A211 STIA1113 – PROGRAMMING 1 (GROUP C)

ASSIGNMENT 3

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MATRICS NUMBER : 287456

TOPIC : LIFESTYLE

SUBTOPIC : WATCHES

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1. IDENTIFY THE PROBLEM

A watch is a portable timepiece intended to be carried or worn by a person. It is designed to keep a consistent movement despite the motions caused by the person's activities. However, technology is more advanced and we have smart watches nowadays. A smartwatch is a wearable computer in the form of a watch while modern smartwatches provide a local touchscreen interface for daily use with an associated smartphone app provides for management and telemetry. Telemetry is the collection of data in position or at remote points and their automatic transmission to receiving equipment which is used for telecommunication for monitoring. Modern smartwatches have more general functionality closer to smartphones, including mobile apps, a mobile operating system and WiFi or Bluetooth connectivity as well as fitness tracking. There are many electronics companies or information technology company produces modern smart watches such as Samsung Electronics, Huawei Technology Company, Xiami Corporation, Apple Inc. and so on. Xiaomi Mi Smart Band 4 is an activity tracker which is also a type of the smart watches is manufactured by Anhui Huami Information Technology Co. Ltd and is released on 11 June 2019. This product has 512KB memory, 16GB storage and water resistance until 50m underwater. This product has functions of instantly view call, text, app notifications and music in play. This product can 24/7 heart rate monitoring, sleep tracking and fitness tracking. 24/7 heart rate monitoring means that the device is able to monitor the user's heart rate anytime daily and alerts the user if the heart rate is abnormal. For the fitness tracking, the device is able to display different features which are duration of time exercised, calories burned, heart rate and distance travelled for different sports such as battle ropes, running, swimming, power walking and cycling. However, this device does not enable the user to set their goal for burning calories and does not have the feature to monitor the user to exercise more to reach their goal yet.

2. UNDERSTAND THE PROBLEM

The new smartwatch, Xiaomi Mi Smart Band 4, are able to display time exercised, distance travelled and calories burned for exercising. However, the user is unable to set a goal to burn an amount of calories daily. Besides, the user is not sure about the speed of exercising and the duration of time the user still needs to exercise to achieve the daily goal.

3. IDENTIFY ALTERNATIVE WAYS TO SOLVE THE PROBLEM

I. Use number of steps to consider whether we have achieved our goal

II. Uses timer to fix the time for exercising

III. Calculate speed, uses the time taken, distance travelled and calories burned to determine the duration to reach the goal.

4. SELECT THE BEST WAY TO SOLVE THE PROBLEM FROM THE LIST OF ALTERNATIVE WAYS.

The first way is not too accurate as the length of footsteps varies from one to another. The second way is not the best way either as the time for exercising will not be flexible. The third way should be the best way as it is more flexible and more accurate.

5. LIST INSTRUCTIONS THAT ENABLE YOU TO SOLVE THE PROBLEM USING THE SELECTED SOLUTION

a) Get the personal details, which are name, age, weight, height, gender from user
b) Get the goal from the user
c) Get the activity level from the user
d) Get the distance travelled, x, time taken, y and calories burned, z shown on the screen of the smart watch
e) Calculate Resting Metabolic Rate, RMR and Total Daily Energy Expenditure, TDEE
f) Calculate the calories needed daily if the user is trying to lose weight or gain weight
g) Calculate speed
h) At s speed, after y minutes, we can burn z calories.
i) Calories burned in one minute, c1
j) Calories yet to burn, c2
k) Time needed to achieve goal
l) Calculate the price for updating the program and the discount given with or without membership

6. EVALUATE THE SOLUTION

By adding in the features for users to set their daily goals to burn calories, the users will be motivated to exercise more and try to achieve their daily goals so that the activity report generated weekly in the associated application in the smartphone will look nicer and to maintain good health. The smartwatch will also display the duration of time and the calories yet to be burned so that the user can always know how long they need to exercise to achieve their daily goal. Users can have an idea about their speed of exercising and can try to improve it. In long term, it will become a habit for the user to exercise and reach the daily goal. The users will be fit and will be in good health as they are able to track their fitness, heart rate and are alert of any abnormal figures when they exercise. The metabolic rate of the body will be improved and can prevent diseases such as obesity, high blood pressure, atherosclerosis and so on besides always looks younger and healthier. Atherosclerosis is a type of disease with the narrowing of artery caused by the build-up of fats, cholesterol and other substances. In short, the features added will promote a healthy lifestyle and the users will be satisfied to improve their quality of living.

7. ALGORITHM

a) Print out shop details such as shop name, address, careline, phone number and fax number

b) Introduce the features of the updating program

c) Redirect the user to the trial after updating the program.

d) Get the name, age, gender, weight in kg, height in cm from user.

e) Get the activity level from user.

f) Get the daily goal, the distance travelled, x, time taken, y and calories burned, z shown on the screen of the smart watch from user.

g) Calculate the rmr = 10*weight + 6.25*height - 5*age + s and tdee = rmr*activity level, where RMR is the Resting Metabolic Rate, TDEE is the Total Daily Energy Expenditure and integer s is -161 for female and 5 for male

h) Calculate the calories needed daily if the user is trying to lose weight or gain weight

   Calories needed daily if losing weight = tdee *0.8,

   Calories needed daily if maintaining weight = tdee,

   Calories needed daily if losing weight = tdee *1.2,

i) Calculate recommended goal = tdee * 0.2

j) Calculate maximum calories to burn daily = rmr *2.5,

   Maximum calories to burn should be less than the goal for health reasons.

k) Calculate speed = x/y; // speed = distance traveled / time taken

   c1 = z/y; // c1 = calories burned in one minute = calories burned / time taken

   c2 = goal - z; // c2=calories yet to burn in order to achieve the daily goal

   time needed to achieve goal = c2/c1;

   type of exercise = jogging or running,

l) Output mini game for promotion “Guess X”

   A random number X is selected between 1-50, members have 5 guesses while non-member has 3 guesses.

m) Calculate the price for updating the program and the discount given

   Original Price = RM 150

   Membership Fee= RM10

   Discount for member = 20%

   Discount for non-member = 5%

Discount for member winning mini game = 30%

Discount for non-member winning mini game = 8%

n) Calculate

For member

Final price = 160 * 0.8

= 128

Discount price =160 * 0.2

= 32

Discount Rate = 20.00 %;

For non-member

Final price = 150 * 0.95

= 142.50

Discount price = 150 * 0.05

= 7.50

Discount rate = 5.00%

For member winning mini game

Final price = 160 * 0.7

= 112

Discount price =160 * 0.3

= 48

Discount Rate = 30.00 %;

For non-member winning mini game

Final price = 150 * 0.92

= 138

Discount price = 150 * 0.08

= 12

Discount rate = 8.00%

amount paid, cash;

change = cash – price;

o) Print RMR, TDEE, speed, calories burned in one minute, calories yet to burn in order to achieve the daily goal and time needed to achieve goal.
p) Direct the user to the payment using cash or card.
q) Print receipt with shop name, address, careline, phone number, fax number, original price, discount price, discount rate, final price, the amount paid and the change.

8. PSEUDOCODE

START

Output Details of Shop

Output Introduction of Program

Output "Please enter 1 for updating program."

Input service

Redirect User to Trial

Trial starts

Output “Enter your name.”

Input name

Output “Enter your age.”

Input age

Output “Enter your gender.”

Input gender

Output “Enter your weight in kg.”

Input weight

Output “Enter your height in cm.”

Input height

Output “Enter your activity level based on: **1.2,** or sedentary (little to no exercise), **1.375,** or lightly active (light exercise 1–3 days per week), **1.55,** or moderately active (moderate exercise 3–5 days per week), **1.725,** or very active (hard exercise 6–7 days per week), **1.9,** or extra active (very hard exercise, training, or a physical job) ”

Input activity level

Calculate RMR = 10*weight + 6.25*height - 5*age + s

If (gender = female), s = -161,

Else if (gender = male), s = 5,

Calculate TDEE = RMR * activity level

Output TDEE and RMR,

Output “Are you trying to lost weight?”

Input lose

Calculate the calories needed daily if the user is trying to lose weight, gain weight or maintaining weight

If losing weight

Calories needed daily = tdee *0.8,

Else if maintaining weight

Calories needed daily = tdee,

Else if losing weight

Calories needed daily = tdee *1.2,

Calculate recommended goal = tdee * 0.2

Calculate maximum calories to burn daily = rmr *2.5,

Output “Please enter your goal to burn calories today.”

Input goal

While(goal > maxCalories)

Output “Warning! Your calories needed by your body is not enough. Please re-enter your goal to burn calories today.”

Input goal

Output “Enter your distance travelled in metre, x.”

Input x

Output “Enter the time taken to travel x distance, y.”

Input y

Output “Enter the calories burned shown on the screen on the smart watch, z.”

Input z

Calculate speed= x / y

Calculate calories burned in one minute, c1 = z / y

Calculate calories yet to burn in order to achieve the daily goal, c2 = goal - z

Calculate time needed to achieve goal = c2 / c1

Output speed

If (speed >= 107.23 && speed <= 160.9)

Output "You are jogging."

Else if(speed>160.9)

Output "You are running"

Output calories burned in one minute

Output calories yet to burn in order to achieve the daily goal

Output time needed to achieve goal

Trial Completed

User directed to payment

Output “Welcome to mini game. A random number X is selected between 1-50.

Members have 5 guesses while non-members have 3 guesses. A hint will be given for every wrong guesses.”

Output “Would you like to be our member? Please input ‘1’ for yes and ‘2’ for no.”

Input member

Output “original price = RM 150”

Output “membership price = RM 10”

Output “Discount for member: 20%, non-member: 5%, member winning the mini game: 30%, non-member winning the mini game: 8%”

Calculation for final price, discount price

If (member = 1)

If wins mini game

Calculate final price for member winning mini game = 160 * 0.7

Calculate discount price for member winning mini game = 160 * 0.3

Else

Calculate final price for member = (150 + 10) * 0.8

Calculate discount price for member = (150 + 10) * 0.2

Else if(member = 2)

If wins mini game

Calculate final price for non-member winning mini game = 150 * 0.92

Calculate discount price for non-member winning mini game = 150 * 0.08

Else

Calculate final price for non-member = 150* 0.95

Calculate discount price for non-member = 150* 0.05

Output “Do you want to pay with cash or card? Please insert 1 for cash and 2 for card.”

Input type of payment

If(pay=2)

Output "Please enter your numerical password. "

Input password

Output "Please re-enter your password."

Input password1

For (k=3; k>=0; k--)

If(k==0)

```
                Output "LOGIN FAILED. Please pay by cash. Please enter 1."
                Input pay
                break;

            If (password == password1)
                Output "Correct password. "
                Output "The final price you should pay is RM " + price
                Input cash
                break;
            Else if(password != password1)
                Output Wrong password. "
                Output "You have "+k+" more chance(s). Please re-enter your
                    password."
                Input password
Else if(pay ==1)
        Output "The final price you should pay is RM " + price
            Output "Please enter the amount you want to pay."
        Input cash
        While(cash<price)
            Output "The final price you should pay is RM " + price
                Output "Please re-enter the amount you want to pay."
            Input cash
         If(cash==price)
            Output "The final price you paid is RM " + cash
```

Else if(cash>price)

change=cash-price;

Output "The final price you paid is RM " + cash

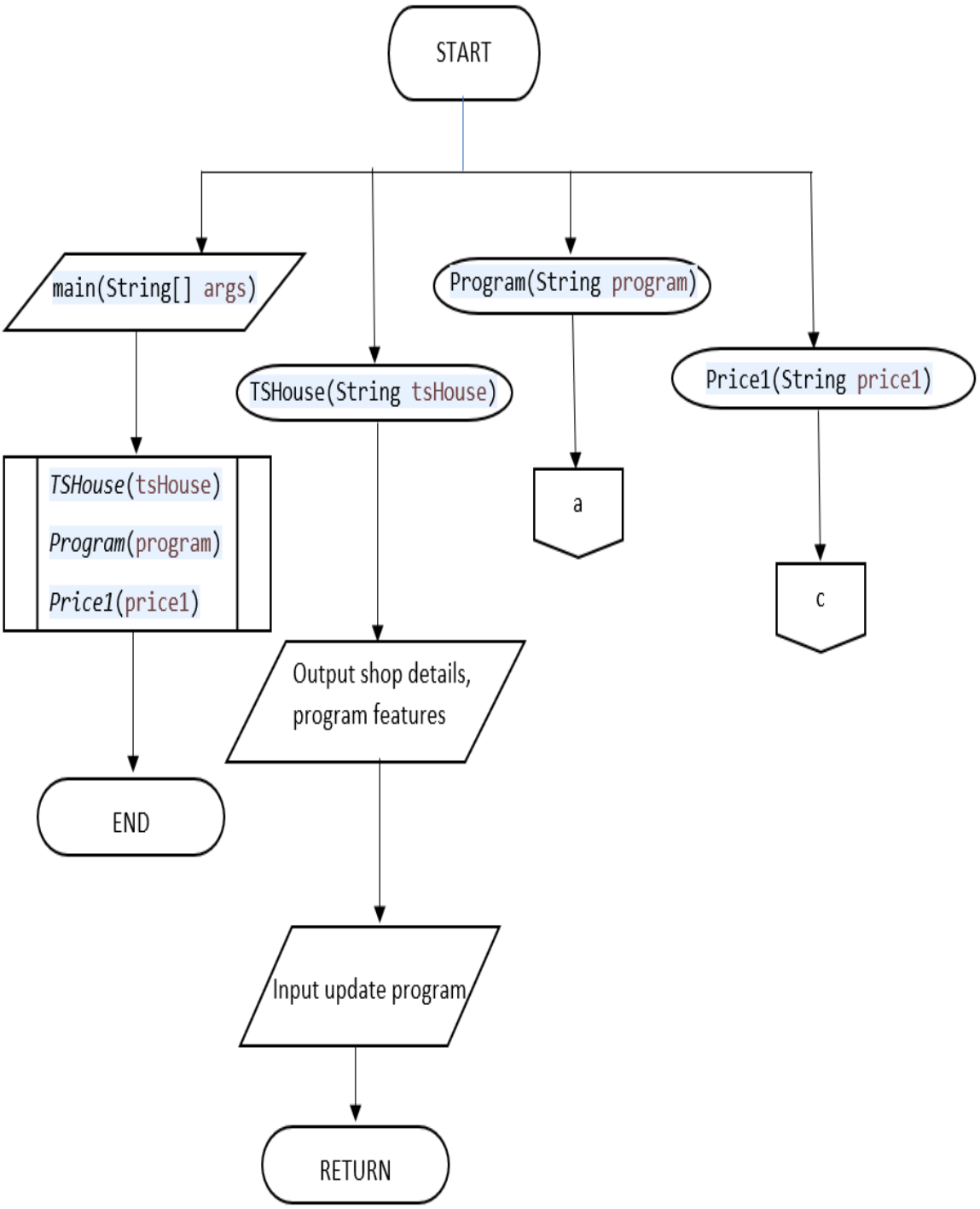
Output "The is your change RM " + change

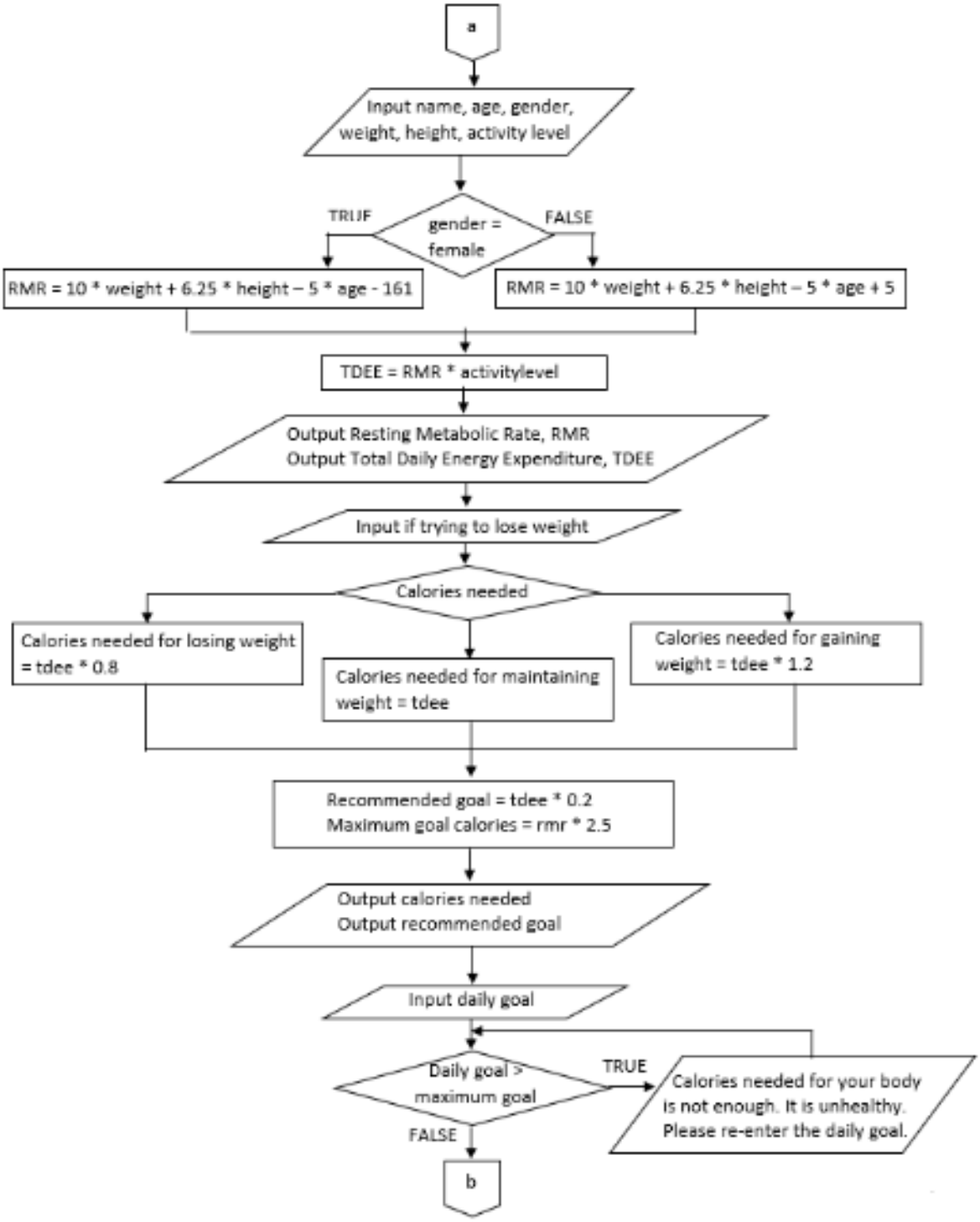
Output receipt which includes shop name, shop address, shop phone number, shop fax number, original price, discount price, final price, cash, change

