < 400 Then	Calc	

	37. Shipping_Fee == 50	Calc	
	38. ElseIf Total_Quantity < 600 Then	Calc	
	39. Shipping_Fee == 100	Calc	
	40. Else	Calc	
	41. Shipping_Fee == 150	Calc	
	42. EndIf	Calc	
	43. ElseIf Country_Code == ‘B’ || Country_Code == ‘S’ Then	Calc	
	44. If Total_Quantity < 200 Then	Calc	
	45. Shipping_Fee == 30	Calc	
	46. ElseIf Total_Quantity < 400 Then	Calc	
	47. Shipping_Fee == 55	Calc	
	48. ElseIf Total_Quantity < 600 Then	Calc	
	49. Shipping_Fee == 105	Calc	

	50. Else		
	51. Shipping_Fee == 155	Calc Calc	
	52. EndIf		
	53. Else	Calc	
	54. Print “System Error”	Print	“System Error”
	55. EndIf	Calc	
	56. Total_Payment = Total_Price + Shipping_Fee	Calc	
	57. Print Total_Quantity	Print	Total_Quantity
	58. Print Shipping_Fee	Print	Shipping_Fee
	59. Print Total_Payment	Print	Total_Payment
	60. End		

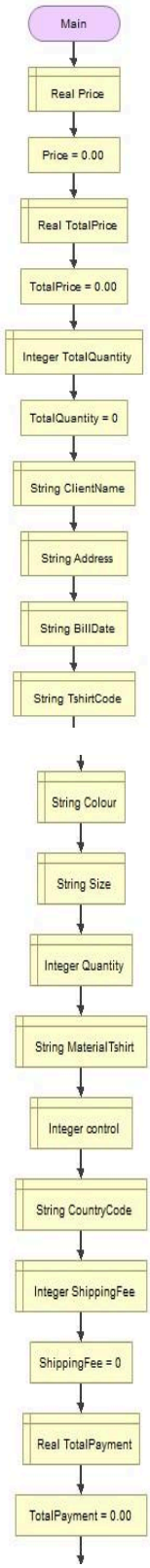
7. ALGORITHM (without module)

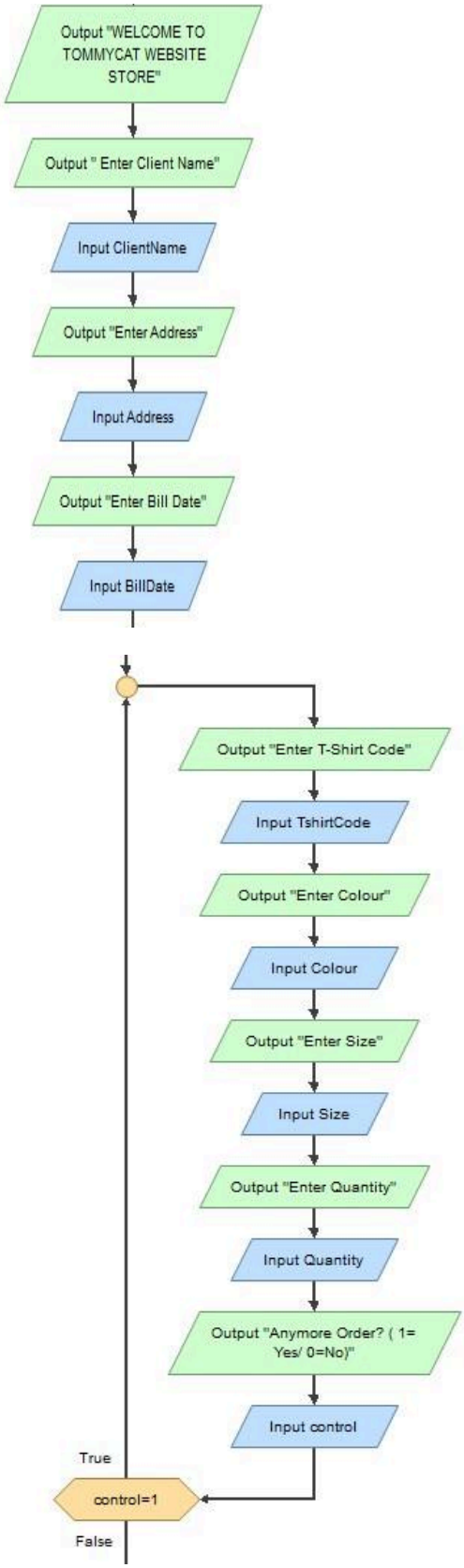
1. OrderSystem()
2. Price = 0.00
3. Total_Price = 0.00
4. Quantity = 0
5. Total_Quantity = 0
6. Total_Payment=0.00
7. Shipping_Fee=0.00
8. Anymore_Order=0
9. String Client_Name, Address, Bill_Date, Tshirt_Code, Country_Code
10. Double Price, Total_Price, Shipping_Fee, Total_Payment
11. Integer Total_Quantity, Quantity, Anymore_Order
12. Enter Client_Name
13. Enter Address
14. Enter Bill_Date
15. DO
16. Enter Tshirt_Code
17. Enter Colour
18. Enter Size
19. Enter Quantity
20. If T-shirt_Code == ‘C’ Then
21. Material_T-shirt == “Cotton”
22. Price = Quantity * 200
23. ElseIf T-shirt_Code == ‘J’ Then
24. Material_T-shirt == “Jersey”
25. Price = Quantity * 400
26. ElseIf T-shirt_Code == ‘M’ Then
27. Material_T-shirt == “Microfibre”
28. Price = Quantity * 600
29. Else

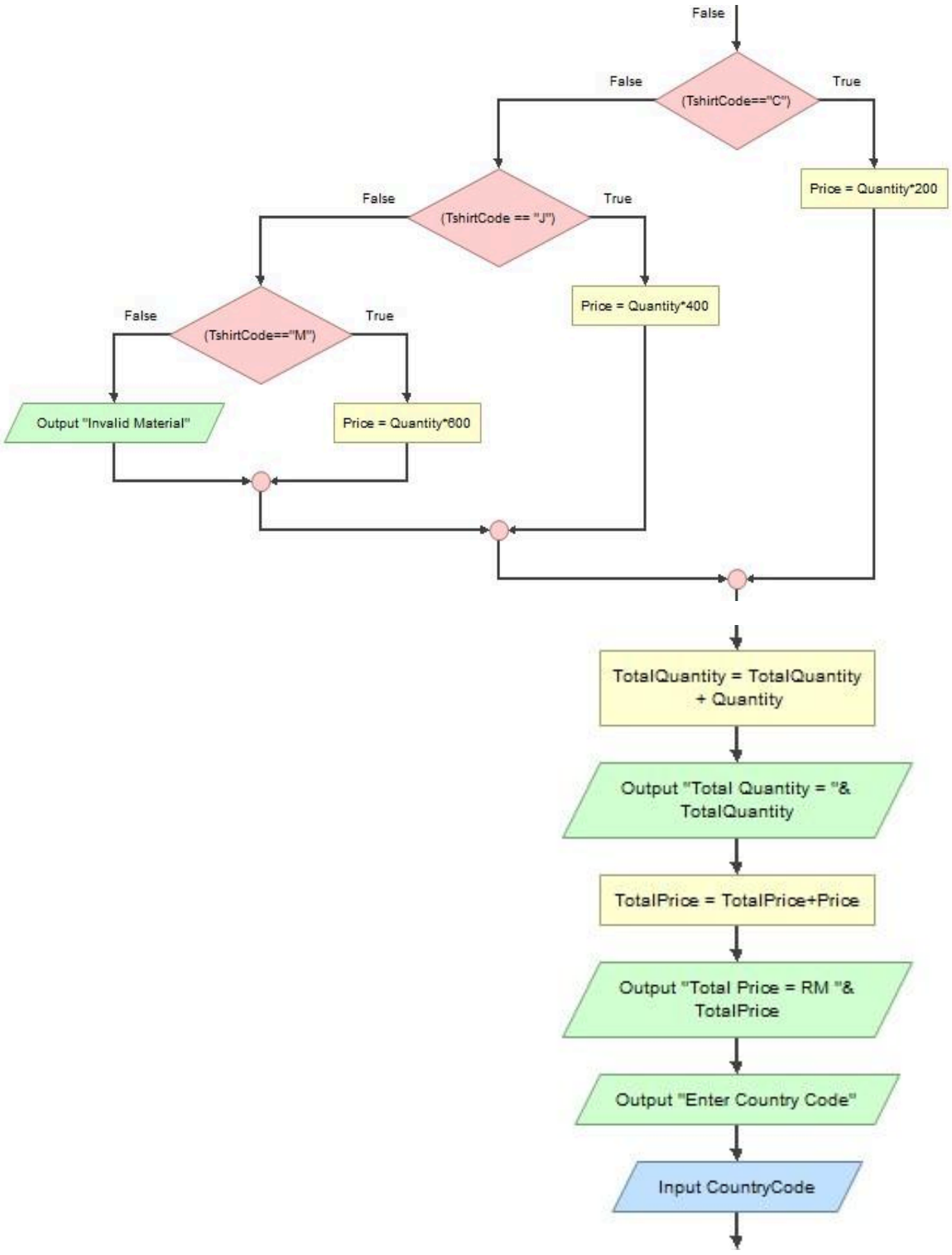
```
30.      Print “Invalid Material”
31. EndIf
32. Total_Price = Total_Price+Price
33. Print Material_Tshirt
34. Print Price
35. Print Total_Price
36. Print “Anymore Order? (1 for Yes/ 0 for No)”
37. Enter Anymore_Order
38. While Anymore_Order ==0
39. End while
40. Enter Country_Code
41.      If Country_Code == ‘I’ Then
42.           If Total_Quantity < 200 Then
43.                Shipping_Fee == 25
44.           ElseIf Total_Quantity < 400 Then
45.                Shipping_Fee == 50
46.           ElseIf Total_Quantity < 600 Then
47.                Shipping_Fee == 100
48.           Else
49.                Shipping_Fee == 150
50.           EndIf
51.      ElseIf Country_Code == ‘B’ || Country_Code == ‘S’ Then
52.           If Total_Quantity < 200 Then
53.                Shipping_Fee == 30
54.           ElseIf Total_Quantity < 400 Then
55.               Shipping_Fee == 55
56.           ElseIf Total_Quantity < 600 Then
57.                Shipping_Fee == 105
58.           Else
59.                Shipping_Fee == 155
60.           EndIf
```