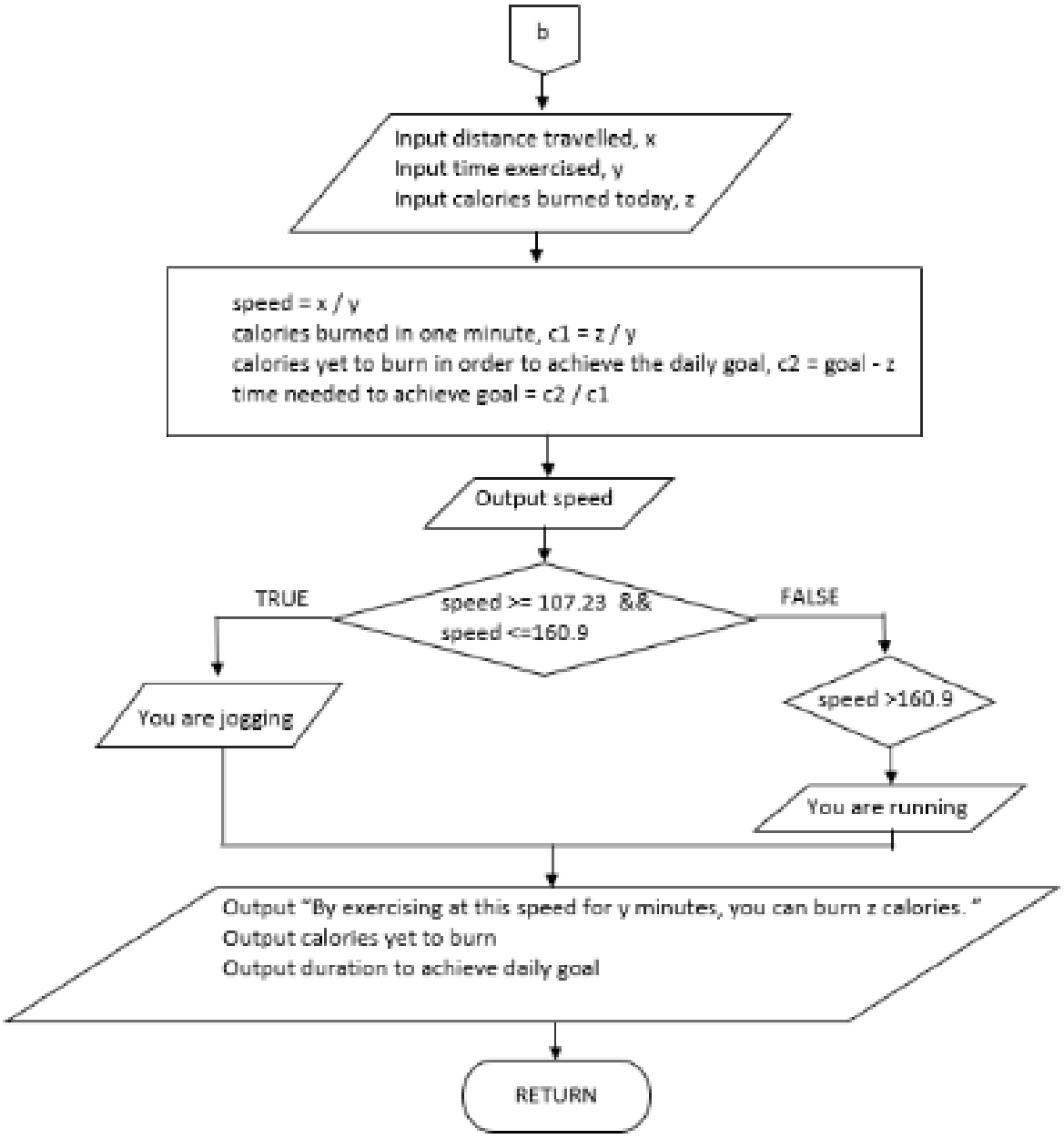
Output “Thank you. Please come again.”

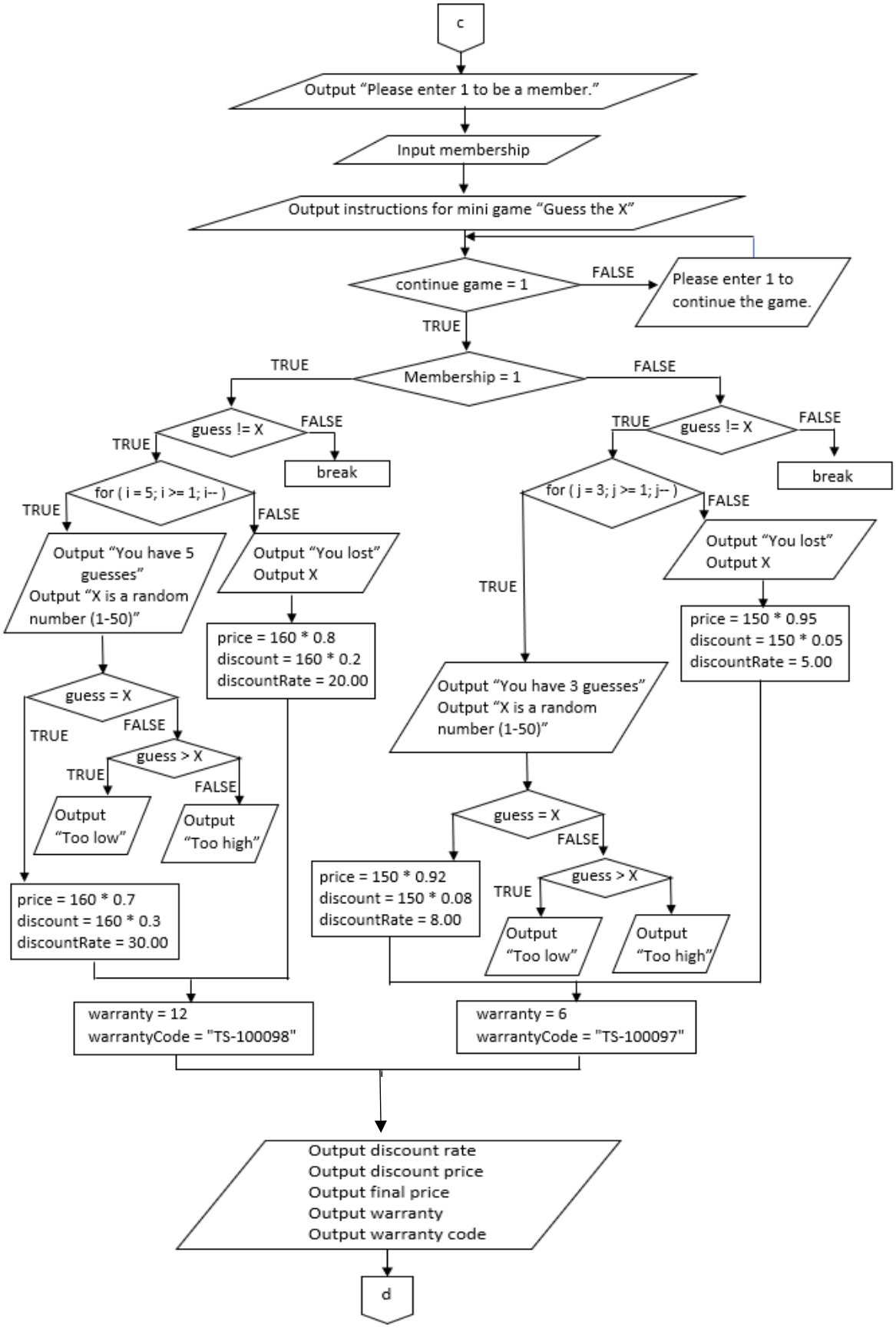
END

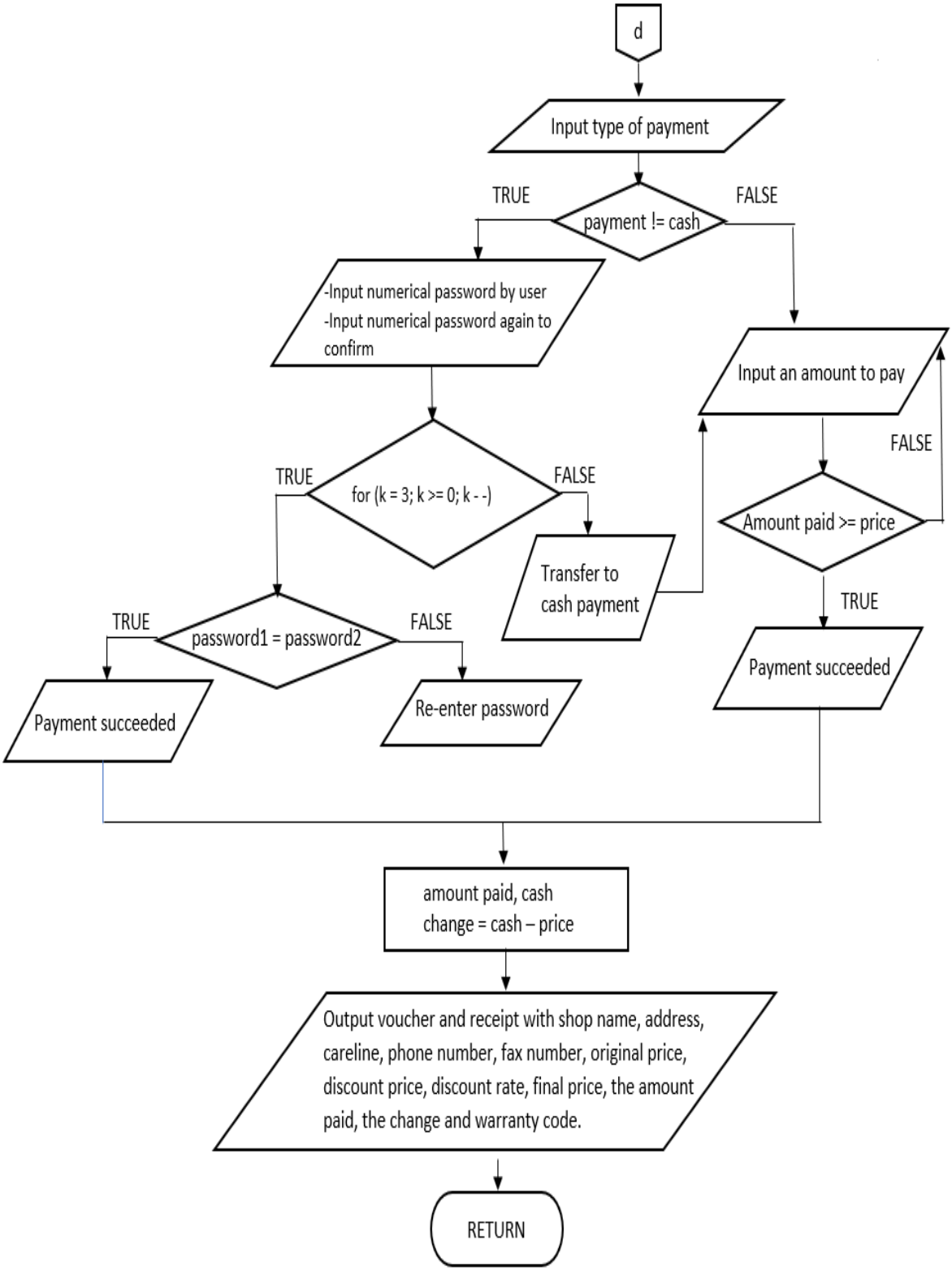
9. FLOWCHART


START
main(String[] args)
TSHouse(String tsHouse)
Program(String program)
Price1(String price1)
TSHouse(tsHouse)
Program(program)
Price1(price1)
a
c
Output shop details,
program features
END
Input update program
RETURN


a
Input name, age, gender, weight, height, activity level
gender = female
TRUE
FALSE
RMR = 10 * weight + 6.25 * height – 5 * age - 161
RMR = 10 * weight + 6.25 * height – 5 * age + 5
TDEE = RMR * activitylevel
Output Resting Metabolic Rate, RMR
Output Total Daily Energy Expenditure, TDEE
Input if trying to lose weight
Calories needed
Calories needed for losing weight = tdee * 0.8
Calories needed for maintaining weight = tdee
Calories needed for gaining weight = tdee * 1.2
Recommended goal = tdee * 0.2
Maximum goal calories = rmr * 2.5
Output calories needed
Output recommended goal
Input daily goal
Daily goal > maximum goal
TRUE
Calories needed for your body is not enough. It is unhealthy. Please re-enter the daily goal.
FALSE
b


b
Input distance travelled, x
Input time exercised, y
Input calories burned today, z
speed = x / y
calories burned in one minute, c1 = z / y
calories yet to burn in order to achieve the daily goal, c2 = goal - z
time needed to achieve goal = c2 / c1
Output speed
speed >= 107.23 &&
speed <=160.9
TRUE
FALSE
You are jogging
speed >160.9
You are running
Output "By exercising at this speed for y minutes, you can burn z calories. "
Output calories yet to burn
Output duration to achieve daily goal
RETURN


c
Output "Please enter 1 to be a member."
Input membership
Output instructions for mini game "Guess the X"
continue game = 1
FALSE
Please enter 1 to continue the game.
TRUE
Membership = 1
TRUE
FALSE
guess != X
FALSE
TRUE
break
for (i = 5; i >= 1; i--)
TRUE
FALSE
Output "You have 5 guesses"
Output "X is a random number (1-50)"
Output "You lost"
Output X
price = 160 * 0.8
discount = 160 * 0.2
discountRate = 20.00
guess = X
TRUE
FALSE
guess > X
TRUE
FALSE
Output "Too low"
Output "Too high"
price = 160 * 0.7
discount = 160 * 0.3
discountRate = 30.00
warranty = 12
warrantyCode = "TS-100098"
TRUE
guess != X
FALSE
break
for (j = 3; j >= 1; j--)
FALSE
Output "You lost"
Output X
price = 150 * 0.95
discount = 150 * 0.05
discountRate = 5.00
TRUE
Output "You have 3 guesses"
Output "X is a random number (1-50)"
guess = X
FALSE
price = 150 * 0.92
discount = 150 * 0.08
discountRate = 8.00
guess > X
TRUE
Output "Too low"
Output "Too high"
warranty = 6
warrantyCode = "TS-100097"
Output discount rate
Output discount price
Output final price
Output warranty
Output warranty code
d


d
Input type of payment
TRUE
payment != cash
FALSE
-Input numerical password by user
-Input numerical password again to confirm
Input an amount to pay
FALSE
TRUE
for (k = 3; k >= 0; k - -)
FALSE
Amount paid >= price
Transfer to cash payment
TRUE
TRUE
password1 = password2
FALSE
Payment succeeded
Payment succeeded
Re-enter password
amount paid, cash change = cash – price
Output voucher and receipt with shop name, address, careline, phone number, fax number, original price, discount price, discount rate, final price, the amount paid, the change and warranty code.
RETURN

10.CODING

https://github.com/STIA1113-GROUP-C-WAN-RUI-YIN/ASSIGNMENT-3.git

A211 STIA1113 – PROGRAMMING 1 (GROUP C)

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MATRICS NUMBER : 287462

TOPIC : LIFESTYLE

SUBTOPIC : SHOES

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1.IDENTIFY THE PROBLEM

The sport shoes shops are selling sport shoes that provided for both men and women, that available at any wanted size. The shoes are mainly designed for sports or for any form of physical exercise. However, with nowadays trend the sport shoes are now widely used for everyday casual wear. The first few company that introduce sport shoes are (Converse, Nike and Spalding) which happen in the mid20th century which base at United Kingdom. Sport shoes or widely use by people in United Kingdom “Sneakers” being called so because in 1917 by American Henry Nelson McKinney, who was an advertising agent for N. W. Ayer & Son. He used the term “Sneaker” because the rubber sole made the shoe’s wearer stealthy.

“Sneaker” was referred to how quiet the rubber soles were on the ground, in contrast to noisy standard hard leather sole dress shoes. Those who wears sneaker could “sneak up” which those who wearing the standard could not. The first ever running shoes were made by a British company called J. W. Foster and Sons in 1895 the shoes were designed with spike to allow for greater traction and speed.

The revolution of sport shoes leads to a lot of new brands and types arises. Now we got Adidas, Puma, Skechers, Nike, Line2 and many more. Buying sport shoes or any kind of shoes now always come with box. At the box have a lot of information about the shoes for shoes for example size, brands, price and etc.

The tags mostly are very easy to come off, wet, and dirty because made of paper. By opening my sport shoes shop, a shop that use a tag that made out of plastic-based, so that it will not get wet and come off easily. The name of the shops are “RAYYAN SPORT SHOES SHOP”. The location will be located at University Utara Malaysia near V mall. The name of manager is Gina and workers name are Ayuni, Laila and Kila that can assist the customers efficiently. For any reservation or question can directly call 011-11015202 or email rayyansportshoes@gmail.com

2. UNDERSTAND THE PROBLEM

New stock of sport shoes from ADIDAS, PUMA, SKECHERS, NIKE, LINE7 arrive to the shop at 9am today. As always new tag needs to be print out using plastic-base, however a customer come and wants specific sport shoes from the new arrival. The workers need to key in the data in the computer and then print out the tag and setting up the sets and offers to satisfied the requirement from the customer in short amount of time.

3.Alternative ways

Make a tag at the box of the shoes contain all information such gender, size, brands, design(type) and sets that come with offers one by one.

Use a scanner that can scan and print the tag without even need to open the box.

Use the old printed tag at the shoes

4.BEST WAYS

The best way to get the tag with short amount of time will be alternative way number two because the scanner can print the tag in a short amount of time which make it more efficient

and no problem will occur in the future. Alternative way number one will take a quite amount of time that might make the customer get angry. Meanwhile alternative way number three will be easier to just sell it however later the tag will come off, dirty or wet.

5.INSRUCTIONS

1. Enter the name of customers and gender

2. Gender will be categories base on size

3. Enter shoes size

4. The shoes size will be included into the total price, the larger the feet size the higher the price

5.Enter wanted brand and type of sport shoes

6. Enter the wanted sport shoes design, the design will be also included in total price. The price for designed shoes will affect the price

7. Enter the customer chosen set

8. Price for brand will be based on brand(type)

9. Enter type of payment weather in cash or card

10. Buyers that bought a certain set will get offer base on terms and condition apply

11. Member ship card will get a lot of advantage from the shop

12. Free gifts will get voucher 50% for next purchase

13.The tag will be print out with all of the information

6. EVALUATE SOLUTION

The tag will be print out accurately on plastic-base in short amount of time that will not get wet, dirty or easily come off from the box. The tag will contain all the details of the purchase including name, gender, shoes size, design, brand(type) and total price which come with offers for certain type of the shoes. By that the information of the sport shoes owner will last longer on the box.

7.ALGORITHM

1. Get the name, gender and size from the user

2. Get the user wanted design, and brand(type)

3. The price for size based on gender and price for design will be added after the total price

4. Size 30-33, 34-37 and 38-40 for women will be RM1.00, RM2.00 and RM3.00 respectively

5.Size 37-40, 41-44, 45-48 for men will be RM3.00, RM4.00, and RM5.00 respectively

6.Design for plain with chosen color, stripe, air max, autumn travel and limited edition will be RM60, RM80, RM100, RM150 and RM200 respectively

7.For brand Adidas, Puma, Skechers, Nike and Line7 with any chosen type will RM2.00, RM2.50, RM3.00, RM3.20, RM3.50 respectively that will be added after the price calculation

8.User need to key in which set is chosen

9. for example, set b. Set B is for autumn travel and stripe only design that comes with any brand(type)

10.Set B offers is buy 2 gets 30% off for second shoes “Price set B + (price set B * 30%)

11.For example size 40, gender woman, brand(type) is Puma(flats) with autumn travel design and size 48, gender man, Line7(jogging) with stripe design in which RM2.00 for Puma brand and RM3.50 for Line7 brand

12. The calculation

For Puma(flats): RM3.00+ RM150.00 + RM2.50

For Line7(jogging): (RM5.00 + RM80.00 + RM 3.50) * 30%

Total price: RM155.50 + RM61.95 = RM217.45

FOR SIZE BASED ON GENDER

SIZE FOR WOMEN	FORMULA
30-33	Total price + RM1.00
34-37	Total price + RM2.00
38-41	Total price +RM3.00

SIZE FOR MEN	FORMULA
37-40	Total price + RM3.00
41-44	Total price + RM4.00
45-48	Total price +RM5.00

DESIGN

DESIGN	PRICE
Plain with chosen colour	RM60.00
Stripe	RM80.00
Air max	RM100.00
Autumn Travel	RM150.00
Limited edition (UV changing colour)	RM200.00

BRANDS

SPORT SHOES BRAND	Type	Price
ADIDAS	-Football -Hiking -Daily wear	Price design +RM2.00
PUMA	-Flats -Runners -Kicks	Price design + RM2.50 each
SKECHERS	-Works -Runners	Price design + RM 3.00

	-Hiking	
NIKE	-Football -Skate -Gym	Price design + RM3.20
Line7	-Cycling -Jogging -Tennis	Price design + RM 3.50

SETS WITH ANY BRAND

SET	LIST
A	Plain and Stripe only
B	Autumn Travel and Stripe only
C	Air max only
D	Limited edition only
E	PREMIUM (for ADIDAS AND PUMA brands only with any design)

Sets That Come with Offer

SETS	OFFERS	PRICE
A	Buy 1, free 1	Price set A + RM 0
B	Buy 2 gets 30% off for second shoes	Price set B + (price set B * 30%)
C	Buy 3 gets limited free gifts worth RM50	Price set C + free gifts
D	Buy 2 gets to wear test any brands with same by add RM5.00	Price set D + RM5.00
E	Get member ship card	Price set E + RM 10.00

Calculation of Total Price

Sets	Formula Price
A	(RM60.00 OR RM 80.00) + RM0
B	RM150.00 + (RM80 * 30%) OR RM80 + (RM150 *30%)
C	RM150.00 * 3 + FREE GIFTS
D	(RM200.00 * 2) + RM5.00
E	(RM60.00 OR RM 80.00 OR RM100.00 OR RM150.00 OR RM200.00) + RM10.00

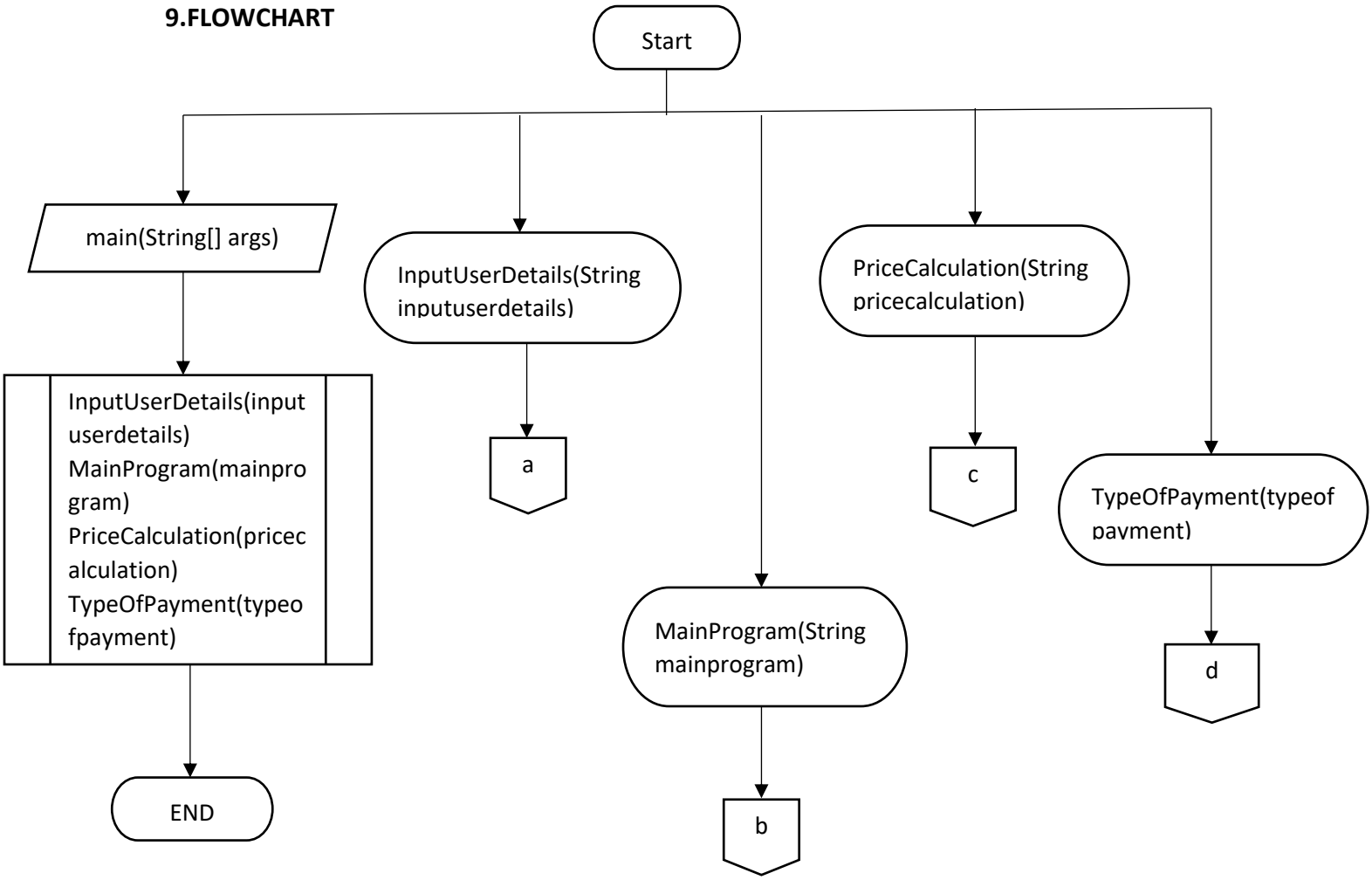
PRICE FOR SIZE AND BRANDS WILL BE ADDED AFTER TOTAL PRICE AMOUNT

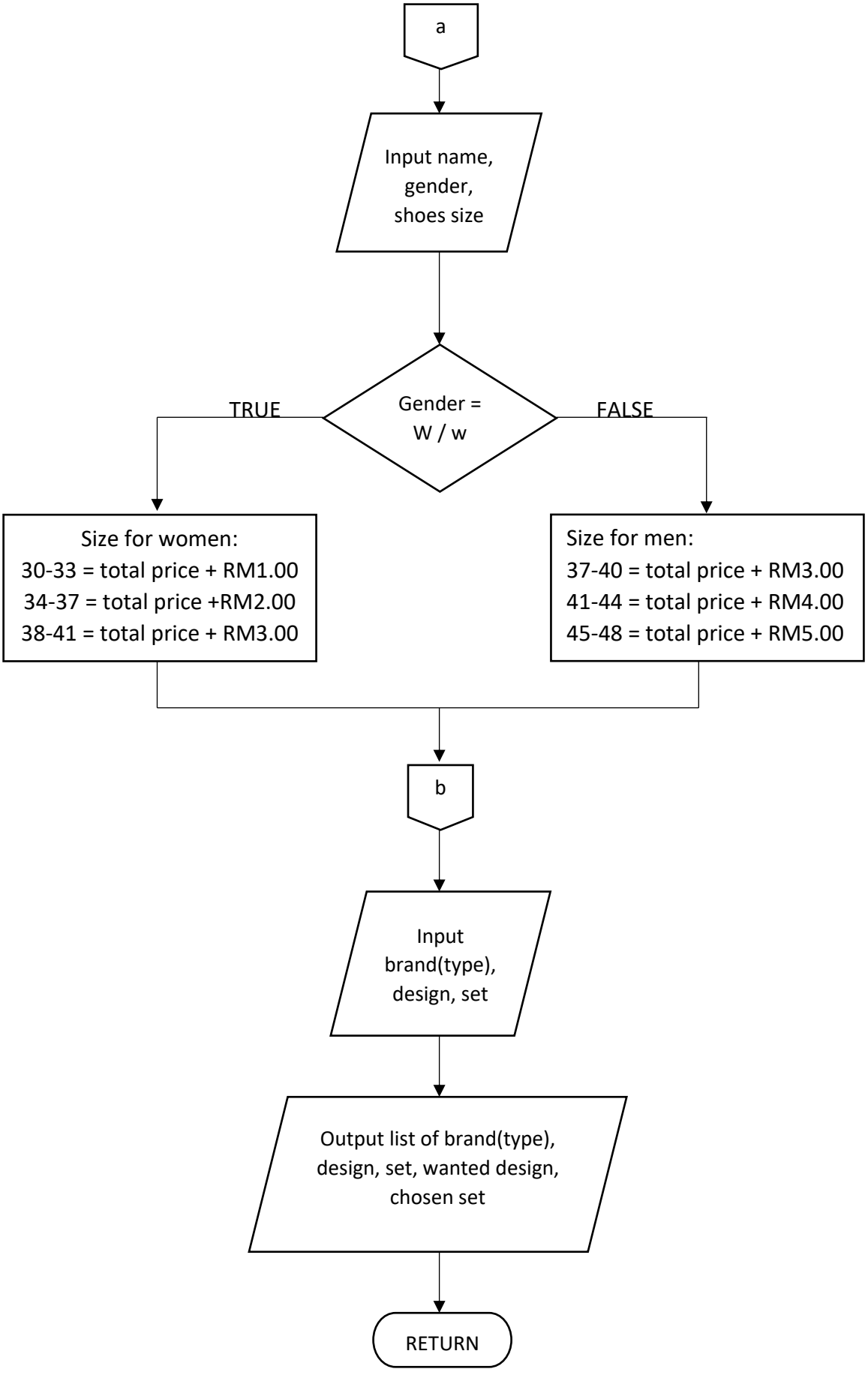
8.PSEUDOCODE

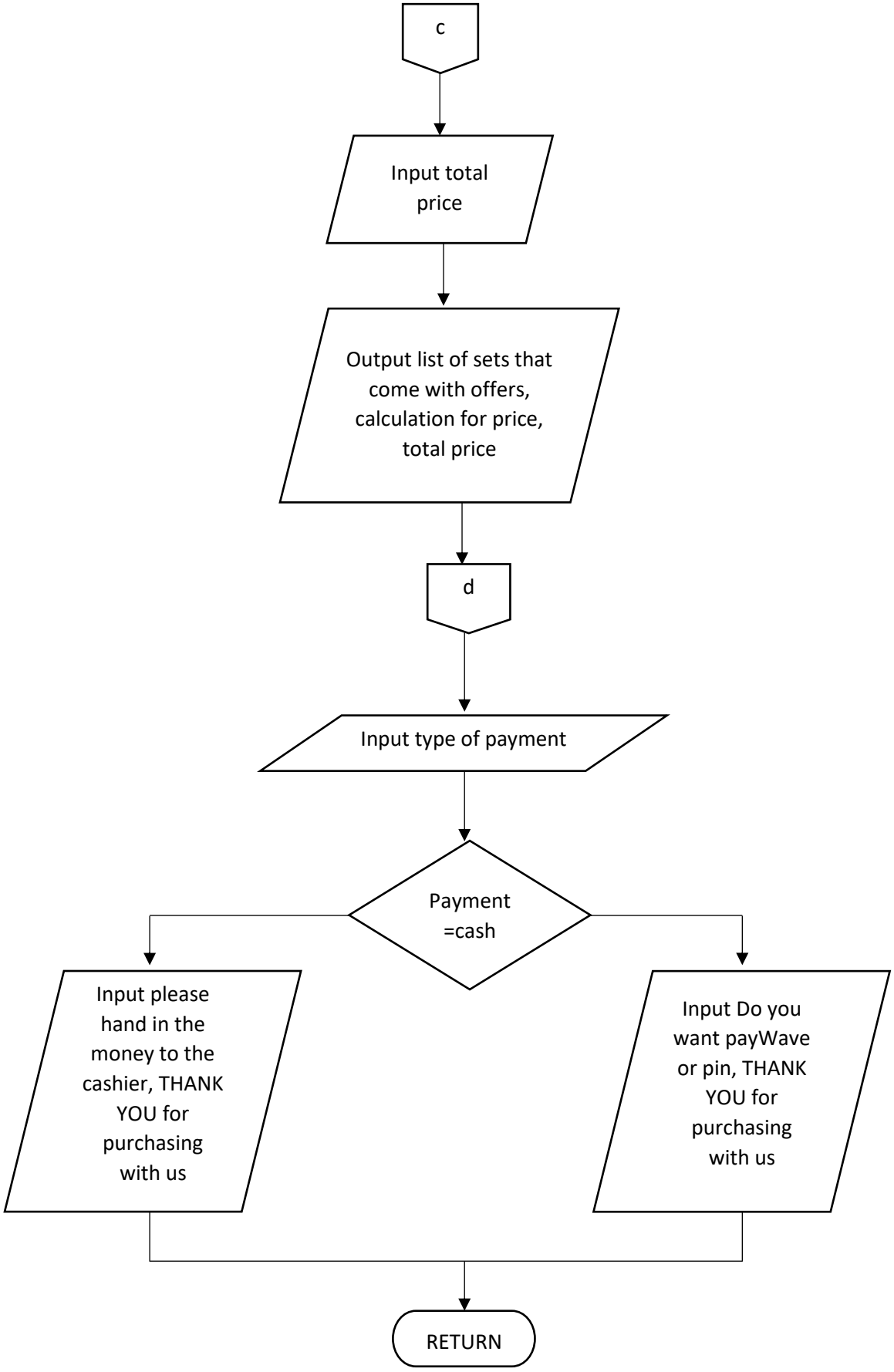
```
Start
        Output shop name
        Output “Please enter your name”
        Input name
        Output “Enter your gender (Women=W && Men=M)”
        If gender = W || w = list of women shoes size
        Else if gender = M || m= list of men shoes size
        Output “Enter your size”
        Input size
        Output list of brands and type
        Output “Enter brand(type)”
        Input brand(type)
        Output design
        Output sets with any brands
        Output “Your wanted design”
        Input design
        Output “Enter your chosen set”
        Input set
        Output sets that come with offers
        Output calculation for price
        Output “Total price”
        Input price
        Output “How do you wish to pay? (cash=1 && card = 2)”
        If cash = 1 = Please hand in the money to the cashier
        Else if cash = 2 = Do you want payWave or pin
        Output “if payWave please put your card here, if pin please input your pin”
        Output “THANK YOU for purchasing with us”


END
```

9.FLOWCHART


Start
main(String[] args)
InputUserDetails(String inputuserdetails)
PriceCalculation(String pricecalculation)
InputUserDetails(input userdetails)
MainProgram(mainpro gram)
PriceCalculation(pricec alculation)
TypeOfPayment(typeo fpayment)
a
c
TypeOfPayment(typeof payment)
MainProgram(String mainprogram)
d
END
b


a
Input name, gender, shoes size
Gender = W / w
TRUE
FALSE
Size for women:
30-33 = total price + RM1.00
34-37 = total price +RM2.00
38-41 = total price + RM3.00
Size for men:
37-40 = total price + RM3.00
41-44 = total price + RM4.00
45-48 = total price + RM5.00
b
Input brand(type), design, set
Output list of brand(type), design, set, wanted design, chosen set
RETURN


c
Input total price
Output list of sets that come with offers, calculation for price, total price
d
Input type of payment
Payment =cash
Input please hand in the money to the cashier, THANK YOU for purchasing with us
Input Do you want payWave or pin, THANK YOU for purchasing with us
RETURN

10.CODING

https://github.com/RayyanKamal28462/Assignment-3.git

A211 STIA1113 – PROGRAMMING 1 (GROUP C)

ASSIGNMENT 3

LECTURER : Prof. Madya Dr. Azman B Yasin

NAME : TAN GUAN XUN

MATRICS NUMBER : 287471

TOPIC : LIFESTYLE

SUBTOPIC : HANDBAGS

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IDENTIFY THE PROBLEM

A handbag, commonly known as a small bag which a woman uses to carry things such as her money and keys in when she goes out, or also known as a handled medium-to-large bag that used to carry personal items. Handbag is the general name of the objects used to carry goods made of different materials in different sizes and shapes. Handbags are one of the indispensable accessories for women today. The bags have been made of materials such as leather, straw or fabric since ancient times. Today, in addition to leather and fabric materials, petroleum-derived materials are also used.