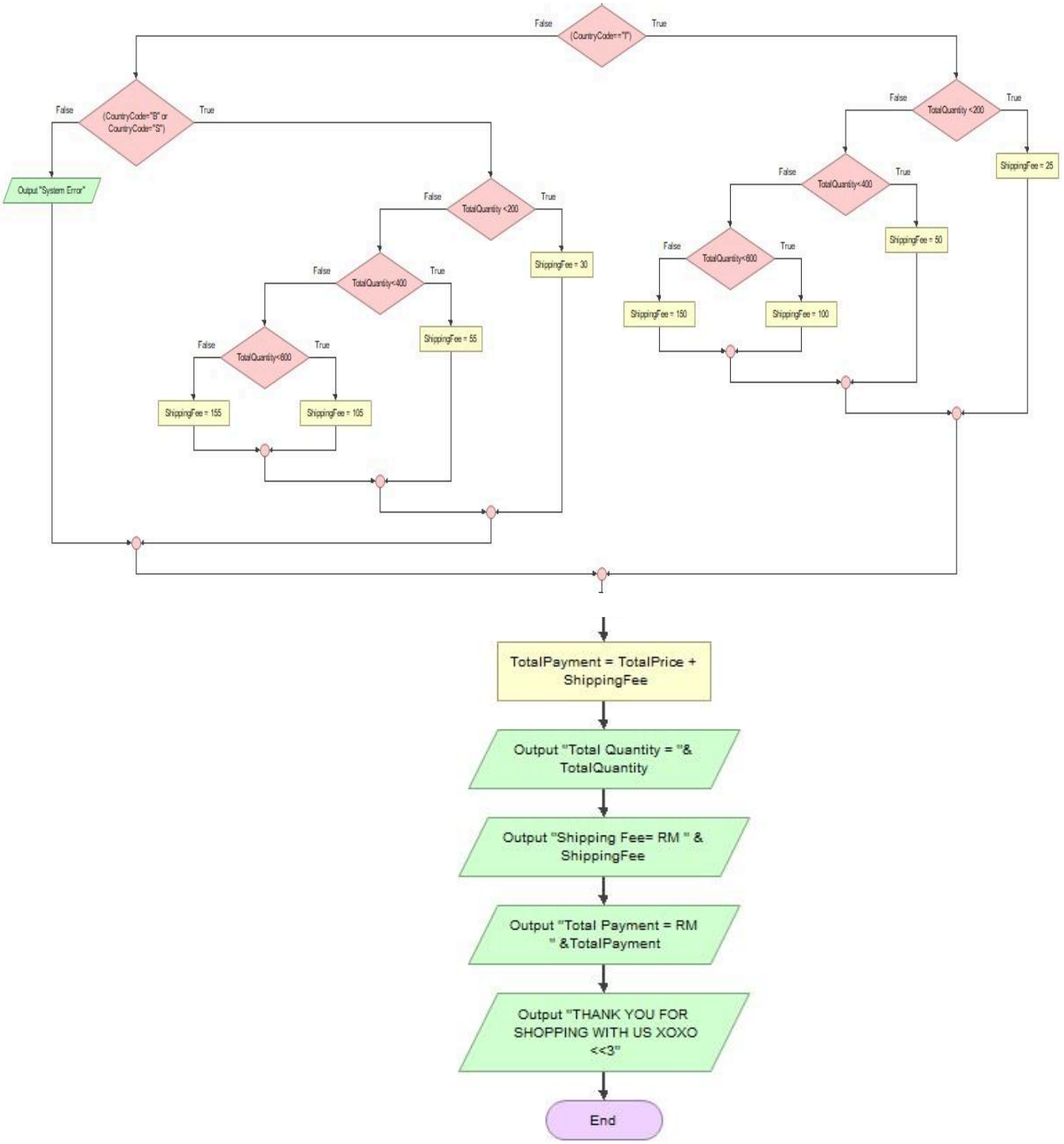
```
61.     Else
62.         Print “System Error”
63.     EndIf
64.     Total_Quantity = Total_Quantity + Quantity
65.     Total_Payment = Total_Price + Shipping_Fee
66.     Print Total_Quantity
67.     Print Shipping_Fee
68.     Print Total_Payment
69. End
```

8. FLOWCHART (without module)

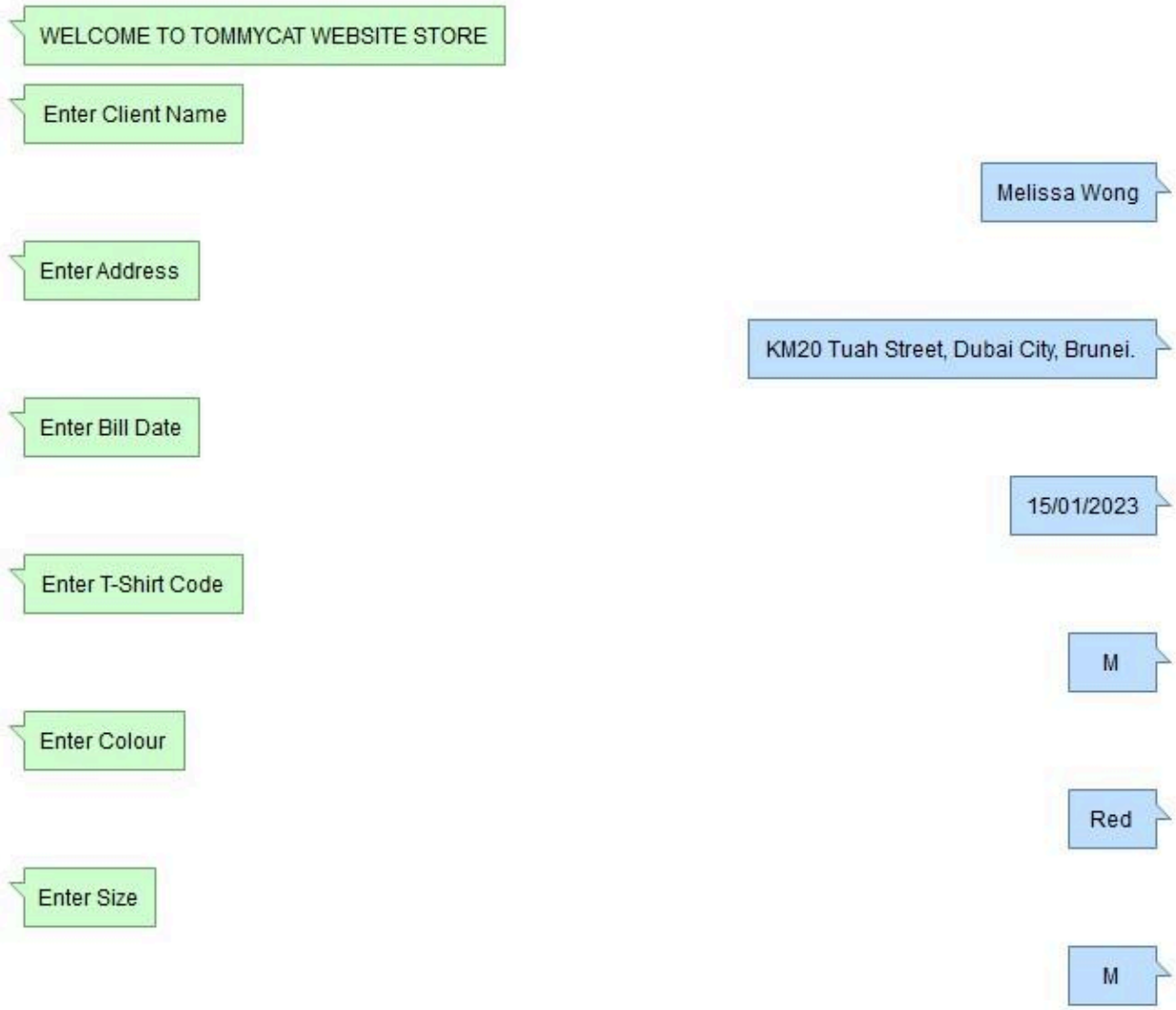


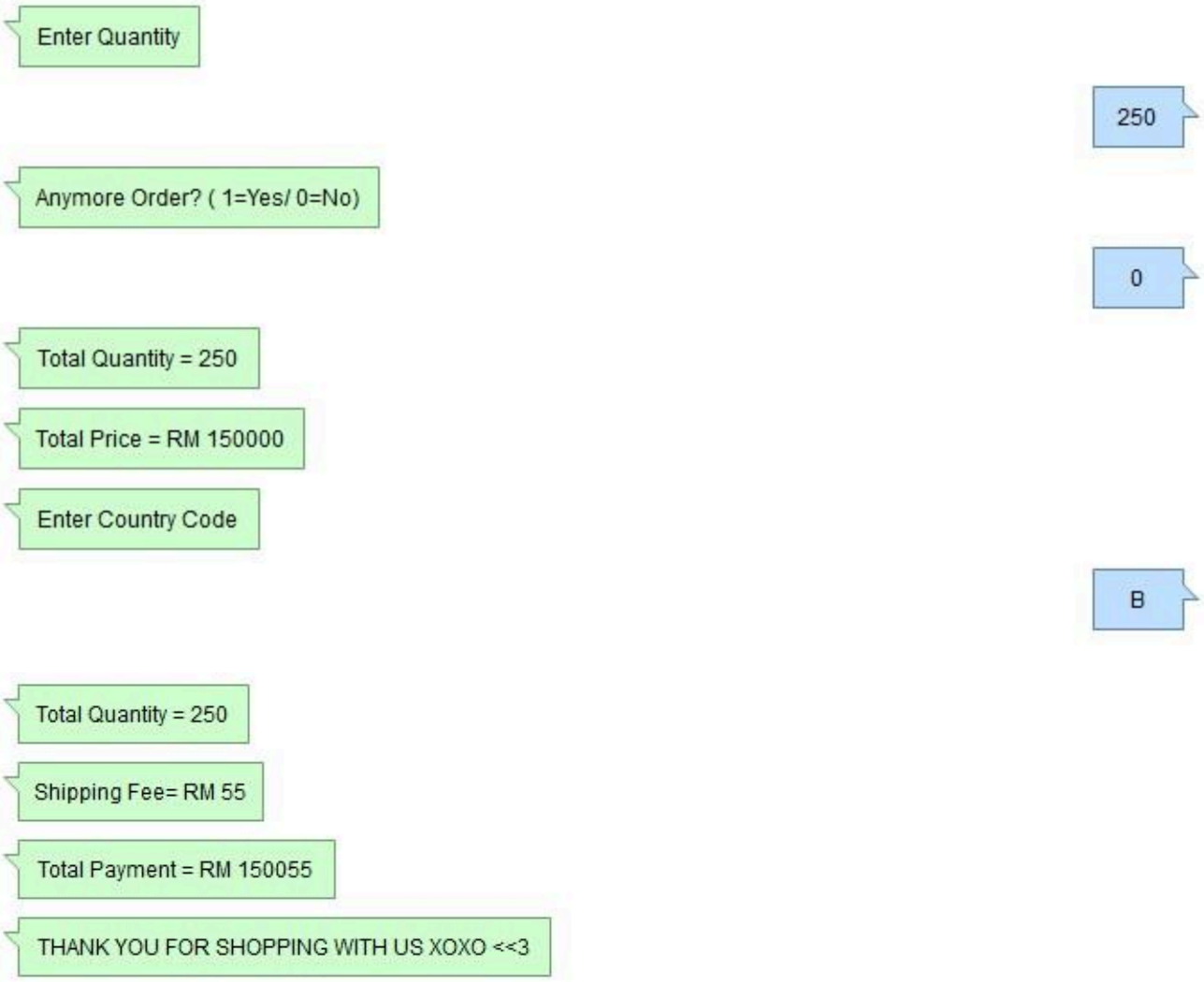

Output "WELCOME TO TOMMYCAT WEBSITE STORE"
Output " Enter Client Name"
Input ClientName
Output "Enter Address"
Input Address
Output "Enter Bill Date"
Input BillDate
Output "Enter T-Shirt Code"
Input TshirtCode
Output "Enter Colour"
Input Colour
Output "Enter Size"
Input Size
Output "Enter Quantity"
Input Quantity
Output "Anymore Order? (1= Yes/ 0=No)"
Input control
True
control=1
False


False
False
(TshirtCode=="C")
True
Price = Quantity*200
False
(TshirtCode == "J")
True
Price = Quantity*400
False
(TshirtCode=="M")
True
Output "Invalid Material"
Price = Quantity*600
TotalQuantity = TotalQuantity + Quantity
Output "Total Quantity = "& TotalQuantity
TotalPrice = TotalPrice+Price
Output "Total Price = RM "& TotalPrice
Output "Enter Country Code"
Input CountryCode


False
(CountryCode="I")
True
False
(CountryCode="B" or CountryCode="S")
True
Output "System Error"
False
TotalQuantity <200
True
ShippingFee = 30
False
TotalQuantity<400
True
ShippingFee = 55
False
TotalQuantity<600
True
ShippingFee = 155
ShippingFee = 105
False
TotalQuantity <200
True
ShippingFee = 25
False
TotalQuantity<400
True
ShippingFee = 50
False
TotalQuantity<600
True
ShippingFee = 150
ShippingFee = 100
TotalPayment = TotalPrice + ShippingFee
Output "Total Quantity = "& TotalQuantity
Output "Shipping Fee= RM " & ShippingFee
Output "Total Payment = RM " &TotalPayment
Output "THANK YOU FOR SHOPPING WITH US XOXO <<3"
End

OUTPUT FLOWCHART (without module)