For the shop that selling the handbags is ZALORA. ZALORA is Asia's leading online fashion destination. They are also well known as the largest and fastest growing fashion focused e-commerce site in Southeast Asia. The online store is well laid out and easy to use. During your first visit to ZALORA or when searching for a specific model, our customers and clients are guided through the shop step by step to complete their purchase quick and easily. ZALORA is here to bring you the best in women's fashion trends.

The main problem of this handbags is handbags are come in all shapes and sizes, but the main issue might be practically. Is the handbag up to the task of organizing? Is it functional? How heavy is it? Can it be easily finds items when needed? Might be some of the more pressing questions that are asked when searching for an "ideal" handbag. Most women are driven to purchase handbags that aren't very functional but are stylish in terms of color and brand. Come to find their choices backfire on them when they realize what a burden it is to carry around a handbag with that weights.

Problem:

Sizes and weight of handbags not suitable and become a burden to customers

Type of handbags and its purpose using not match

Customer cannot find their "ideal" handbag

Handbag's compartment not enough & not convenience for use (can't easily finds item when needed)

UNDERSTAND THE PROBLEM

Based on the problem listed above, a sort of research have been done to identify and understand the problem about the size and the weight of handbags, type of handbag, purpose using, handbag suggestion by the body shapes, and also the prices related to the handbags.

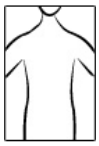
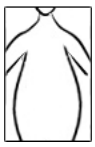
Handbag size chart by height and weight.

Height	**Recommend Size of handbag**
>175 cm	Large or Extra large
160 - 175 cm	Medium
<160 cm	Small

Weight	**Recommend Size of handbag**

>75kg	Large & Extra large
60 - 75kg	Medium or Large
45 - 60kg	Medium
<45kg	Small

Handbag suggestion chart by Body Type

Body Type		Suggestion Handbag
	Inverted Triangle Body Type	crossbody handbags hobo handbags shoulder handbags
	Triangle Body Type	satchel handbags
	Rectangle Body Type	satchel handbags hobo handbags
	Hourglass Body Type	tote handbags satchel handbags hobo handbags crossbody handbags shoulder handbags
	Apple Body Type	tote handbags

List of handbag and Main handbag sizes

Handbag types	Length (cm)	Width (cm)	Height (cm)
Clutch	from 14 to 19	from 20 to 30	from 11 to 20
Hobo	from 29 to 42	from 25 to 40	from 24 to 35
Satchel	from 15 to 26.5	30.5	from 30 to 32
Shopper	from 22 to 40	from 33 to 35	from 23 to 41
Travel	32	34	from 25 to 33

Cross-body	from 22 to 24	from 16 to 28	from 12.5 to 32
Sports	from 23 to 30	from 37 to 43	from 19 to 30
Beach	from 32 to 37	from 36 to 50	from 33 to 41
Messenger Bag	from 16 to 32	from 1 to 12	from 20 to 25
Sling Bag	from 17 to 32	from 1 to 12	from 21 to 25

*Formula for calculate size of handbag: (L) x (W) x (H)

List of material with price

Material	Price(RM)
Leather	RM90
Vegan Leather	RM25
Cotton Canvas	RM55
Nylon	RM30
Cordura (rough nylon fabric)	RM35
Denim	RM70

Accessories add-on (handbag compartment)

Items	Price(RM)
Adding compartment	RM10
Handle / Chain Strap	RM12
Zipper	RM3
Inner pocket	RM6
Clip / Key ring	RM2.50

ALTERNATIVE WAYS

input the customer's requirement and compare it with the data preset, then show the relevant result to the customer.

Suggest the relevant handbag's size, weight depends on the personal information provided by customer, then calculate whether the handbags is suitable for customer or not.

Provide a personalization feature for customer to make their own custom handbags. Calculate the price of the handbags depends on the specification of handbag selected (material,colour,size,weight and type of bag)

4. BEST WAY

The combination of 2nd and 3rd method is the best alternative way to collect an accurate data and information from the customer in order to suggest them the most suitable handbags for them. The calculation of the price of the handbags depends on the selection make and also the customer status of membership in the ZALORA shop. Combination of this two ways can allow the customer build their own ideal handbags based on their needs and budget. The other ways only can search the existing handbags that similar to the requirement of the customer but not the most suitable for them based on their needs. The prices might also not match and practical for them.

5. INSTRUCTIONS

Collect the data of the customer to ensure the size and weight of the handbags recommended are suitable for them. (height, weight, type of body shape)

Show the result of recommend size and weight of the handbags.

Customer will receive a list of the brand and type of handbags,and customer will start the selection for personalization feature of the handbags after done choosing the brand and type of the handbags.

Choose the feature and specification of the handbags. (Materials, accessories of the handbags, size and weight,color)

All the personalization feature choose will be calculate as its (Price * Quantity).

The price of the handbags will vary depends on the selection of the customer make.

Identify the membership status of the customer.

Offer will be available and be calculate if the customer fulfil the requirement.

Payment method will be chosen and proceed.

6. EVALUATE THE SOLUTION

The problem that facing in the handbags industry by most of the women will come along with a huge negative impact for the user itself. Yet, the unlikely trigger for your health problems could be the choice of bag. Carrying a heavy or overweight handbag on one side of the body leads to an imbalance in posture. It also presses muscles and nerves in the neck which run down to the shoulder and are severely strained due to constant load. If proper care is not taken in time, it can lead to frozen shoulder and arthritis. In the long term, you might end up with soft tissue injuries and posture misalignment without you even noticing.

The solution for these problems can greatly help the customer avoid a health hazard by carrying handbags that suitable for them base on their height and weight can reduced the risk of muscle pain and spine problems. A common side effect of using these overweight handbags is that one shoulder becomes slightly elevated. With customize and personalization handbags that make based on the need of customer, we can avoid to live with irregular shoulders and imbalance body shape that will result in negative impact for posture and can lead to discomfort. Besides, customization handbag that use to solve the problem can also provide the customer a handbags that perfect fit their needs and budget, because the customer can make their own decision while choosing their own handbags. This will allow the customer to save more money when most women are driven to purchase handbags that aren't very functional but are stylish in terms of color and brand. In addition, the handbags that sells on the online platform will also bring the convenience to the customer, especially in this era of pandemic. The customer will no need to pay for the service charge and also the transportation fees.

7. ALGORITHM

Introducing the online platform details, and ask the customer whether need suggestion for recommendation for customize handbags.

Get all the information from the customer, customer's height, weight and types of body shape.

Based on the information obtain, give the suggestion and recommend for the size, weight and type of handbag to the customer.

The customer can compare their personal information with the result of recommend size and weight of the handbags.

A list of the brand and type of handbags with prices will be show in a table that allow customer to make their own choice based on their own preference.

After done choosing the brand and the type of the handbags, the customer will be proceed to the next section which is Personalization section for the handbags.

A list of the personalization section will be shown by the following sequence:

List of material with prices

List of accessories add-on with prices

List of color

List of size of handbags

Customer will be ask to select their custom handbag compartment, material used, color and also accessories with quantity.

All the personalization feature choose will be include its prices with the price of handbag chosen.

The price of the handbags will vary depends on the selection of the customer make.

Calculation:

total_material_price = material_price * quantity (default 1)

total_accessories_price = accessories_price * quantity

total_handbag_price = handbag_price + total_material_price +
total_accessories_price + color_price + size_price

total_price = total_handbag_price + shipping_fees

Calculation for customer with membership:

total_price_membership = (total_price - shipping_fees) * 90/100

money_change = total_price - amount_paid

Identify the membership status of the customer, ask the customer to renew the membership if the membership is invalid, expire or unregistered.

Offer will be available and be calculate if the customer fulfil the requirement.

The order that make by customer will be print out to double confirm.

Payment method will be chosen and proceed.

Voucher coupon for the online platform will be given.

8. PSEUDOCODE

START

Output the shop details

Output “Do you want to obtain suggestion”

Input Yes/No

Output “Enter your height”

Input height

Output ”Enter your weight”

Input weight

Output “List of body type: Inverted Triangle Body Type,Triangle Body Type,Rectangle Body Type,Hourglass Body Type,Apple Body Type”

Output”Select your body type”

Input body type

Output List of handbag size chart by height and weight

Output “Handbag suggestion chart by Body Type”

Output Recommendation result.

Output List of brand

Output “Please select the brand of the handbag”

Input brand

Output List of handbags type

Outpur “Please select the type of handbag”

Input type of handbags

Output “Personalization Section”

Output List of material with prices

Output “Please select the material of the handbag”

Input material of handbag

Output “Accesssories Add-on(Handbag Compartment)”

Output List of accessories with prices

Output “Please select your accessories add-on”

Input accessories

Output “Please enter the quantity”

Input quantity

Output “Color Selection”

Output List of color with prices

Ouput “Please select your color”

Input color

Output “SIze selection”

Output List of size with prices

Ouput “Select the size of handbag”

Input selection

Output “Membership”

Output “10% offer and free premium gift will be available for membership”

Output “Free Shipping will also be available for membership”

Output “Zero interest for installment payment”

Ouput “Do you have a membership?”

Input answer yes or no

Output “Enter you member id”

Input id

Calculate total material price = material price *quantity (default 1)

Calculate total accessories price = accessories price * quantity

Calculate total handbag price = handbag price + total material price + total accessories price + color price + size price

Calculate price with shipping fees = total handbag price + shipping fees

Calculate membership offer price = total price * 10/100

Calculate total price with membership = (total price with shipping fees - shipping fees) * 90/100

Output “Confirm Order”

Output “The brand and the type of handbag you choose is:”

Output “The material you choose is:”

Output “The accessories add-on you choose is:”

Output “The color you choose is:”

Output “The size of handbag you choose is:”

Output “Enter the price of handbag:”

Input price of handbag

Output “Enter the price of material you choose:”

Input price of material

Output “Enter the price of accessories add-on you choose:”

Input price of accessories

Output “Enter the price of the color:”

Input price of the color

Output “Enter the price of the size :”

Input price of the size

Output the result of calculation with total price

Output “Please enter the amount paid”

Input amount paid

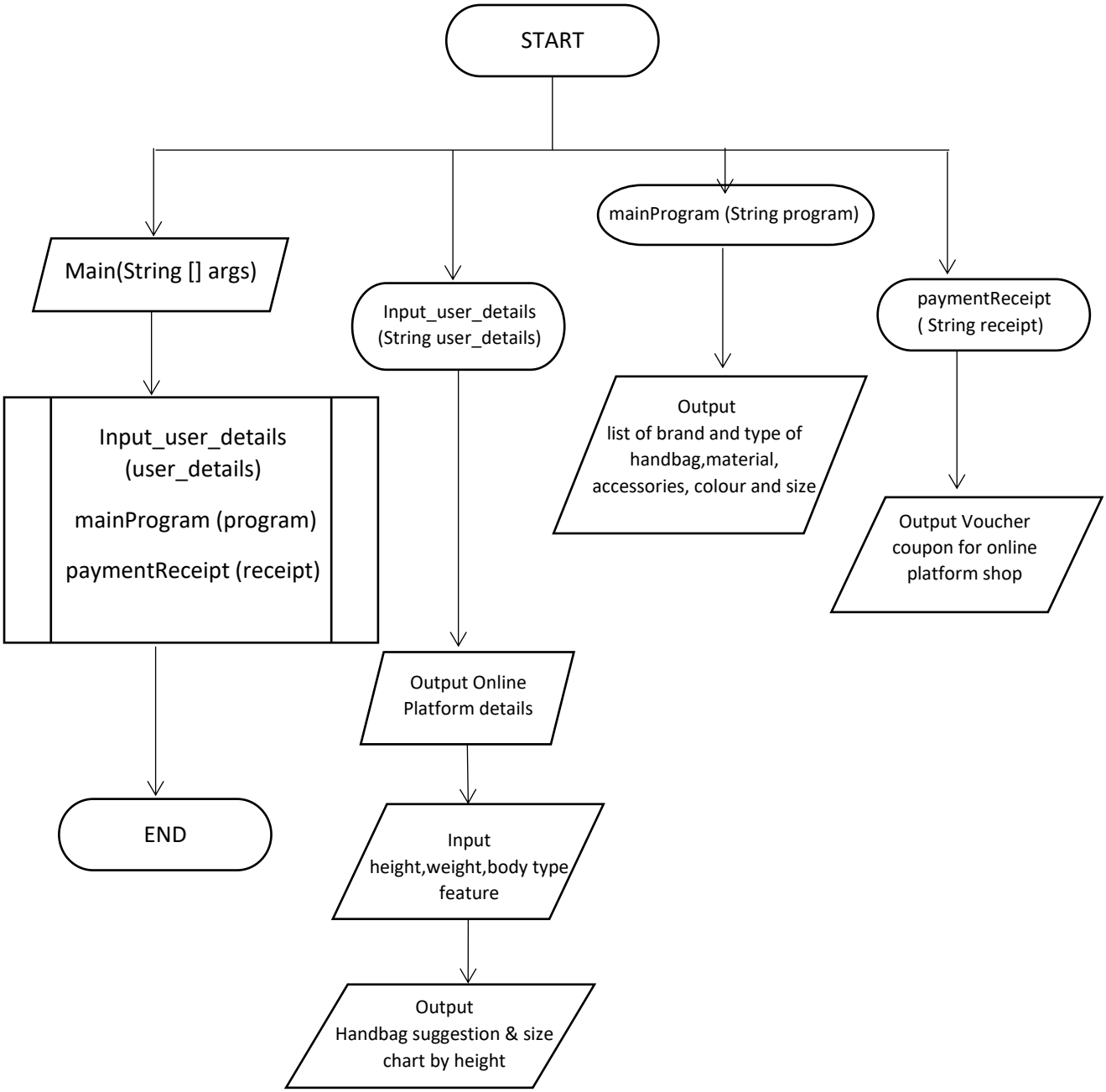
Calculate the change = total price - amount paid

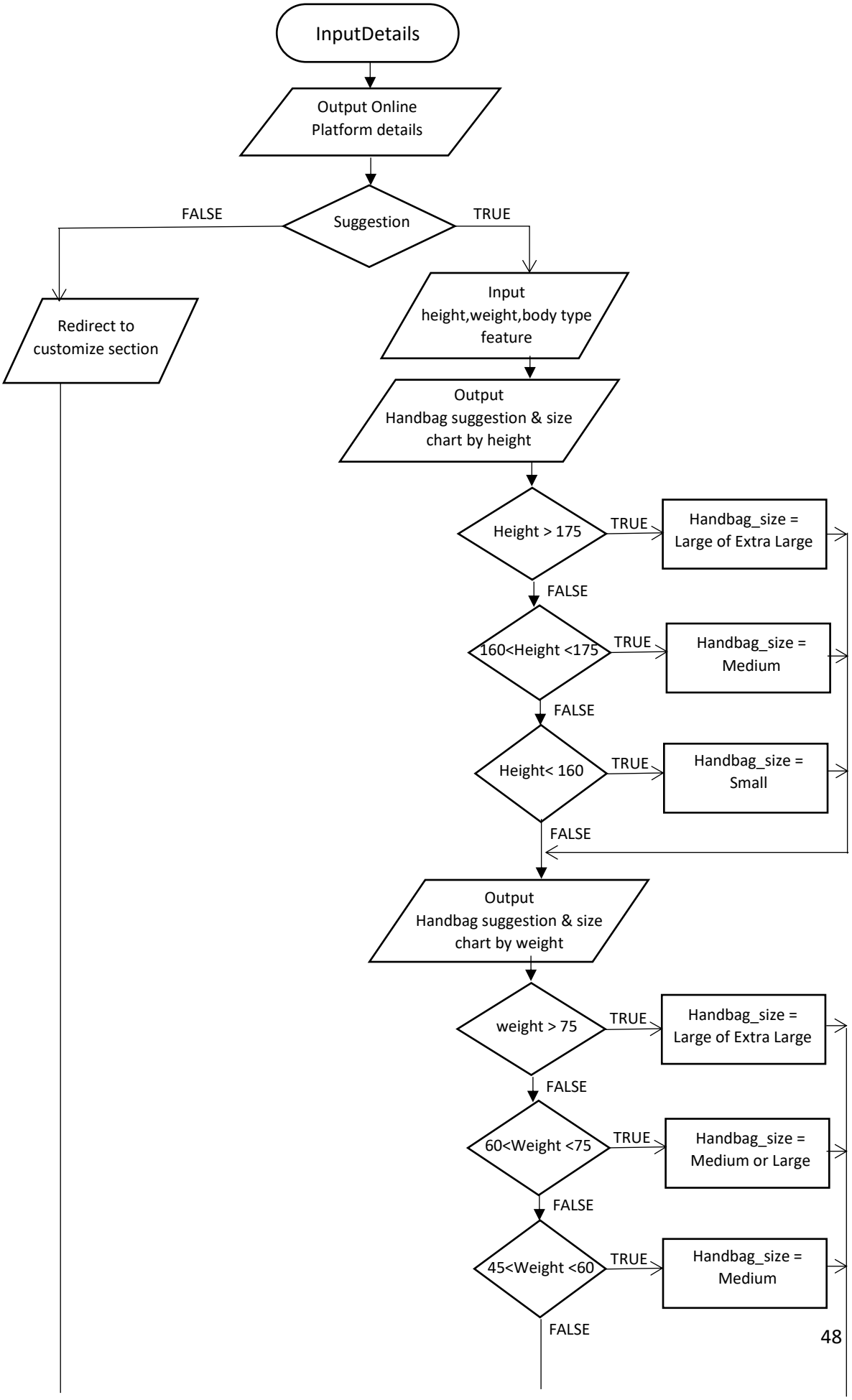
Output the change

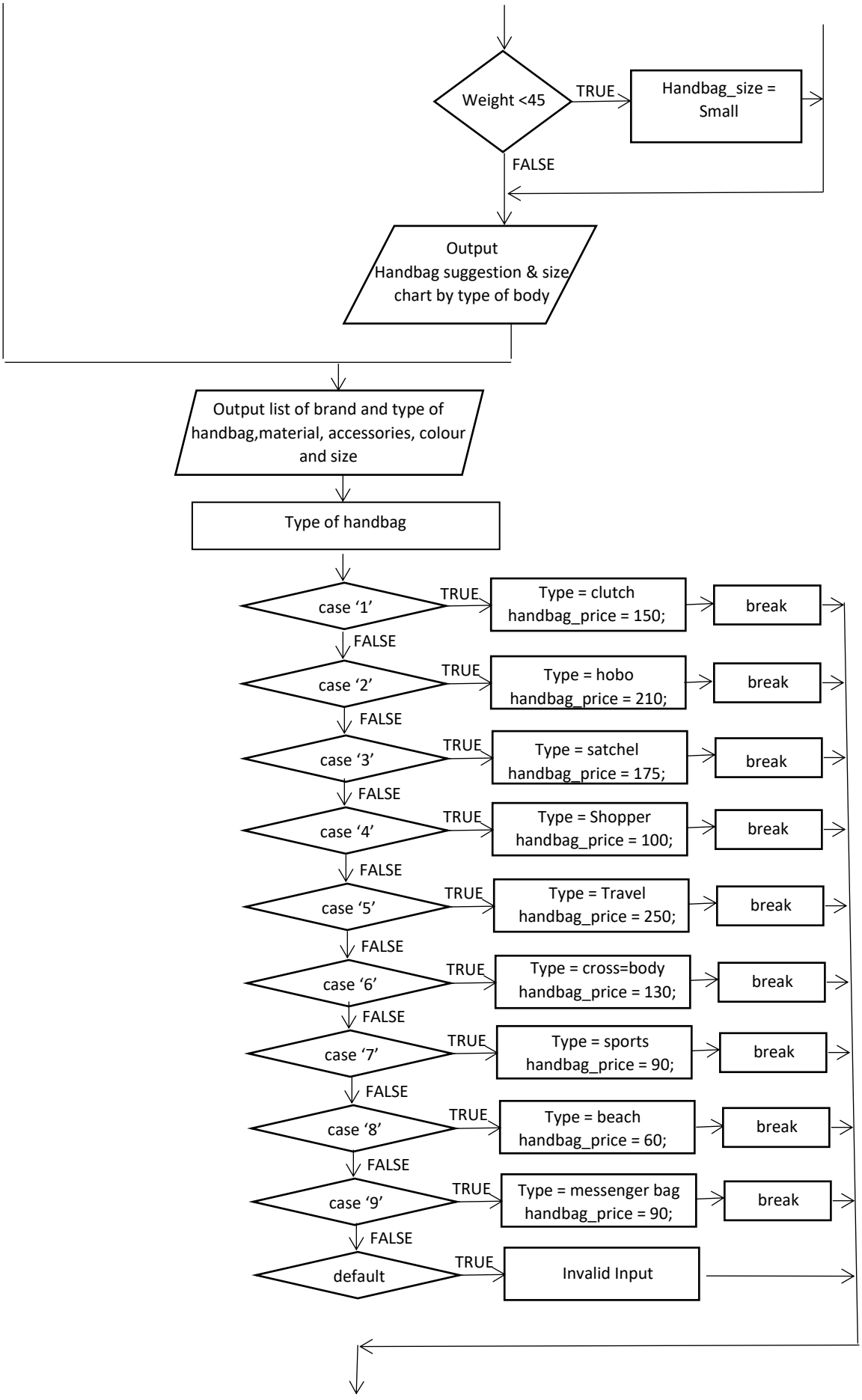
Output “Thank you very much! Please enjoy your day!”

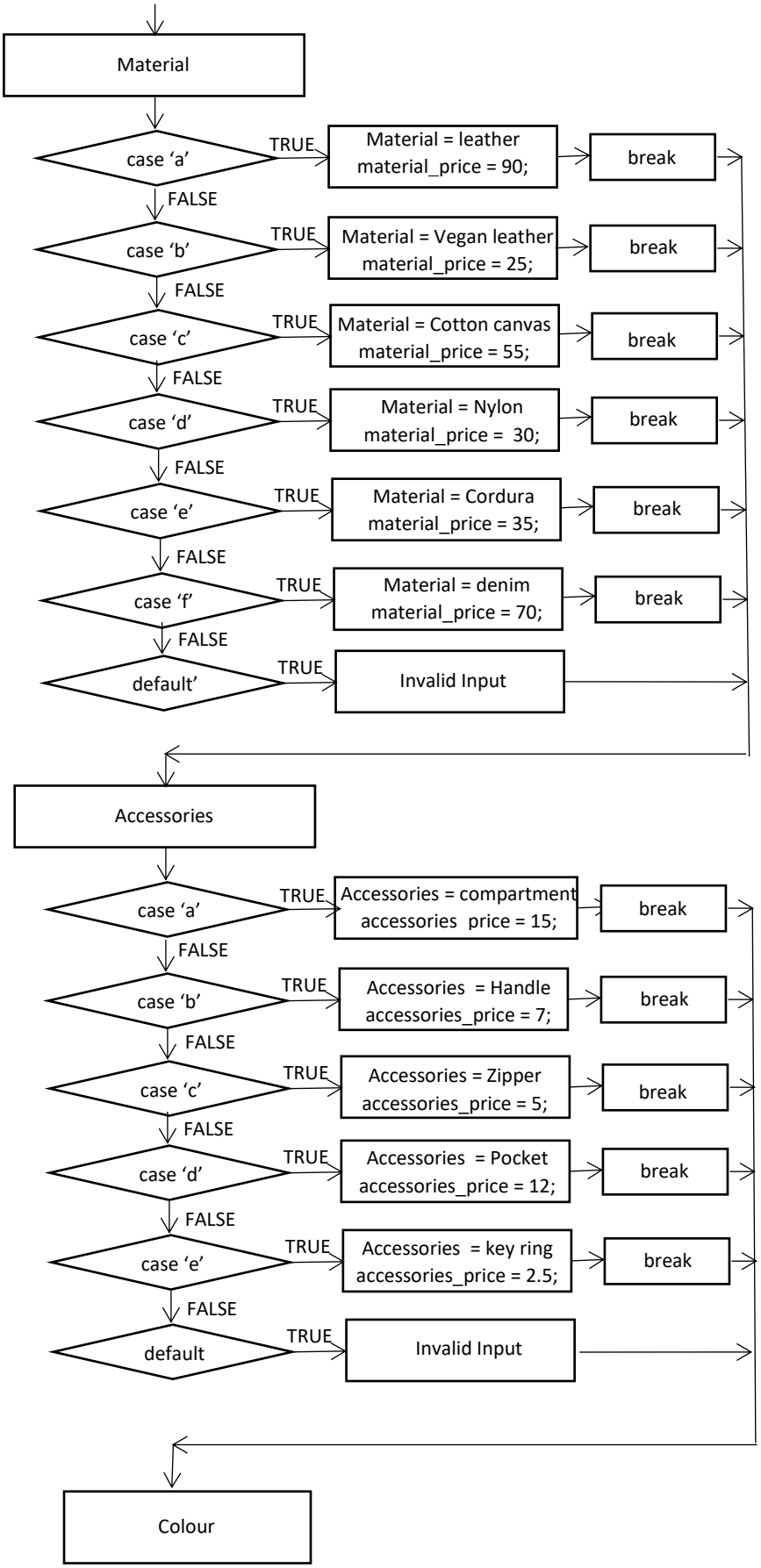
END

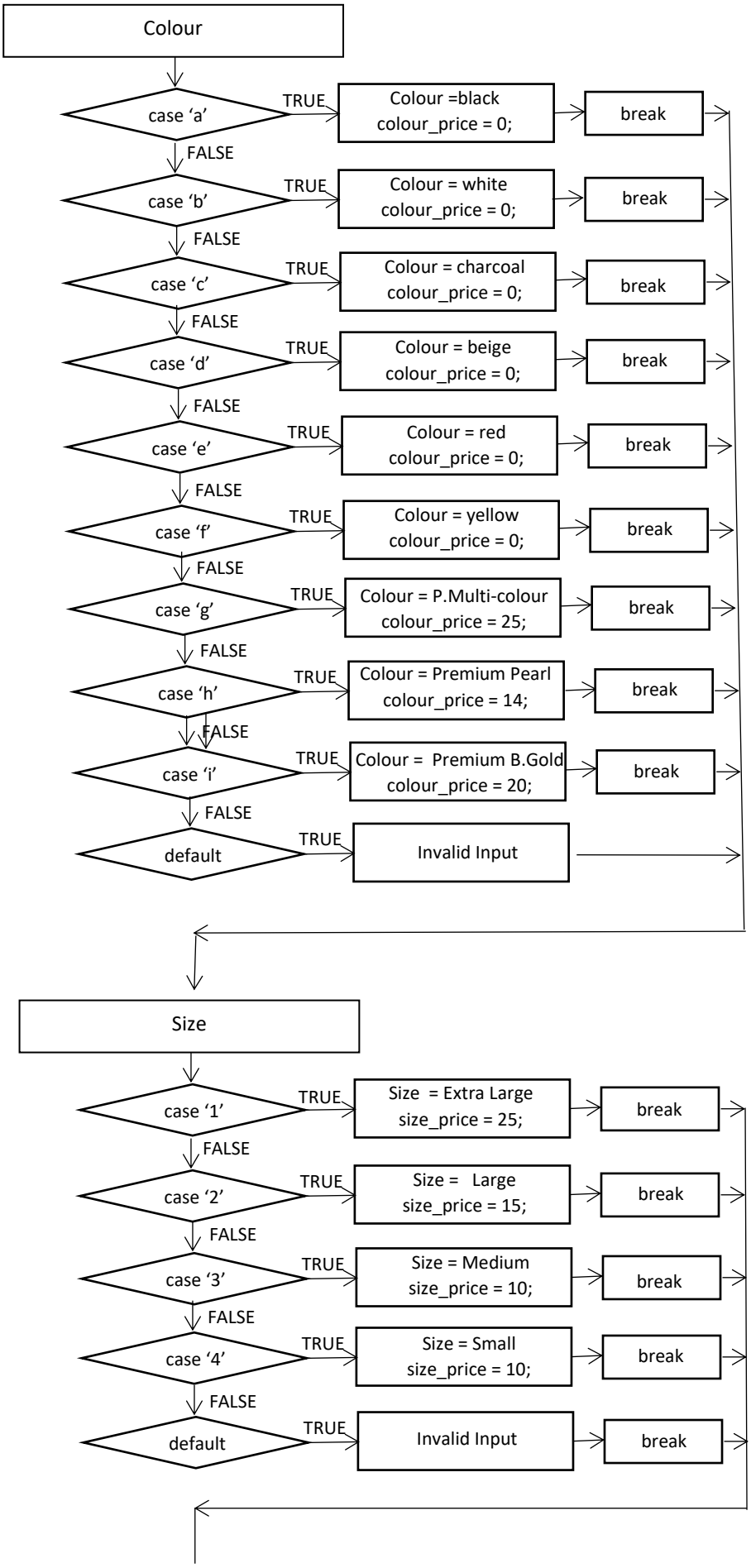
9. FLOWCHART

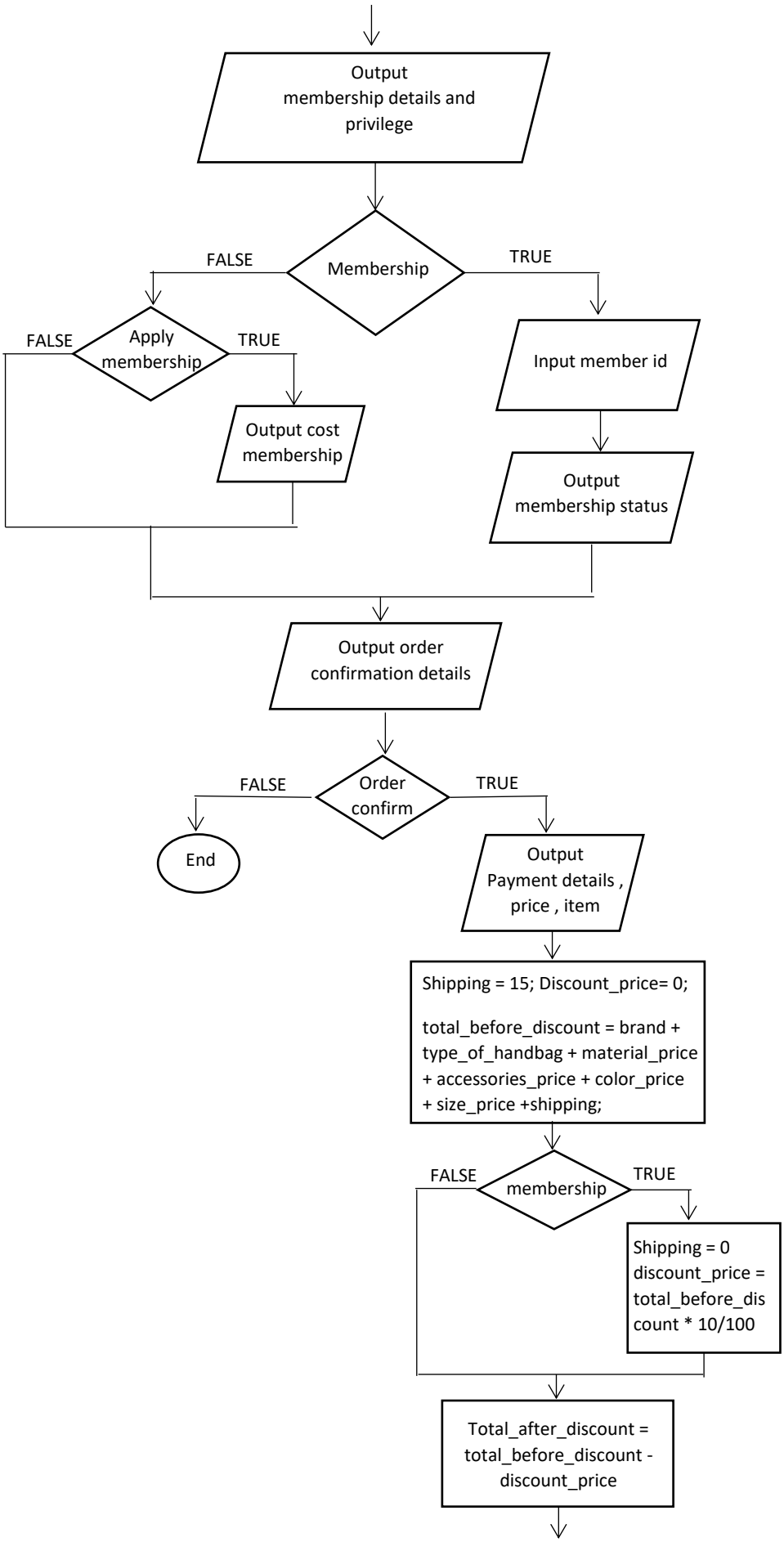

START
Main(String [] args)
Input_user_details
(String user_details)
mainProgram (String program)
paymentReceipt
(String receipt)
Input_user_details
(user_details)
mainProgram (program)
paymentReceipt (receipt)
Output
list of brand and type of
handbag,material,
accessories, colour and size
Output Voucher
coupon for online
platform shop
Output Online
Platform details
END
Input
height,weight,body type
feature
Output
Handbag suggestion & size
chart by height