Enter Quantity
250
Anymore Order? (1=Yes/ 0=No)
0
Total Quantity = 250
Total Price = RM 150000
Enter Country Code
B
Total Quantity = 250
Shipping Fee= RM 55
Total Payment = RM 150055
THANK YOU FOR SHOPPING WITH US XOXO <<3

9. DESK CHECKING

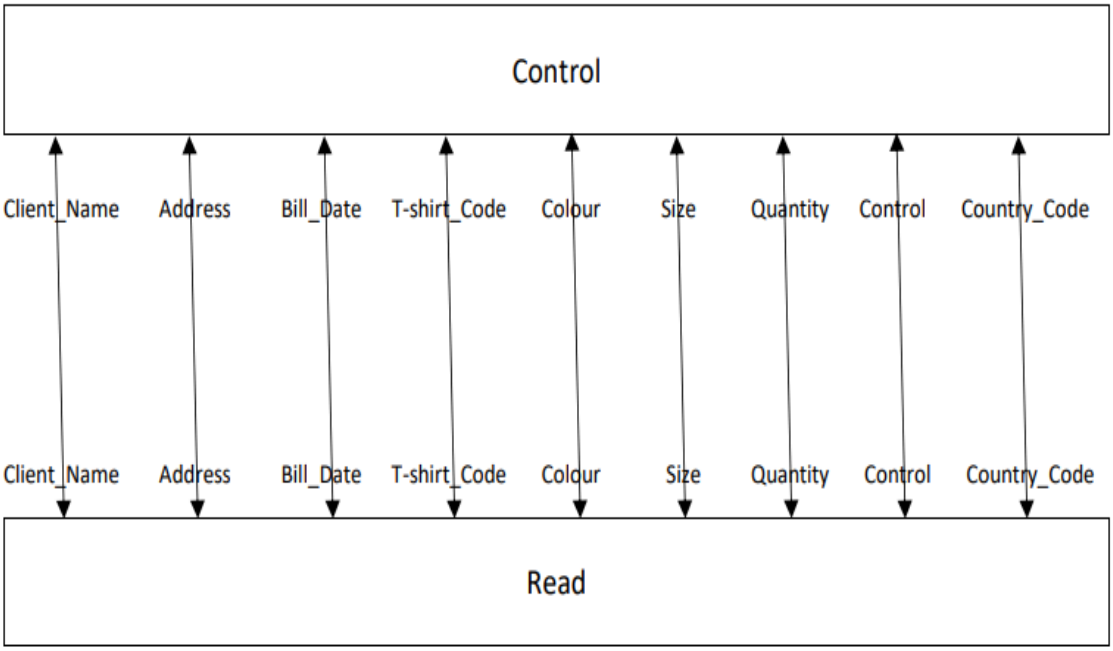
No	Client_Name	Address	Bill_Date	T-shirt_Code	Colour	Size	Quantity/ Sets	Material of T-shirt	Price	Total_price	Total_Quantity	Country_code	Shipping_Fee	Total_Payment	Condition	Input/Output
1																
2										0						
3											0					
4	"Mellies"															Client_Name? "Mellies"
5		"KM 20 TUAH STREET , DUBAI CITY , BRUNEI"														Address? "KM 20 TUAH STREET , DUBAI CITY , BRUNEI"
6			"15/01/2023"													Bill_Date?"15/01/2023"
7																
8				"M"												T-shirt_Code? "M"
9					"Red"											Colour? "Red"
10						"M"										Size? "M"
11							"250"									Quantity? "250"
12															T-shirt_code== 1 ? T	
13								"Microfiber"								
14									250*600=150000							
15																
16																
17																
18																
19																
20																
21																
22																
23											250					
24										150000						
25																"M"
26																"Microfiber"
27																"Red"
28																"M"
29																"250"
30															Print" Anymore Order? 0	
31																
32															Control==1 is T	
33																Country_code ? 'B'
34															Country_code== 'B' ? T	
35																
36																
37																
38																
39																
40																

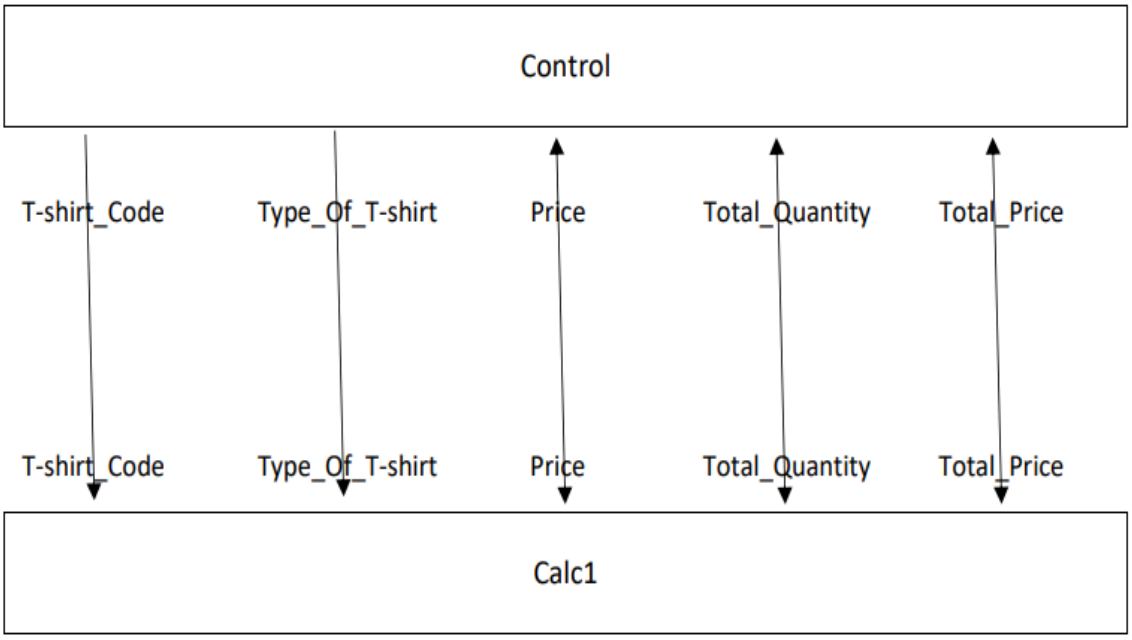
39																
40																
41																
42																
43																
44																
45															Country_code== 'B' || Country_code== 'G'? T	
46															Quantity < 200? F	
47																
48															Quantity < 400? T	
49													55			
50															Quantity < 600? F	
51																
52																
53																
54																
55																
56																
57																
58														150000 + 55 =150055		
59																"Welles"
60																
61																"15/01/2025"
62																150000
63																"B"
64																250
65																120
66																55
67																150055
68																