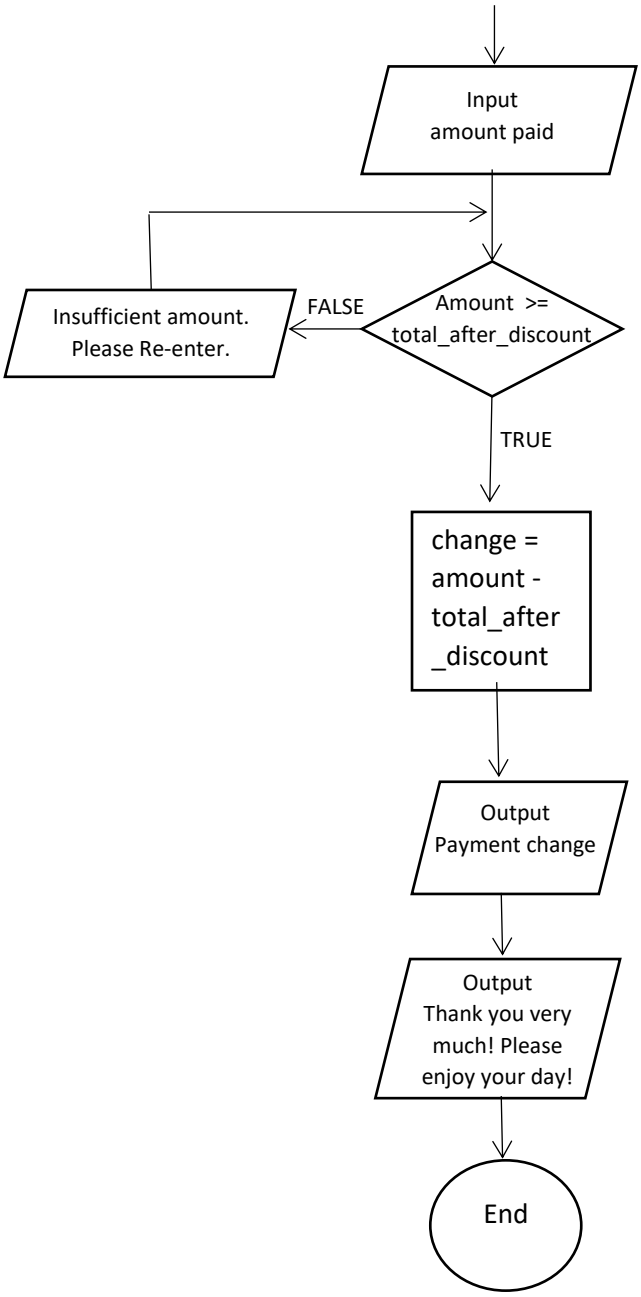

InputDetails
Output Online Platform details
Suggestion
FALSE
TRUE
Redirect to customize section
Input height,weight,body type feature
Output Handbag suggestion & size chart by height
Height > 175
TRUE
Handbag_size = Large of Extra Large
FALSE
160<Height <175
TRUE
Handbag_size = Medium
FALSE
Height< 160
TRUE
Handbag_size = Small
FALSE
Output Handbag suggestion & size chart by weight
weight > 75
TRUE
Handbag_size = Large of Extra Large
FALSE
60<Weight <75
TRUE
Handbag_size = Medium or Large
FALSE
45<Weight <60
TRUE
Handbag_size = Medium
FALSE


Weight <45
TRUE
Handbag_size = Small
FALSE
Output Handbag suggestion & size chart by type of body
Output list of brand and type of handbag,material, accessories, colour and size
Type of handbag
case '1'
TRUE
Type = clutch handbag_price = 150;
break
FALSE
case '2'
TRUE
Type = hobo handbag_price = 210;
break
FALSE
case '3'
TRUE
Type = satchel handbag_price = 175;
break
FALSE
case '4'
TRUE
Type = Shopper handbag_price = 100;
break
FALSE
case '5'
TRUE
Type = Travel handbag_price = 250;
break
FALSE
case '6'
TRUE
Type = cross=body handbag_price = 130;
break
FALSE
case '7'
TRUE
Type = sports handbag_price = 90;
break
FALSE
case '8'
TRUE
Type = beach handbag_price = 60;
break
FALSE
case '9'
TRUE
Type = messenger bag handbag_price = 90;
break
FALSE
default
TRUE
Invalid Input


Material
case ‘a’
TRUE
Material = leather
material_price = 90;
break
FALSE
case ‘b’
TRUE
Material = Vegan leather
material_price = 25;
break
FALSE
case ‘c’
TRUE
Material = Cotton canvas
material_price = 55;
break
FALSE
case ‘d’
TRUE
Material = Nylon
material_price = 30;
break
FALSE
case ‘e’
TRUE
Material = Cordura
material_price = 35;
break
FALSE
case ‘f’
TRUE
Material = denim
material_price = 70;
break
FALSE
default’
TRUE
Invalid Input
Accessories
case ‘a’
TRUE
Accessories = compartment
accessories price = 15;
break
FALSE
case ‘b’
TRUE
Accessories = Handle
accessories_price = 7;
break
FALSE
case ‘c’
TRUE
Accessories = Zipper
accessories_price = 5;
break
FALSE
case ‘d’
TRUE
Accessories = Pocket
accessories_price = 12;
break
FALSE
case ‘e’
TRUE
Accessories = key ring
accessories_price = 2.5;
break
FALSE
default
TRUE
Invalid Input
Colour


Colour
case 'a'
TRUE
Colour =black
colour_price = 0;
break
FALSE
case 'b'
TRUE
Colour = white
colour_price = 0;
break
FALSE
case 'c'
TRUE
Colour = charcoal
colour_price = 0;
break
FALSE
case 'd'
TRUE
Colour = beige
colour_price = 0;
break
FALSE
case 'e'
TRUE
Colour = red
colour_price = 0;
break
FALSE
case 'f'
TRUE
Colour = yellow
colour_price = 0;
break
FALSE
case 'g'
TRUE
Colour = P.Multi-colour
colour_price = 25;
break
FALSE
case 'h'
TRUE
Colour = Premium Pearl
colour_price = 14;
break
FALSE
case 'i'
TRUE
Colour = Premium B.Gold
colour_price = 20;
break
FALSE
default
TRUE
Invalid Input
Size
case '1'
TRUE
Size = Extra Large
size_price = 25;
break
FALSE
case '2'
TRUE
Size = Large
size_price = 15;
break
FALSE
case '3'
TRUE
Size = Medium
size_price = 10;
break
FALSE
case '4'
TRUE
Size = Small
size_price = 10;
break
FALSE
default
TRUE
Invalid Input
break


Output
membership details and
privilege
Membership
FALSE
TRUE
Apply
membership
FALSE
TRUE
Output cost
membership
Input member id
Output
membership status
Output order
confirmation details
Order
confirm
FALSE
TRUE
End
Output
Payment details ,
price , item
Shipping = 15; Discount_price= 0;
total_before_discount = brand +
type_of_handbag + material_price
+ accessories_price + color_price
+ size_price +shipping;
membership
FALSE
TRUE
Shipping = 0
discount_price =
total_before_dis
count * 10/100
Total_after_discount =
total_before_discount -
discount_price


Input
amount paid
Amount >=
total_after_discount
FALSE
Insufficient amount.
Please Re-enter.
TRUE
change =
amount -
total_after
_discount
Output
Payment change
Output
Thank you very
much! Please
enjoy your day!
End

10.CODING

https://github.com/STIA1113-GROUP-C-TAN-GUAN-XUN/Assignment-3.git

A211 STIA1113 – PROGRAMMING 1 (GROUP C)

ASSIGNMENT 3

LECTURER : Prof. Madya Dr. Azman B Yasin

NAME : NUR AQIL NAJJAH BINTI RUZAIDI

MATRICS NUMBER : 287491

TOPIC : LIFESTYLE

SUBTOPIC : GARDEN

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IDENTIFY THE PROBLEM

The Perdana Botanical Garden, formerly known as Taman Tasik Perdana or Lake Gardens, is situated in the Heritage Park of Kuala Lumpur. It has always been a part of the green lung of the city and has a history of over a decade. Originally created as part of a recreational park but planted with collections of tropical plants, the garden have been rehabilitated and turned into a Botanical Garden. The garden have not only botanical collections but also house features that give the visitors the ambiance of being in a tropical rainforest, despite being in the middle of a bustling metropolis. The Perdana Botanical Garden is located at Jalan Kebun Bunga, Tasik Perdana, 55100 Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur. Perdana Botanical Gardens, formerly Perdana Lake Gardens, Lake Gardens and Public Gardens, is Kuala Lumpur's first large-scale recreational park. Measuring 91.6 hectares, it is located in the heart of the city and established in 1888. The park served as place of refuge from the hustle and bustle of the city during colonial times. It contains large sculpted and manicured gardens and a host of attractions.

With the evolution of online booking engines, it becomes crucial to standardize the online booking process. our team received some report from customer about the problem they need to faced when purchasing the ticket online. Some of the problem such as no booking cancellation option for customer, limited payment options, incorrect price and many more.

UNDERSTAND THE PROBLEM

Perdana Botanical Garden officially reopened due to an announcement by our Prime Minister that allows reopening of more sectors as Covid-19 no longer feasible. All visitors need tickets for entry to the Garden. Reservation cannot be in a physical way as everyone needs to follow the Standard Operation Procedures (SOP). The old system is not accurate as our team has organized a new package and offered some good deals for our beloved customer. Our team needs to modify and improve the system to make sure all of the customers can book their tickets easily.

ALTERNATIVE WAYS

i. Calculate the ticket price by using number of people and price for each citizen

ii. Calculate ticket price by using the number of people, price for each citizen and display all the packages for non-member visitors only.

iii. Calculate the ticket price by using the number of people, price for each citizen and calculate off 20% for members and display the member’s price and normal price for non-member customers with the packages and provide many ways for user to complete their payment.

BEST WAY

Third method is the best way to get accurate total price ticket as the system will display the total amount to be paid customer in two different condition (with and without membership). User also can complete their payment with three ways (online banking, bank in and cash payment at convenience stores).

INSTRUCTION

Used all important information filled by the user.

The system will display all packages available based on number of people(child, adult and senior citizens).

User will receive some discount if they are member of Royal Botanical Garden (discount = total price*20%).

The system will display all package's final price ticket price in two conditions(with membership and without membership).

The system will give an option whether customer want to proceed or cancel

We provide three methods for customer to complete their payment (online banking, bank in and payment at convenience stores.

For online banking, user need to insert their password (only 3 attempts)

For bank in, there are 11 different bank for user to choose.

For cash payment at convenience stores, user can complete their payment until 12 pm the next day.

EVALUATE THE SOLUTION

The solution meets the needs of clients which are displaying all the accurate packages and price based on the total number of people that entered by user. The clients should be happy and satisfied as they are given a discount as our team has updated and modified the program. The visitor can release their stress by spending time with their family members or friends in Perdana Botanical Garden at an affordable price.

Price for each citizen

Citizens	Age	Price (RM)
Children	1 year – 13 year	25.00

Adult	14 year – 45 year	30.00
Senior	46 year and above	45.00

*Guidance

x = number of children	a = price for children
y = number of adult	b = price for adult
z = number of senior	c = price for senior

Calculation

Package	PRICE	
	With Membership	Without Membership
A	Pricea = ((x*a)+(y*b)+(z*c) Price after 20% discount = Pricea*0.8	Pricea = ((x*a)+(y*b)+(z*c)

B	Priceb = Pricea + 30 Price after 20% discount = Priceb*0.8	Priceb = Pricea + 30
C	Pricec = Priceb + 50 Price after 20% discount = Pricec * 0.8	Pricec = Priceb + 50
D	Priced = Pricec + 100 Price after discount 20% = Priced * 0.8	Priced = Pricec + 100
E	Pricee = Priced + 200 Price after discount 20% = Pricee*0.8	Pricee = Priced + 200

PACKAGE	OFFERS
A	1. Time given: 2 hours 2. Free parking ticket 3. Unlimited Wi-Fi access
B	1. Time given: 3 hours 2. Free parking ticket 3. Unlimited Wi-Fi access 4. Free food and drinks

C	1. Time given: 4 hours 2. Free parking ticket 3. Unlimited Wi-Fi access 4. Free food and drinks 5. Free exclusive Royal Botanical Garden’s shirt and cap per person
D	1. Time given: 5 to 7 hours 2. Free parking ticket 3. Unlimited Wi-Fi access 4. Free food and drinks 5. Free exclusive Royal Botanical Garden’s shirt and cap per person 6. Free golden vouchers exclusive from Royal Botanical Garden 7. Garden tour guider provided

E	1. Time given: a day 2. Free parking ticket 3. Unlimited Wi-Fi access 4. Free food and drinks 5. Free exclusive Royal Botanical Garden's shirt and cap per person 6. Free golden vouchers exclusive from Royal Botanical Garden 7. Garden tour guide provided 8. Free access and unlimited time to all fun activities and games: -golf -horse riding -mini zoo -flower garden

ALGORITHM

i. Get the personal information of customer from user such as name, age, email and phone number

ii. Get the number of children, number of adult and number of senior citizen

iii. Calculate the total price for ticket

- ((number of children*price for children) + (number of adult*price for adult) + (number of senior*price for senior))

iv. Calculate ticket price for every package (A, B, C, D, E)

- For package A (total price A = number of children*price for children) + (number of adult*price for adult) + (number of senior*price for senior)

- For package B (have increment RM30 from package A) (total price B = total price A+30)

- For package C (have increment RM50 from package B) (total price C = total price B+50)

- For package D (have increment RM100 from package C) (total price B = total price C+30)

- For package E (have increment RM200 from package D) (total price B = total price D+30)

-

v. Calculate and display ticket price for member and non-member customer

- Discount 20%(for members only) for total ticket price every package

- For member (total price ticket*0.8)

- For non-member (total price ticket)

vi. Print the chosen package by customer, activities, gift and offers for package and total price for member and non-member

vii. Print three method (online banking, bank in and cash payment at convenience stores):

Online banking-user need to key in password (three attempt only)
Bank in (11 different banks- Maybank2u, CIMB Clicks, Public Bank, RHB Now, Ambank, MyBSN, UOB, Affin Bank, Bank Islam, HSBC Online, Standard Chartered Bank)
Cash Payment at Convenience Stores(7-eleven,KK Mart)
Customer service rate
service==’Y’
Print thankyou
Service==’N’
Print sorry

PSEUDOCODE

Start

Read name, age, email, phone number, number of children, number of adult, number of senior, member status

Print name, age, email and phone number

Number of people = number of children + number of adult + number of senior

Print number of people

Input 1

Display all package available based on number of people

Input 1

Normal price for Package A = (number of children*price for children) + (number of adult*price for adult) + (number senior*price for senior)

Price for Package A after discount = Normal price for Package A * 0.8

Normal price for Package B = Normal price for Package A + 30

Price for Package B after discount = Normal price for Package B*0.8

Normal price for Package C = Normal price for Package B + 50

Price for Package C after discount = Normal price for Package C*0.8

Normal price for Package D = Normal price for Package C + 100

Price for Package D after discount = Normal price for Package D*0.8

Normal price for Package E = Normal price for Package D + 200

Price for Package E after discount = Normal price for Package E*0.8

Print Normal price for Package A, Price for Package A after discount, Normal price for Package B, Price for Package B after discount, Normal price for Package C, Price for Package C after discount, Normal price for Package D, Price for Package D after discount, Normal price for Package E, Price for Package E after discount

Input 1 to proceed and 2 to cancel

Print payment options

Input 1 or 2 or 3

Print thankyou!

Input Customer service ‘Y’ || ‘N’

if(‘Y’)