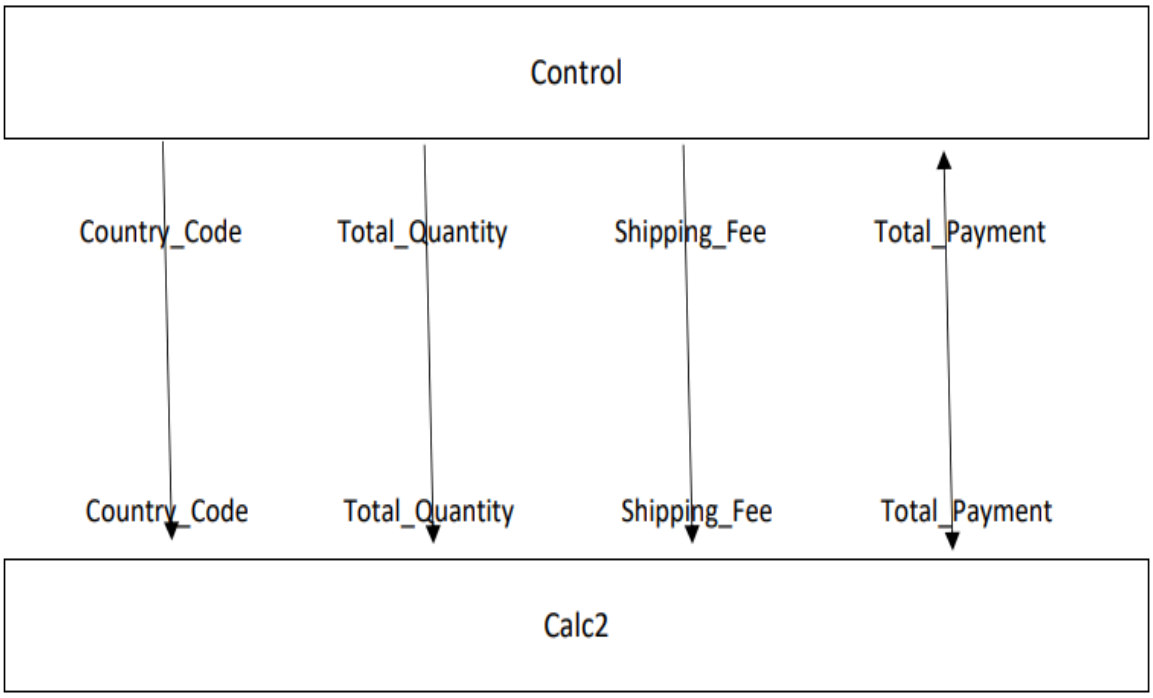
Test data

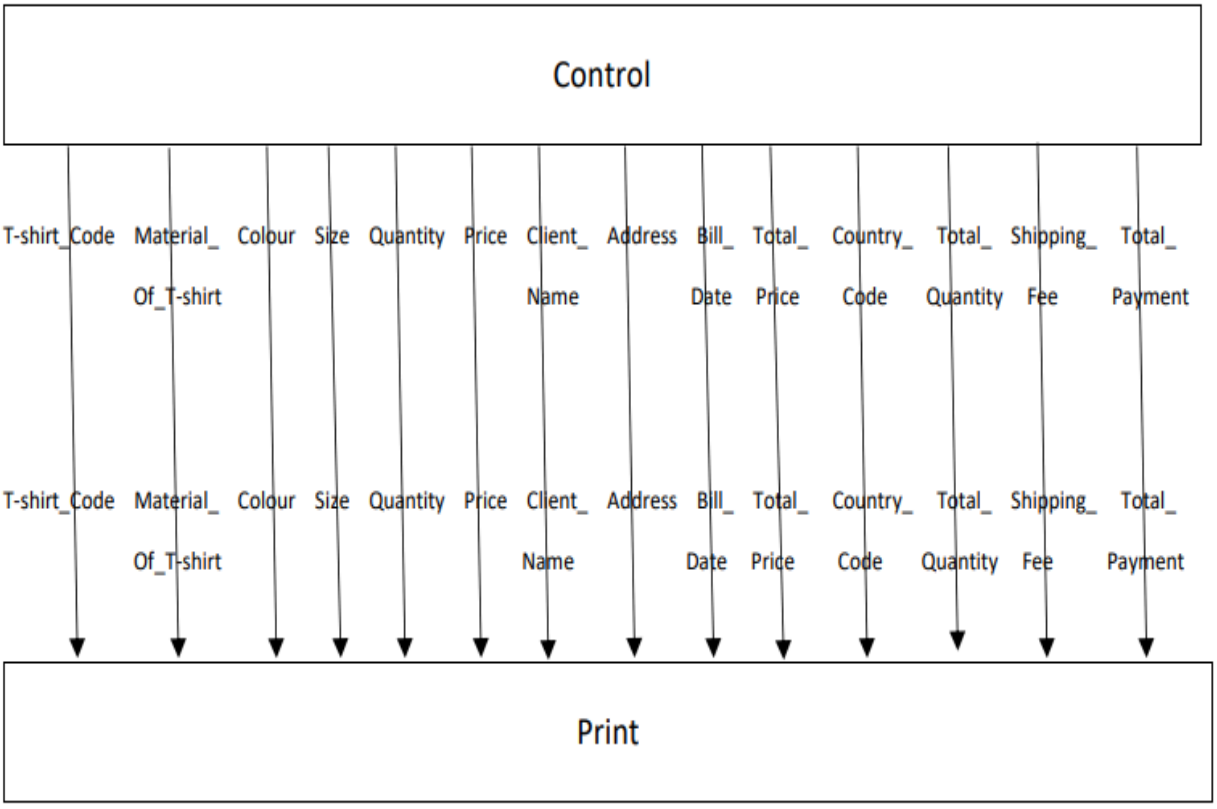
DATA SET	
Client Name	Mellisa
Address	KM 20 TUAH STREET, DUBAI CITY , BRUNEI
Country Code	B
Bill date	15/01/2023
Tshirt code	M
Size	M
Color	Red
Quantity/ set	250

10. COUPLING DIAGRAM






Control
Country_Code
Total_Quantity
Shipping_Fee
Total_Payment
Country_Code
Total_Quantity
Shipping_Fee
Total_Payment
Calc2


Control
T-shirt_Code
Material_ Of_T-shirt
Colour
Size
Quantity
Price
Client_ Name
Address
Bill_ Date
Total_ Price
Country_ Code
Total_ Quantity
Shipping_ Fee
Total_ Payment
T-shirt_Code
Material_ Of_T-shirt
Colour
Size
Quantity
Price
Client_ Name
Address
Bill_ Date
Total_ Price
Country_ Code
Total_ Quantity
Shipping_ Fee
Total_ Payment
Print

11. DATA DICTIONARY

Data Item	Variable Name	Data Type	Module
Client's Name	Client_Name	String	ControlOrderSystem / ReadClient
Client's Address	Address	String	ControlOrderSystem / ReadClient
Bill Date	Bill_Date	String	ControlOrderSystem / ReadClient
T-shirt Code	T-shirt_Code	Character	ControlOrderSystem / ReadT-shirt/ CalcTotal_Price
Colour	Colour	String	ControlOrderSystem / ReadT-shirt
Size	Size	String	ControlOrderSystem / ReadT-shirt
Quantity	Quantity	Numeric : Integer	ControlOrderSystem / ReadT-shirt / CalcTotal_Price
Country code	Country_code	Character	ControlOrderSystem / ReadCountry / CalcShipping_Fee
Material of T-shirt	Material_of_T-shirt	String	ControlOrderSystem / CalcTotal_Price / PrintTotal

Price of T-shirt	Price	Numeric : Real	ControlOrderSystem / CalcTotal_Price / PrintTotal
Total Quantity	Total_Quantity	Numeric : Integer	ControlOrderSystem / CalcTotal_Price / CalcShipping_Fee / PrintTotal
Total Price	Total_Price	Numeric : Real	ControlOrderSystem / CalcTotal_Price / CalcTotal_Payment / PrintTotal
Shipping Fee	Shipping_Fee	Numeric : Real	ControlOrderSystem / CalcShipping_Fee/ CalcTotal_Payment / PrintTotal
Total Payment	Total_Payment	Numeric : Real	ControlOrderSystem / CalcTotal_Paymen t/ PrintTotal

12. ALGORITHM- with module (parameter passing)

OrderSystem()

1. Total_Price = 0.00
2. Total_Quantity = 0
3. Shipping_Fee=0.00
4. Total_Payment= 0.00
5. Read (Client_Name, Address, Bill_Date)
6. Do
7. Read1 (Tshirt_Code, Colour, Size, Quantity)
8. While Anymore_Order ==0
9. End while
10. Process Enter1 (C= Cotton, J= Jersey ,M= Microfibre)
11. Process Calculate1 (Total_Price= Total_Price + Price)
12. Process Print1 (Material_Tshirt, Price, Total_Price)
13. Read2 (Anymore_Order, Country_Code)
14. Process Enter2 (Yes=1, No=0, Indonesia=I, Brunei=B, Singapore=S)
15. Process Calculate2 (Total_Quantity = Total_Quantity + Quantity, Total_Payment = Total_Price + Shipping_Fee)
16. Process Print2 (Total_Quantity, Shipping_Fee, Total_Payment)
17. End

Process Read (Client_Name, Address, Bill_Date)

1. Enter Client_Name
2. Enter Address
3. Enter Bill_Date

Read1 (Tshirt_Code, Colour, Size, Quantity)

1. DO
2. Enter Tshirt_Code (Cotton=C, Jersey=J, Microfibre=M)
3. Enter Colour
4. Enter Size
5. Enter Quantity
6. Enter Anymore_Order (Yes=1, No=0)
7. While Anymore_Order ==0
8. End while
9. End

Process Calculate1 (Total_Price= Total_Price + Price)

1. If T-shirt_Code == ‘C’ Then
2. Material_T-shirt == “Cotton”
3. Price = Quantity * 200
4. ElseIf T-shirt_Code == ‘J’ Then
5. Material_T-shirt == “Jersey”
6. Price = Quantity * 400
7. ElseIf T-shirt_Code == ‘M’ Then
8. Material_T-shirt == “Microfibre”
9. Price = Quantity * 600
10. Else
11. Print “Invalid Material”
12. EndIf
13. Total_Price = Total_Price+Price
14. End

Process Print1 (Material_Tshirt, Price, Total_Price)

1. Print “Material of T-shirt: “ + Material_Tshirt
2. Print “Price = RM “ + Price
3. Print “Total Price = RM “ + Total_Price
4. End

Process Read2 (Country_Code)

1. Enter Country_Code (Indonesia=I, Brunei=B, Singapore=S)
2. End

Process Calculate2 (Total_Quantity = Total_Quantity + Quantity, Total_Payment = Total_Price + Shipping_Fee)

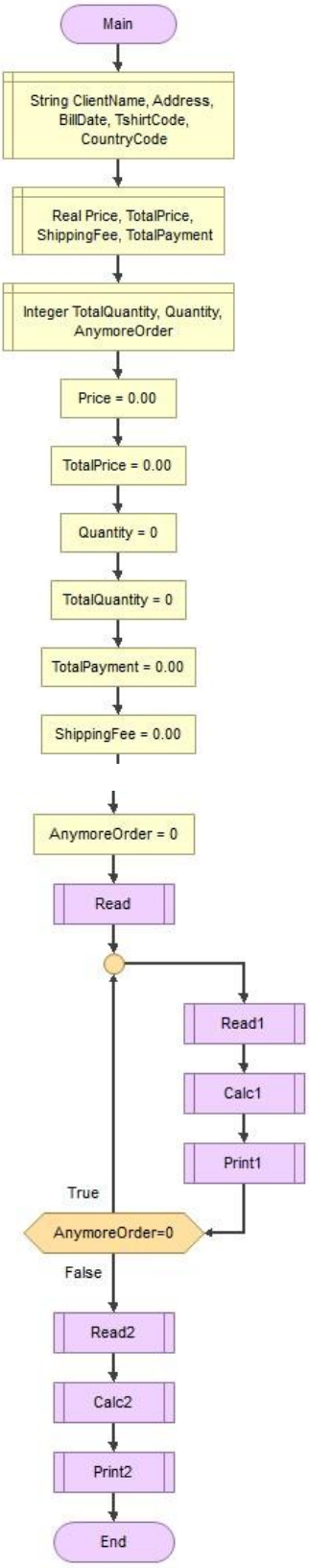
1. If Country_Code == ‘I’ Then
2. If Total_Quantity < 200 Then
3. Shipping_Fee == 25
4. ElseIf Total_Quantity < 400 Then
5. Shipping_Fee == 50
6. ElseIf Total_Quantity < 600 Then
7. Shipping_Fee == 100
8. Else
9. Shipping_Fee == 150
10. EndIf
11. ElseIf Country_Code == ‘B’ || Country_Code == ‘S’ Then
12. If Total_Quantity < 200 Then
13. Shipping_Fee == 30
14. ElseIf Total_Quantity < 400 Then
15. Shipping_Fee == 55
16. ElseIf Total_Quantity < 600 Then
17. Shipping_Fee == 105

```
        Else
                Shipping_Fee == 155
        EndIf
Else
        Print “System Error”
EndIf
Total_Quantity = Total_Quantity + Quantity
Total_Payment = Total_Price + Shipping_Fee
End
```

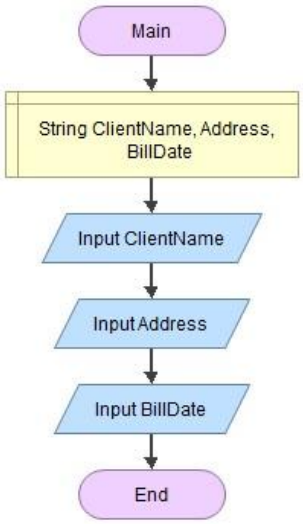
Process Print2 (Total_Quantity, Shipping_Fee, Total_Payment)

1. Print “Total Quantity: “ + Total_Quantity
2. Print “Shipping Fee = RM “ + Shipping_Fee
3. Print “Total Payment = RM “ + Total_Payment
4. End

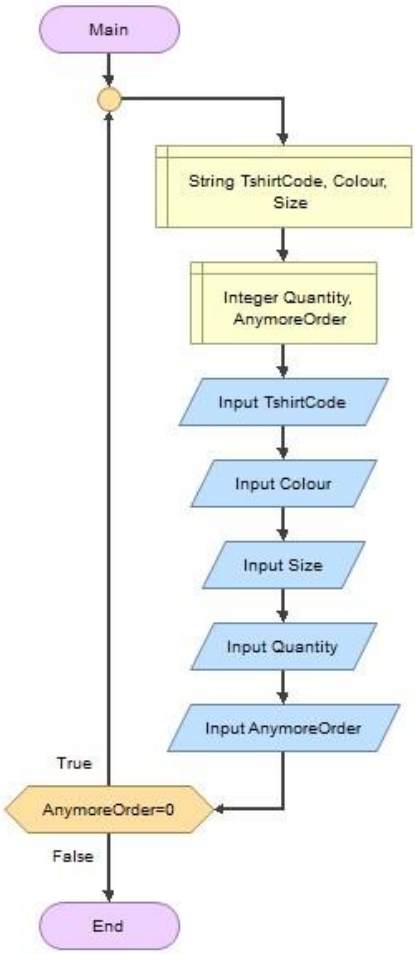
13. FLOWCHART- with module (parameter passing)



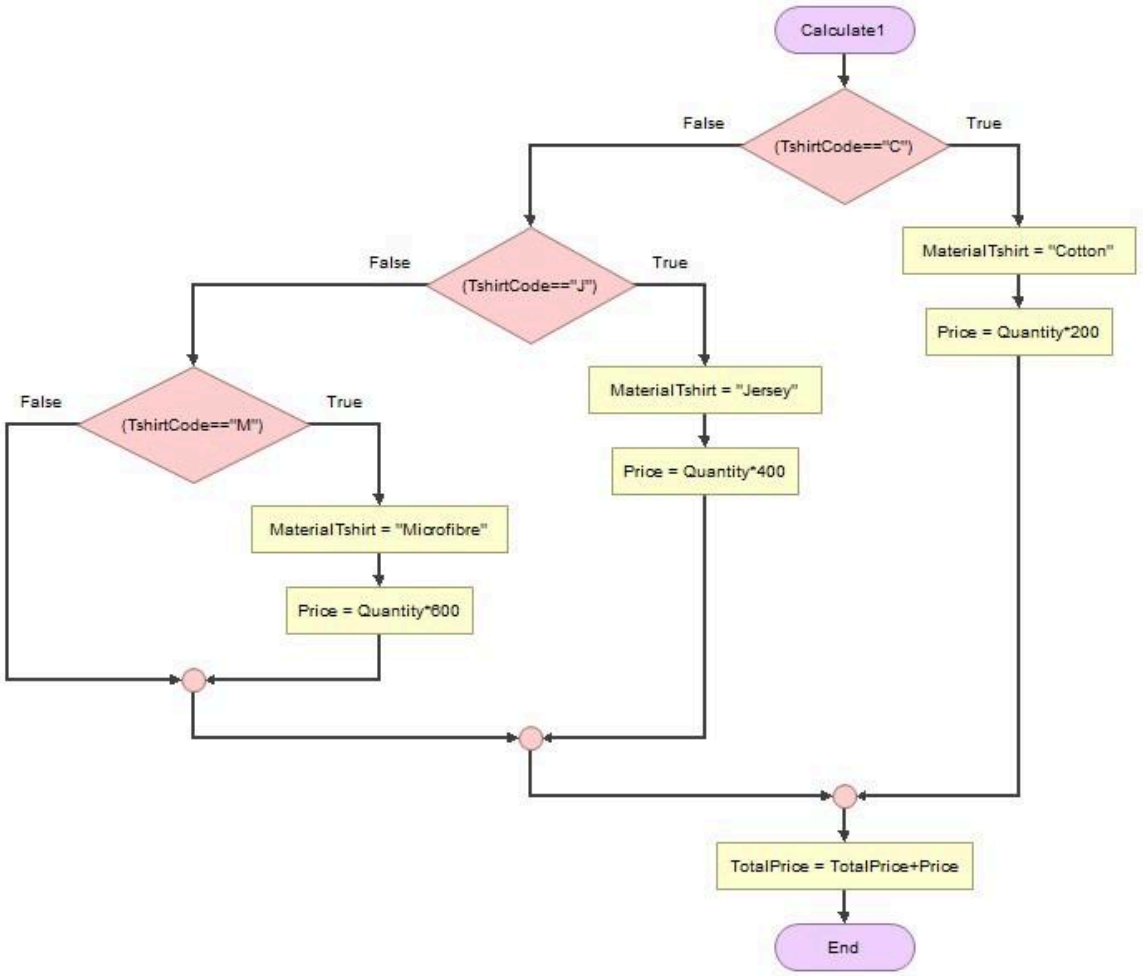
Process Read (Client_Name, Address, Bill_Date)