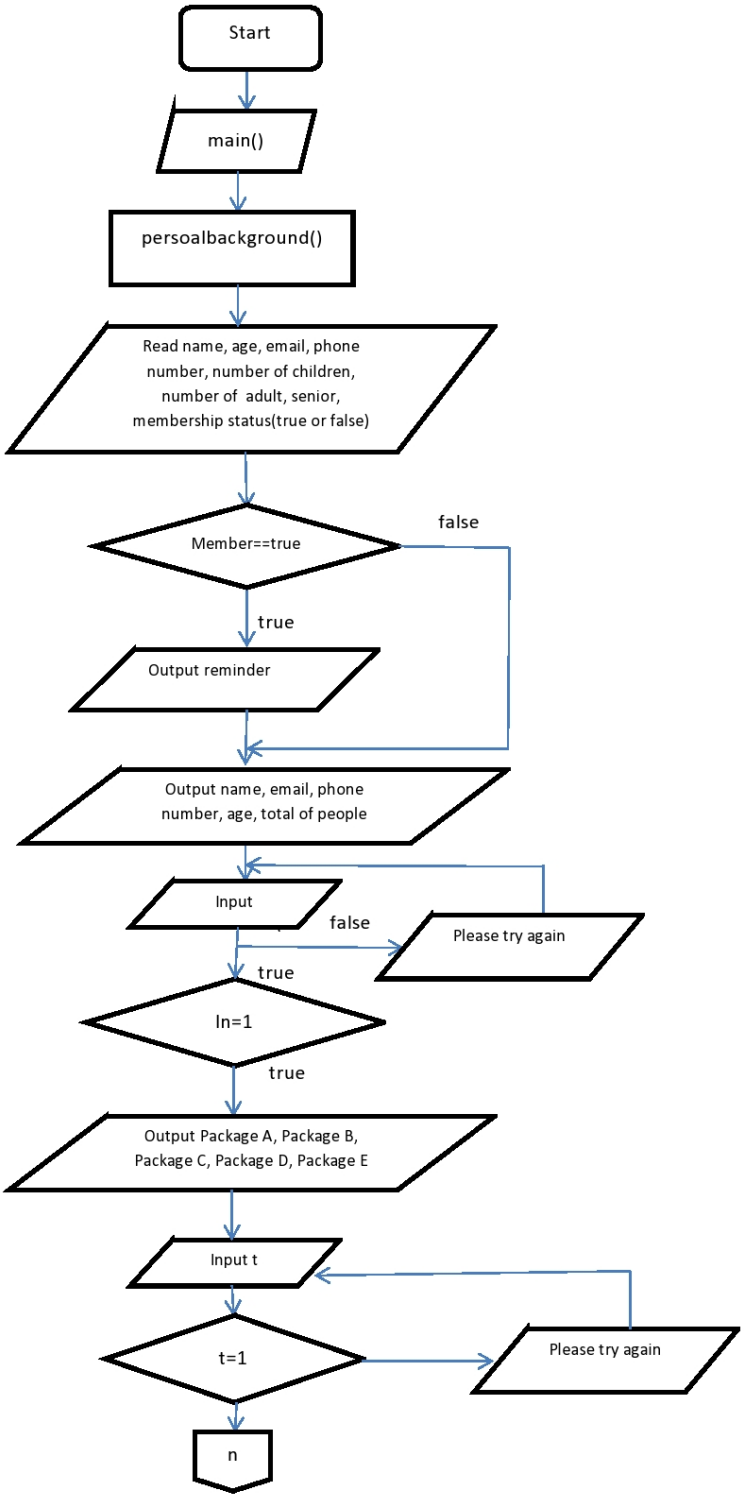
print Thankyou

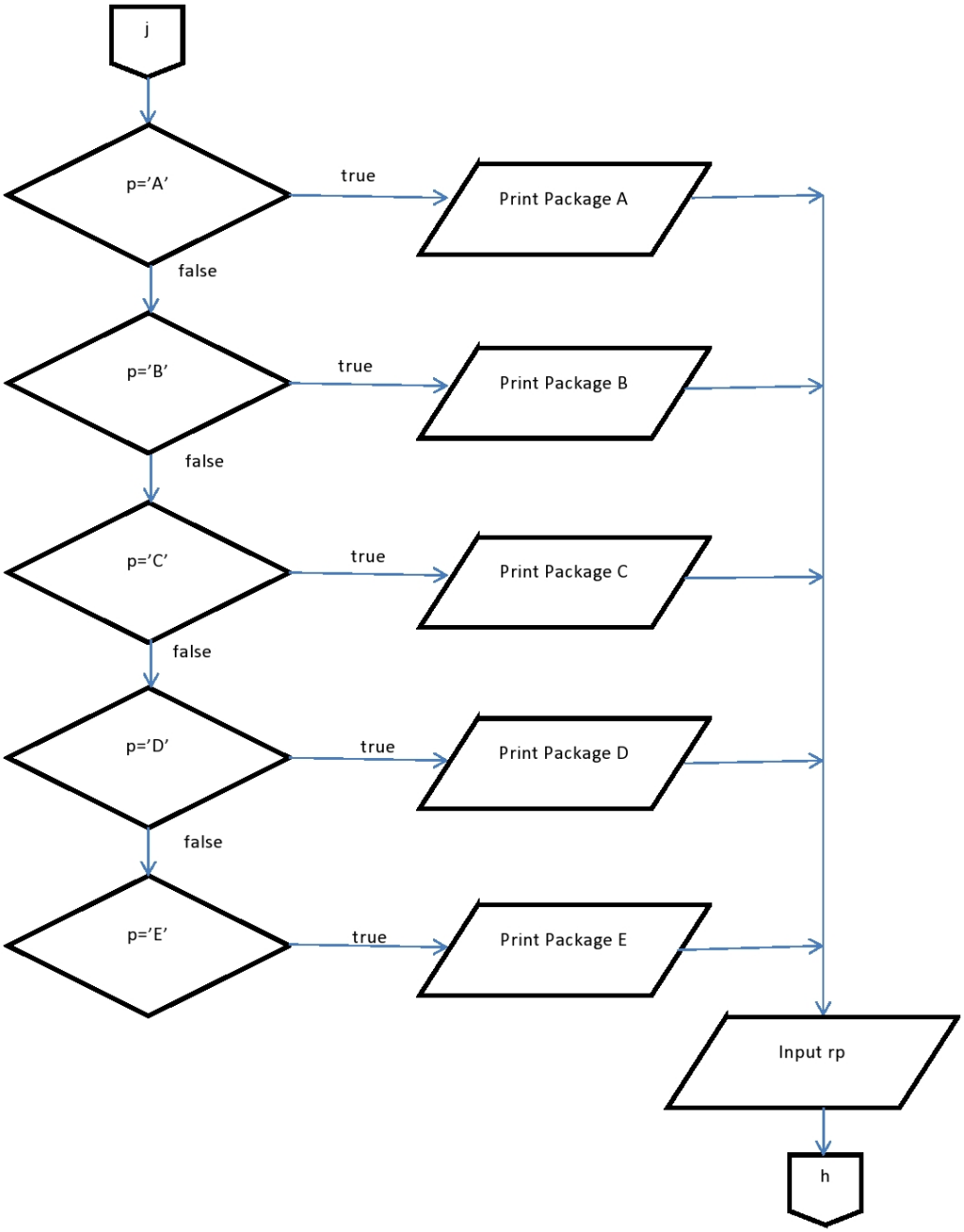
else

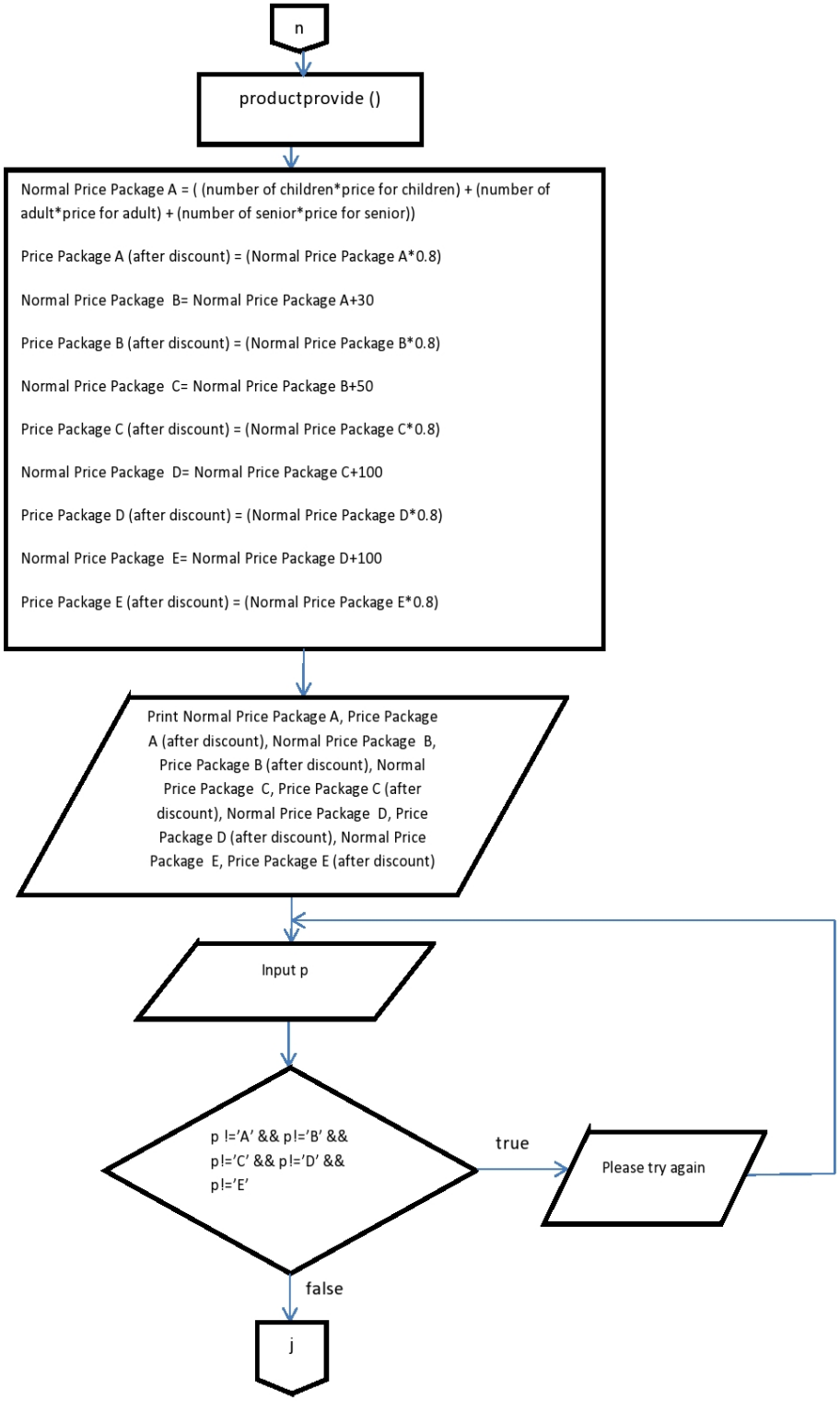
print sorry

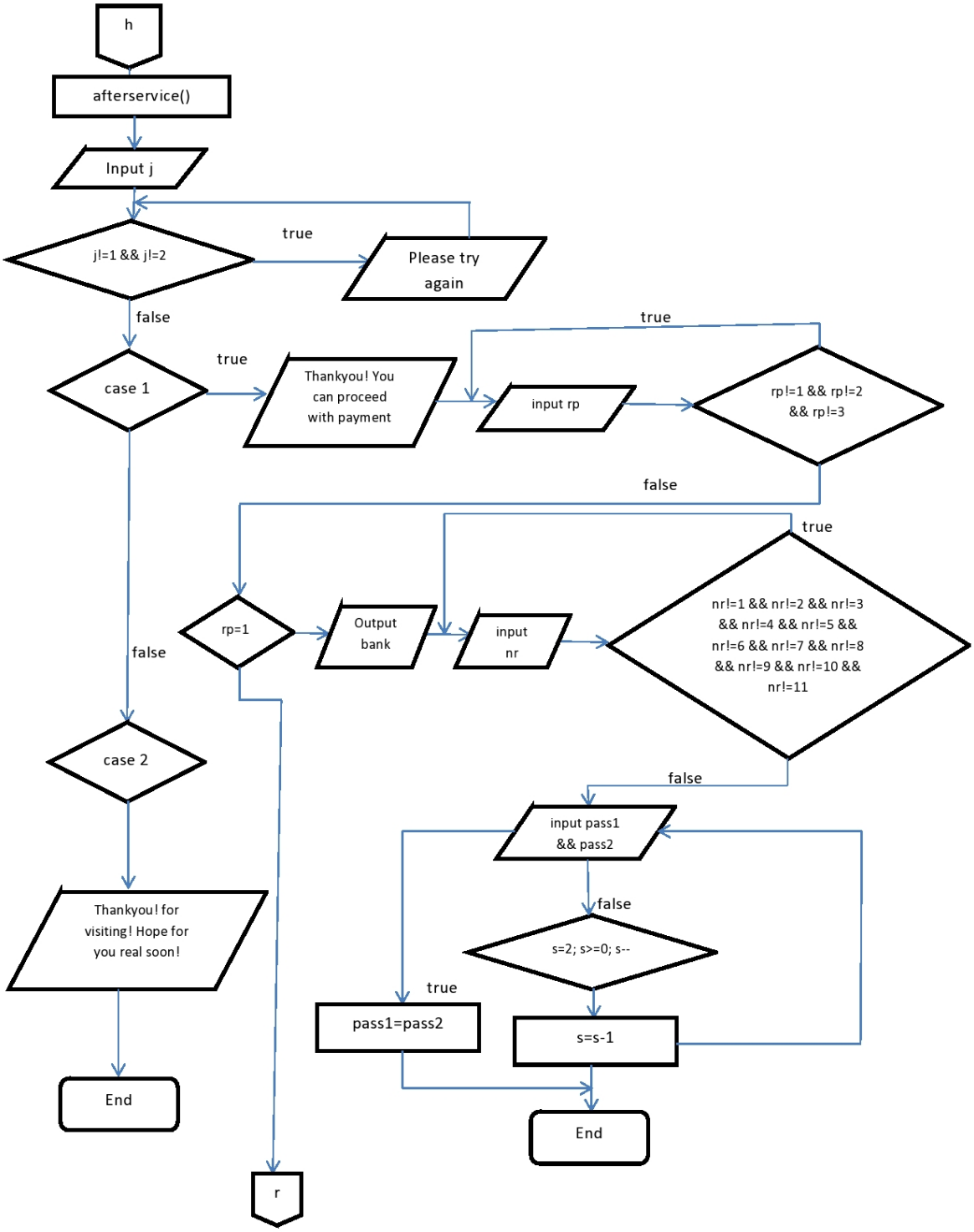
End

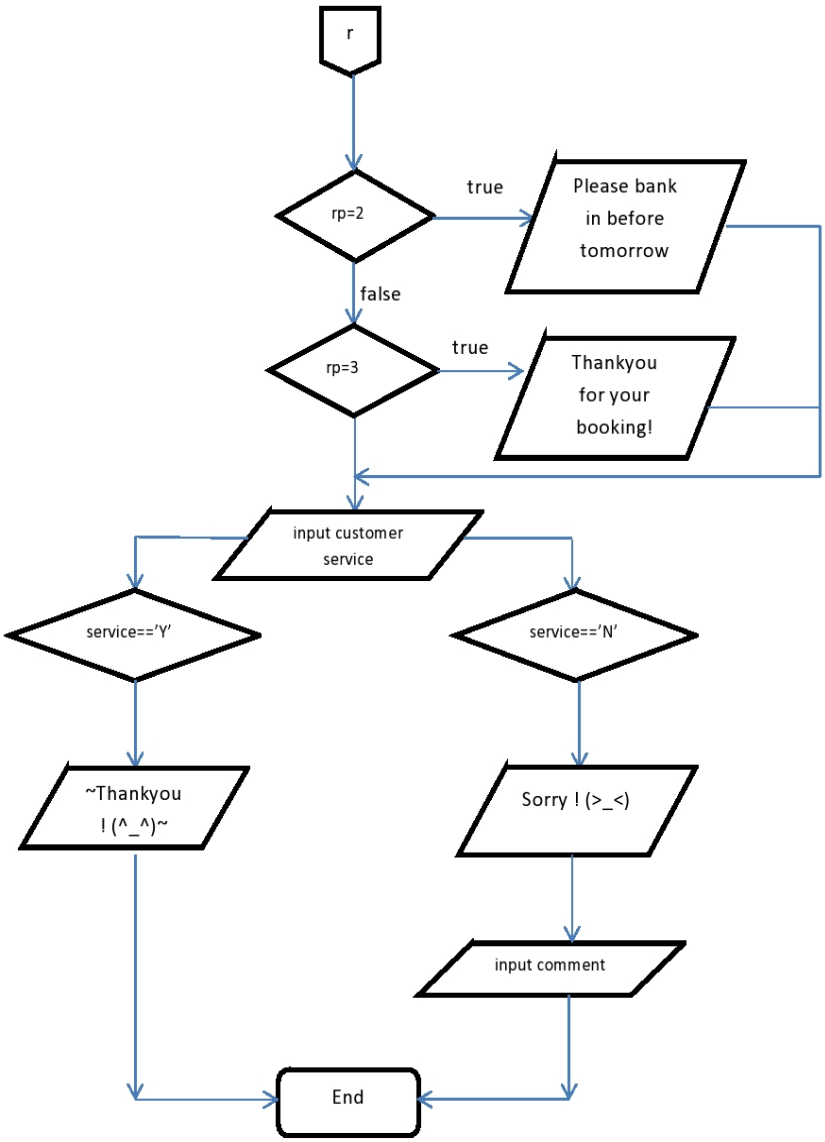
FLOWCHART


Start
main()
persoalbackground()
Read name, age, email, phone number, number of children, number of adult, senior, membership status(true or false)
Member==true
false
true
Output reminder
Output name, email, phone number, age, total of people
Input
false
Please try again
true
In=1
true
Output Package A, Package B, Package C, Package D, Package E
Input t
t=1
Please try again
n


j
p='A'
true
Print Package A
false
p='B'
true
Print Package B
false
p='C'
true
Print Package C
false
p='D'
true
Print Package D
false
p='E'
true
Print Package E
Input rp
h


n
productprovide ()
Normal Price Package A = ((number of children*price for children) + (number of adult*price for adult) + (number of senior*price for senior))
Price Package A (after discount) = (Normal Price Package A*0.8)
Normal Price Package B= Normal Price Package A+30
Price Package B (after discount) = (Normal Price Package B*0.8)
Normal Price Package C= Normal Price Package B+50
Price Package C (after discount) = (Normal Price Package C*0.8)
Normal Price Package D= Normal Price Package C+100
Price Package D (after discount) = (Normal Price Package D*0.8)
Normal Price Package E= Normal Price Package D+100
Price Package E (after discount) = (Normal Price Package E*0.8)
Print Normal Price Package A, Price Package A (after discount), Normal Price Package B, Price Package B (after discount), Normal Price Package C, Price Package C (after discount), Normal Price Package D, Price Package D (after discount), Normal Price Package E, Price Package E (after discount)
Input p
p !='A' && p!='B' && p!='C' && p!='D' && p!='E'
true
Please try again
false
j


h
afterservice()
Input j
j!=1 && j!=2
true
Please try again
false
case 1
true
Thankyou! You can proceed with payment
input rp
true
rp!=1 && rp!=2 && rp!=3
false
rp=1
Output bank
input nr
true
nr!=1 && nr!=2 && nr!=3 && nr!=4 && nr!=5 && nr!=6 && nr!=7 && nr!=8 && nr!=9 && nr!=10 && nr!=11
false
case 2
false
input pass1 && pass2
Thankyou! for visiting! Hope for you real soon!
false
s=2; s>=0; s--
true
pass1=pass2
s=s-1
End
End
r


r
rp=2
true
Please bank in before tomorrow
false
rp=3
true
Thankyou for your booking!
input customer service
service=='Y'
service=='N'
~Thankyou ! (^_^)~
Sorry ! (>_<)
input comment
End

10.CODING

https://github.com/STIA1113GROUP-C-PROGRAMMING-1/ASSIGNMENT-3/tree/main

A211 STIA1113 – PROGRAMMING 1 (GROUP C)

ASSIGNMENT 3

LECTURER : Prof. Madya Dr. Azman B Yasin

NAME : LIM HUI QI

MATRICS NUMBER : 287456

TOPIC : LIFESTYLE

SUBTOPIC : CAMERA

CONTENTS

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1. IDENTIFY THE PROBLEM

A camera is an optical instrument that captures a visual image. At a basic level, cameras are sealed boxes (the camera body) with a small hole (the aperture) that allows light through to capture an image on a light-sensitive surface (usually photographic film or a digital sensor). The word camera comes from camera obscura, the Latin name of the original device for projecting an image onto a flat surface (literally translated to "dark chamber"). The modern photographic camera evolved from the camera obscura. The first permanent photograph was made in 1825 by Joseph Nicéphore Niépce.

There are few types of cameras such as DSLR, mirrorless, compact and etc.

A digital single-lens reflex camera (digital SLR or DSLR) is a digital camera that combines the optics and the mechanisms of a single-lens reflex camera with a digital imaging sensor. The reflex design scheme is the primary difference between a DSLR and other digital cameras. In the reflex design, light travels through the lens and then to a mirror that alternates to send the image to either a prism, which shows the image in the viewfinder, or the image sensor when the shutter release button is pressed. The viewfinder of a DSLR presents an image that will not differ substantially from what is captured by the camera's sensor as it presents it as a direct optical view through the main camera lens, rather than showing an image through a separate secondary lens.

A mirrorless interchangeable-lens camera (MILC) or simply mirrorless camera, also called digital single-lens mirrorless (DSLM), is a photo camera featuring a single, removable lens and a digital display. The camera does not have a reflex mirror or optical viewfinder like a digital single-lens reflex (DSLR) camera.[1] Many mirrorless cameras retain a mechanical shutter. Like a DSLR, a mirrorless camera accepts any of a series of interchangeable lenses compatible with its lens mount.