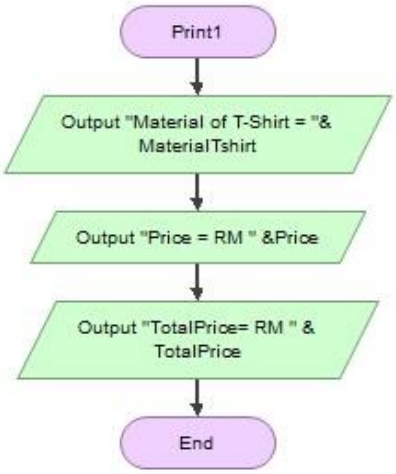
Read1 (Tshirt_Code, Colour, Size, Quantity)



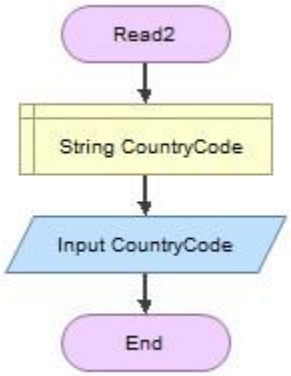
Process Calculate1 (Total_Price= Total_Price + Price)



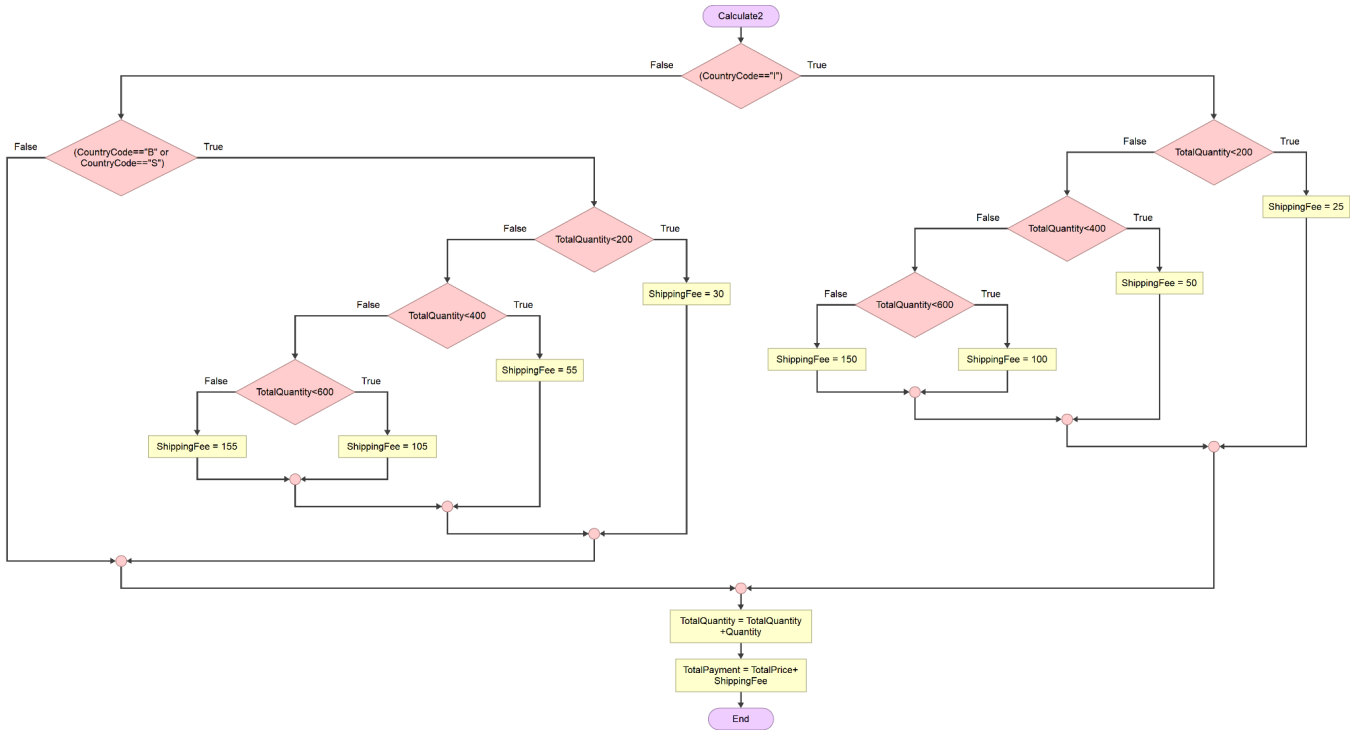
Process Print1 (Material_Tshirt, Price, Total_Price)



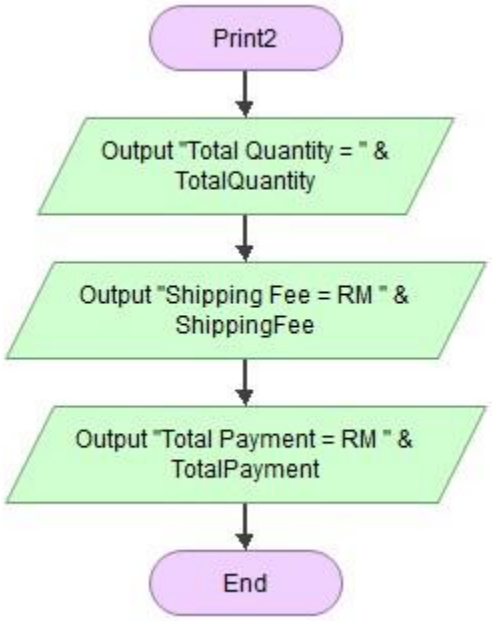
Process Read2 (Country_Code)



Process Calculate2 (Total_Quantity = Total_Quantity + Quantity, Total_Payment = Total_Price + Shipping_Fee)



Process Print2 (Total_Quantity, Shipping_Fee, Total_Payment)



14. PROGRAMMING (sequence of input/ output)

```
#include <stdio.h>
int main()
{
char Client_Name[30], Address[50], Country_Code, Material_Tshirt[20], Tshirt_Code,
Colour[10], Size[5], Bill_Date[20];
int Control, Quantity, Total_Quantity=0;
float Price, Shipping_Fee, Total_Price=0, Total_Payment;
printf("\n=============== WELCOME TO TOMMYCAT WEBSITE
===============\n"); //Greeting
printf("Enter Client Name : "); //Enter Client Name
fflush(stdin);
gets(Client_Name); //Client_Name
printf("Enter Address : "); // Enter Address
gets(Address); //Address
printf("Enter Bill Date : ");
fflush(stdin);
gets(Bill_Date);
printf("============================================================\n");
do
{
printf("\nEnter T-Shirt Code (C= Cotton, J= Jersey ,M= Microfibre): "); //Enter T-shirt
Code
scanf(" %c", &Tshirt_Code); //Tshirt_Code
fflush(stdin);
printf("Enter Colour :"); //Enter Colour
fflush(stdin);
scanf("%s", Colour); //Colour
printf("Enter Size : ");
scanf(" %s", &Size); //Size
```

```
printf("Enter Quantity: "); //Enter Quantity
scanf("%d", &Quantity); //Quantity
{
if(Tshirt_Code =='C')
{
printf("Type of T-Shirt : Cotton\n");
Price= Quantity*200;
}
else if(Tshirt_Code =='J')
{
printf("Type of T-Shirt : Jersey\n");
Price= Quantity*400;
}
else
{
printf("Type of T-Shirt : Microfibre\n");
Price= Quantity*600;
}
}//End If
printf("Price : RM%.2f", Price); //Price
Total_Quantity = Total_Quantity+ Quantity;
Total_Price = Total_Price+ Price;
printf("\nTotal Price : RM%.2f",Total_Price); //Total_Price
printf("\nAnymore order? (1= Yes/ 0= No) : ");
scanf("%d", &Control); //Control
}
while (Control!=0); //End Do While
printf("============================================================\n");
printf("Enter Country Code (I= Indonesia, B= Brunei, S= Singapore) : ");//Enter Country
Code
scanf(" %c", &Country_Code);//Country_Code
```

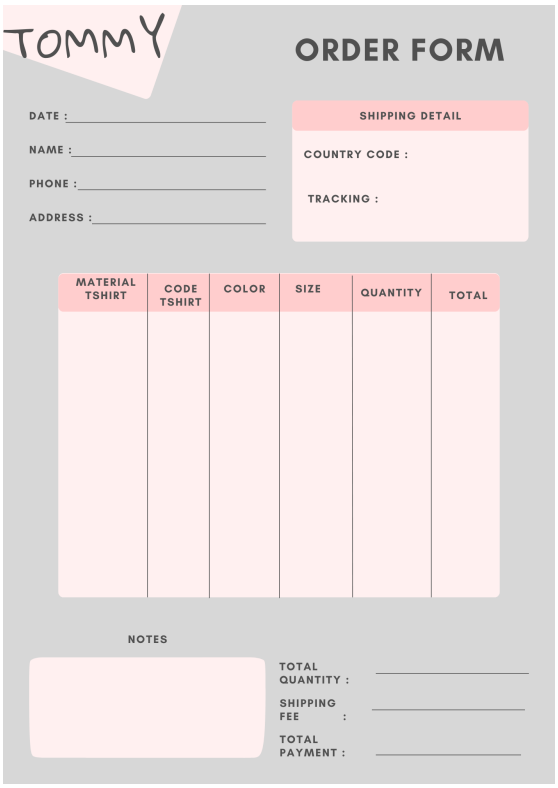
```
{
if (Country_Code == 'I')
{
if (Total_Quantity<200)
Shipping_Fee = 25;
else if (Total_Quantity<400)
Shipping_Fee = 50;
else if (Total_Quantity<600)
Shipping_Fee = 100;
else
Shipping_Fee = 150;
}//End If
else{
if (Total_Quantity<200)
Shipping_Fee = 30;
else if (Total_Quantity<400)
Shipping_Fee = 55;
else if (Total_Quantity<600)
Shipping_Fee = 105;
else
Shipping_Fee = 155;
}//End IF
}//End IF
Total_Payment = Total_Price + Shipping_Fee;
printf("\nTotal Quantity : %d",Total_Quantity); //Total Quantity
printf("\nShipping Fee : RM%.2f",Shipping_Fee); //Shipping_Fee
printf("\n=========================================================\n");
printf("\nTotal Payment: RM%.2f\n",Total_Payment); //Total Payment
printf("\nTHANK YOU FOR SHOPPING WITH US XOXO <<33\n");
return 0;
}
```

14.OUTPUT FOR PROGRAMMING

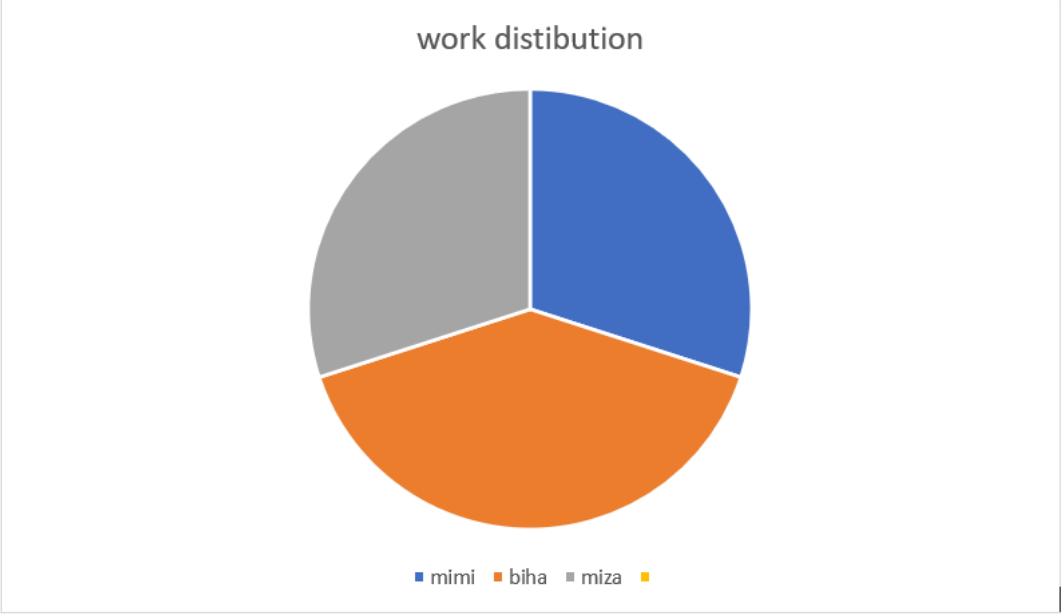
```
/tmp/vVhPKcZF91.o
=============== WELCOME TO TOMMYCAT WEBSITE ===============
Enter Client Name : MUHAMMAD ARIQ ISKANDAR BIN ALI
Enter Address : 122 JALAN CEMPAKA, TAMAN BUNGA RAYA, 75489 JAKARTA,
    INDONESIA
Enter Bill Date : 17 JANUARY 2023
=========================================================

Enter T-Shirt Code (C= Cotton, J= Jersey ,M= Microfibre): J
Enter Colour :RED
Enter Size : L
Enter Quantity: 500
Type of T-Shirt : Jersey
Price : RM200000.00
Total Price : RM200000.00
Anymore order? (1= Yes/ 0= No) : 1
Enter T-Shirt Code (C= Cotton, J= Jersey ,M= Microfibre): M
Enter Colour :BLACK
Enter Size : M
Enter Quantity: 200
Type of T-Shirt : Microfibre
Price : RM120000.00
Total Price : RM320000.00
Anymore order? (1= Yes/ 0= No) : 0
```

```
=========================================================
Enter Country Code (I= Indonesia, B= Brunei, S= Singapore) : I
Total Quantity : 700
Shipping Fee : RM150.00
=========================================================

Total Payment: RM320150.00

THANK YOU FOR SHOPPING WITH US XOXO <<33
```

15. INTERFACE PROTOTYPE



16. WORK DISTRIBUTION



NOR MIMI AZURA BINTI HUZAIMI

- Case study
- Early analysis of case study
- Desk checking
- Data dictionary
- Interface prototype
- Work distribution

MIZA SYAZWANA BINTI MOHD SAFIAN

- Group meeting report
- Problem analysis chart (PAC)
- Interactivity chart (IC)

- Input processing output chart (IPO)
- Coupling diagram

NUR SABIHAH BINTI ANUAR

- Algorithm without module
- Flowchart without module
- Algorithm- with module (parameter passing)
- Flowchart- with module (parameter passing)
- Programming (sequence of input/ output)

EVERYONE

- Discussion to choose case study
- Exchange idea for programming until success
- Contribute to completing the task