A point-and-shoot camera, also known as a compact camera and sometimes abbreviated to P&S, is a still camera designed primarily for simple operation. Most use focus free lenses or autofocus for focusing, automatic systems for setting the exposure options, and have flash units built in. They are popular for vernacular photography by people who do not consider themselves photographers but want easy-to-use cameras for snapshots of vacations, parties, reunions and other events.

As smartphone cameras get more capable, sales of dedicated cameras like DSLRs and mirrorless cameras are decrease rapidly in value or amount. For most people it just doesn't make sense to own one, but for starting photo enthusiasts, it still might.

2. UNDERSTAND THE PROBLEM

Mark is a photographer based in a small town near Byron Bay and he is the founder of Shotkit. Shotkit is a website all started with a desire to find out what camera gear Mark's favourite photographers were using. Nothing really existed back then where professionals, beginners, and everyone in between could mix in the same friendly environment, learning from each other. Fast forward to today, where Shotkit welcomes over 10,000 visits each day from all over the world. Shotkit has become a valuable resource to learn from some truly amazing photographers. Hence, there are no platform, shops or link to buy cameras in Shotkit.

3. IDENTIFY ALTERNATIVE WAYS TO SOLVE THE PROBLEM

- Open a physical store

- Cooperate with physical store

- Create a guidance purchasing program

4. SELECT THE BEST WAY

With the pandemic Covid-19, a guidance purchasing program might be more useful to help the buyer to decide which camera he/she need. Information such as budget, brand or type can be used to decide which camera is the most suitable and affordable for customers. Accessories of the cameras also can be included in the program.

5. LIST INTSTRUCTIONS THAT ENABLE YOU TO SOLVE THE PROBLEM USING THE SELECTED SOLUTION

i. Get user name, icNum, email

ii. Display lists of camera, accessories, delivery fee, electronic protection fee and warranty.

iii. User key in brand, camera, priceCam, acs, priceAcs, deliveryFee, protectionFee, warranty, priceWty, discount according to the lists which he/she wants to buy.

iv. Calculate total priceCam + deliveryFee + protectionFee + priceWty + priceAcs*((100-discount)/100)

v. Display output name, brand, camera, acs, warranty, priceCam, priceAcs, deliveryFee, protectionFee, priceWty, total.

6. EVALUATE THE PROBLEM

Based on the guiding purchasing program, user which is the owner of this program can use the list and information to guide the customers. It is very useful as the program can save many times and fee instead of open a physical store to solve the purchasing problem face by the customers. Moreover, the program can guide the customer to choose which camera is the most suitable for he/she regarding to the options such as budget, brand, and types of camera.

7. TABLES

Image	Product	Price	Features	Type
	Canon G7X Mark II	1779	- Versatile Zoom Range - Robust Body - Good in LowLight - Great Image Quality	Digital Camera (Compact)

			- 20.1 Megapixel CMOS sensor - New DIGIC 7 Imaging Processor - Weight: 302g	
	Canon M200	1999	- cost effective - Easy to use - novice camera - 24.1MP APS-C CMOS Sensor - DIGIC 8 Image Processor - Weight: 262g	Mirrorless
	Canon M50	2949	- Compact - Easy to Use - Built-in Electronic Viewfinder - Fast & Accurate - 24.1Megapixel APS-C CMOS sensor - DIGIC 8 Image Processor Weight: 387g	Mirrorless
	Canon 90D	4599	- Great Image Quality - High-speed Continuous Shooting - Multi-controller Customization - Versatile - 32.5 Megapixel CMOS (APS-C) sensor - DIGIC 8 image processor - Weight: 701g	DSLR

	Nikon D5600 DX	2229	- Exceptional Image Quality - Intuitive Controls - Great Battery Life - SnapBridge - 24.2MP DX format CMOS sensor - Ex peed 4 image processor - 465g	DSLR
	Nikon D750	5090	- Vari-angle LCD Display - Compact & Lightweight - Powerful 51-point AF - HD Video Capabilities - 24.3 Megapixel CMOS image sensor - expeed 4 image processor - 750g	DSLR
	Nikon D850	9099	- Extraordinary Resolution - Outstanding Battery Performance -Tilting Touchscreen - Outstanding Dynamic Range - 45.7 megapixels of extraordinary resolution - back side illuminated (BSI) full frame image sensor - Weight: 915g	DSLR

	Sony A6000	2199	- Hybrid AF - Tilting LCD - Up to 11 FPS Continuous Shooting - Compact - 24.2MP full frame image sensor - BIONZ X Image Processor - Weight: 344g	Mirrorless
	Sony A6400	3899	- Tracking focus - Metal body - strong battery life - 24MP APS-C sensor - New Bionz X processor - Weight: 396g	Mirrorless
	Sony A7 III	8588.9	- AF supports A-mount Lenses - New Sensor, Evolved Processor - Continuous Shooting - 693 Phase-detection - Advanced 24.2MP BSI full frame Image Sensor w/ 1.8X readout speed - BIONZ X Image Processor - Weight: 650g	Mirrorless
	FujiFilm X-A7	2999	- Film mode - retro look - HD picture quality - 24.2 Megapixel APS-C CMOS sensor - Hybrid AF System with	Mirrorless

			Face/Eye Detection - Weight: 271g	
	FujiFilm X-T30	3379	- Great Value for Money - Amazing Autofocus - Excellent Image Quality - Improved Low-Light Perfomance - 26.1MP BSI APS-C X-Trans CMOS 4 image sensor - X-Processor 4 quad-core CPU Weight: 383g	Compact
	FujiFilm X100V	5899	- Iconic Design - Amazing Lens Quality - Hybrid Viewfinder - Compact size - 26.1MP X-Trans CMOS 4 sensor - X-Processor 4 Image Processor Weight: 478g	Mirrorless
	Leica Q2	25260	- Ultimate Image Quality - Beautiful Design - Best EVF/Screen - 47.3 Megapixel full frame sensor - Weight: 718g	Compact

	Leica M10	27352	- pared-down physical design - Rear LCD monitor - slimmest camera body - 24MP Full-Frame CMOS Sensor - Leica Maestro II Image Processor Weight: 660g	Mirrorless

Cameras Table

Accessories	Price per unit	Discount/Free Gift		
		Price>2000	Price>3500	Price>5000
Memory Card SanDisk Extreme 32GB 90 Mb/s Card	32.9	Free	Free	Free
Memory Card SanDisk Extreme 64GB 90 Mb/s Card	61.9	10%	15%	20%
Memory Card SanDisk Extreme 128GB 90 Mb/s Card	119	10%	15%	20%
Tripod	75.5	10%	15%	Free
Battery	99	10%	15%	Free
Camera Strap	39.9	Free	Free	Free
Camera Bag	79.9	10%	Free	Free
Cleaning Kit	30.9	10%	Free	Free
Wide Angle Lens (24mm-35mm)	249	10%	15%	20%
Standard Lens(35mm-85mm)	349	10%	15%	20%
Short Telephoto Lens(85mm-200mm)	549	10%	15%	20%

Accessories and Discount/Free Gift Table

Delivery Fee	RM	Warranty	RM
West Malaysia	6.90	1 year	60
East Malaysia	11.90	2 years	110

Overseas	20.90	3 years	150
+ Electronics Protection	150.20		

Delivery Fee and Warranty Table

8. ALGORITHM

i. User insert name, icNum, email

ii. Display options for lists of camera, accessories, delivery fee, electronic protection fee and warranty, to buy list and exit.

iii. User choose options.

iv. totCam = totCam + priceCam;

v. Calculate total priceCam + deliveryFee + protectionFee + priceWty + priceAcs*((100-discount)/100)

vi. Output name, hpNum, email, numCam, numAcs, warranty, totCam, totAcs, discount, deliveryFee, protectionFee, priceWty, total, free gifts will be displayed

9. PSEUDOCODE

```
Start
method main():
        INPUT name

        INPUT hpNum

        INPUT email

        OUTPUT camera image and shop name

DO OUTPUT menu list

OUTPUT instructions

INPUT options

CASE switch(menuChoice)
condition1:
        Output camera choose list
        CASE switch(cameraChoice)
        condition 1:
Output camera type list
CASE switch(typeChoice)
condition 1:
CALL cam1(priceCam);
```

```
CALL cam12(priceCam);
CALL cam14(priceCam);
keepGoing = keepGoingMethod(keepGoing);

condition 2:
CALL cam2(priceCam);
CALL cam3(priceCam);
CALL cam8(priceCam);
CALL cam9(priceCam);
CALL cam10(priceCam);
CALL cam11(priceCam);
CALL cam13(priceCam);
CALL cam15(priceCam);
keepGoing = keepGoingMethod(keepGoing);

condition 3:
CALL cam4(priceCam);
CALL cam5(priceCam);
CALL cam6(priceCam);
CALL cam7(priceCam);
keepGoing = keepGoingMethod(keepGoing);

default:
Output "Invalid number! Please try again. Thank you~"
keepGoing = keepGoingMethod(keepGoing);
ENDCASE

                condition 2:
Output camera brand list
CASE switch(brandChoice)
                condition 1:
                                        CALL cam1(priceCam);
CALL cam2(priceCam);
CALL cam3(priceCam);
CALL cam4(priceCam);
keepGoing = keepGoingMethod(keepGoing);

                condition 2:
CALL cam5(priceCam);
CALL cam6(priceCam);
CALL cam7(priceCam);
keepGoing = keepGoingMethod(keepGoing);

condition 3:
CALL cam8(priceCam);
CALL cam9(priceCam);
CALL cam10(priceCam);
keepGoing = keepGoingMethod(keepGoing);

                                condition 4:
```

```
CALL cam11(priceCam);
CALL cam12(priceCam);
CALL cam13(priceCam);
keepGoing = keepGoingMethod(keepGoing);

                                condition 5:
CALL cam14(priceCam);
CALL cam15(priceCam);
keepGoing = keepGoingMethod(keepGoing);

default:
Output "Invalid number! Please try again. Thank you~"
keepGoing = keepGoingMethod(keepGoing);
ENDCASE

            Condition 3:
                    Output camera price list
                    CASE switch(priceChoice)
            condition 1:
CALL cam1(priceCam);
CALL cam2(priceCam);
CALL cam8(priceCam);
CALL cam5(priceCam);
CALL cam3(priceCam);
CALL cam11(priceCam);
keepGoing = keepGoingMethod(keepGoing);

            condition 2:
CALL cam12(priceCam);
CALL cam9(priceCam);
CALL cam4(priceCam);
keepGoing = keepGoingMethod(keepGoing);

condition 3:
CALL cam6(priceCam);
CALL cam13(priceCam);
CALL cam10(priceCam);
CALL cam7(priceCam);
keepGoing = keepGoingMethod(keepGoing);

                                condition 4:
                                        CALL cam14(priceCam);
CALL cam15(priceCam);
keepGoing = keepGoingMethod(keepGoing);

DEFAULT:
Output "Invalid number! Please try again. Thank you~"
keepGoing = keepGoingMethod(keepGoing);
ENDCASE
```

```
condition 2:
CALL printAcsList ();
        keepGoing = keepGoingMethod(keepGoing);

condition 3:
CALL printDeliWtyList();
        keepGoing = keepGoingMethod(keepGoing);

condition 4:
                Output Gift and discount list
                CALL freeGift2000();
CALL freeGift3500();
CALL freeGift5000();
keepGoing = keepGoingMethod(keepGoing);

condition 5:
String nameCamera [] = new String[15];
DECLARE newCamera[]
OUTPUT "Do you want to buy camera(s)?(Y/N): "
INPUT buyCam
IF buyCam == ‘Y’ || buyCam == ‘y’ THEN
CALL buyCamList();
        numCam = numCamMethod(numCam);
                FOR (int x=0; x<numCam; x++)
                        IF (buyCam=='Y'|| buyCam=='y') THEN
                        OUTPUT "Please enter the code number of camera(s)
    you want to buy(1-15): ");
                        INPUT camC
                                        IF camC == 1 THEN
                                                priceCam = cam1(priceCam);

IF camC == 2 THEN
                                                priceCam = cam2(priceCam);

IF camC == 3 THEN
                                                priceCam = cam11(priceCam);

IF camC == 4 THEN
                                                priceCam = cam5(priceCam);

IF camC == 5 THEN
                                                priceCam = cam3(priceCam);

IF camC == 6 THEN
                                                priceCam = cam9(priceCam);

IF camC == 7 THEN
                                                priceCam = cam8(priceCam);
```

```
IF camC == 8 THEN
                                        priceCam = cam12(priceCam);

IF camC == 9 THEN
                                        priceCam = cam4(priceCam);
IF camC == 10 THEN
                                        priceCam = cam6(priceCam);

IF camC == 11 THEN
                                        priceCam = cam10(priceCam);

IF camC == 12 THEN
                                        priceCam = cam13(priceCam);

IF camC == 13 THEN
                                        priceCam = cam7(priceCam);

IF camC == 14 THEN
                                        priceCam = cam1(priceCam);

IF camC == 15 THEN
                                        priceCam = cam1(priceCam);
totCam = totCam + priceCam;

OUTPUT "Do you wants to buy an accessories?(Y/N) : "
INPUT buyAcs
IF buyAcs == ‘Y’ || buyAcs == ‘y’ THEN
CALL buyAcsList();
numAcs = numAcsMethod(numAcs);
            FOR (int y=0; y<numAcs; y++)
IF (buyAcs == 'Y' || buyAcs=='y') THEN
String[] nameAcs = new String[11];
DECLARE nameAcs[]
double[] priceAcsArray = new double[11];
DECLARE priceAcsArray
                    OUTPUT "Please enter the code number of accessory
   you want to buy(1-11): "
                                INPUT acsC
IF acsC == 1 THEN                       acs = nameAcs[0];
      priceAcs = priceAcsArray[0];

IF acsC == 2 THEN                       acs = nameAcs[1];
      priceAcs = priceAcsArray[1];

IF acsC == 3 THEN                       acs = nameAcs[2];
      priceAcs = priceAcsArray[2];

IF acsC == 4 THEN                       acs = nameAcs[3];
      priceAcs = priceAcsArray[3];
```

```
IF acsC == 5 THEN                       acs = nameAcs[4];
        priceAcs = priceAcsArray[4];

IF acsC == 6 THEN                       acs = nameAcs[5];
        priceAcs = priceAcsArray[5];

IF acsC == 7 THEN                       acs = nameAcs[6];
        priceAcs = priceAcsArray[6];

IF acsC == 8 THEN                       acs = nameAcs[7];
        priceAcs = priceAcsArray[7];

IF acsC == 9 THEN                       acs = nameAcs[8];
        priceAcs = priceAcsArray[8];

IF acsC == 10 THEN                      acs = nameAcs[9];
        priceAcs = priceAcsArray[9];

IF acsC == 11 THEN                      acs = nameAcs[10];
        priceAcs = priceAcsArray[10];

                                                DEFAULT
Output "Invalid number! Please try again. Thank you~"
keepGoing = keepGoingMethod(keepGoing);
                                                totAcs = totAcs + priceAcs;
OUTPUT acs, priceAcs, totAcs

                        CALL buyDeliWtyList();
                        OUTPUT "Please enter the code number of delivery you prefer(1-3):"
INPUT deliC

IF deliC == 1 THEN
deliveryTo = "West Malaysia"
                                deliveryFee = 6.9

                                IF deliC == 2 THEN
                                deliveryTo = "East Malaysia"
                                deliveryFee = 11.9

                                IF deliC == 3 THEN
                                deliveryTo = "Overseas"
                deliveryFee = 20.9

                DEFAULT
Output "Invalid number! Please try again. Thank you~"
keepGoing = keepGoingMethod(keepGoing);

OUTPUT deliveryTo, deliveryFee
OUTPUT "Do you want to add-on Electronics Protection?(Y/N): "
INPUT protectionFee
```

```
IF protectionC == 'Y' OR protectionC == 'y'
                                protectionFee = 150.20

                                DEFAULT
                        protectionFee = 0
                OUTPUT "Add-on Warranty (Years) max=3: "
INPUT warranty

                                IF warranty == 0 THEN
                                priceWty =0

                                IF warranty == 1 THEN
                                priceWty = 50

                                IF warranty == 2 THEN
                                priceWty = 110

                                IF warranty == 3 THEN
                                priceWty = 150

                                DEFAULT
                                OUTPUT "Sorry~ The warranty can only add-on for 3 years in
maximum"
                                OUTPUT "Please try again~"
keepGoing = keepGoingMethod(keepGoing);

OUTPUT warranty, priceWty

IF priceCam > 5000 THEN
                                discount = 20

                                IF priceCam > 3500 THEN
                                discount = 15

                                IF priceCam > 2000 THEN
                        discount = 10

CALCULATE total = totCam + deliveryFee + protectionFee + priceWty + totAcs*((100-
discount)/100)

OUTPUT invoice list, free gifts
OUTPUT “Thank you very much! See you again~”

                condition 6:
Output “Thank you very much! See you again~”

                DEFAULT:
OUTPUT "Please enter the number between 1 - 6 ~ Thank you"
                keepGoing = keepGoingMethod(keepGoing);
```

```
        WHILE (keepGoing == 'Y' || keepGoing == 'y');
    END MAIN

method double cam1 (double priceCam)
    OUTPUT Canon G7X_Mark_II information
    priceCam = 1779;
    RETURN priceCam;

method double cam2 (double priceCam)
    OUTPUT Canon M200 information
    priceCam = 1999;
    RETURN priceCam;

method double cam3 (double priceCam)
    OUTPUT Canon M50 information
    priceCam = 2949;
    RETURN priceCam;

method double cam4 (double priceCam)
    OUTPUT Canon 90D information
    priceCam = 4599;
    RETURN priceCam;

method double cam5 (double priceCam)
    OUTPUT Nikon D5600 DX information
    priceCam = 2299;
    RETURN priceCam;

method double cam6 (double priceCam)
    OUTPUT Nikon D750 information
```

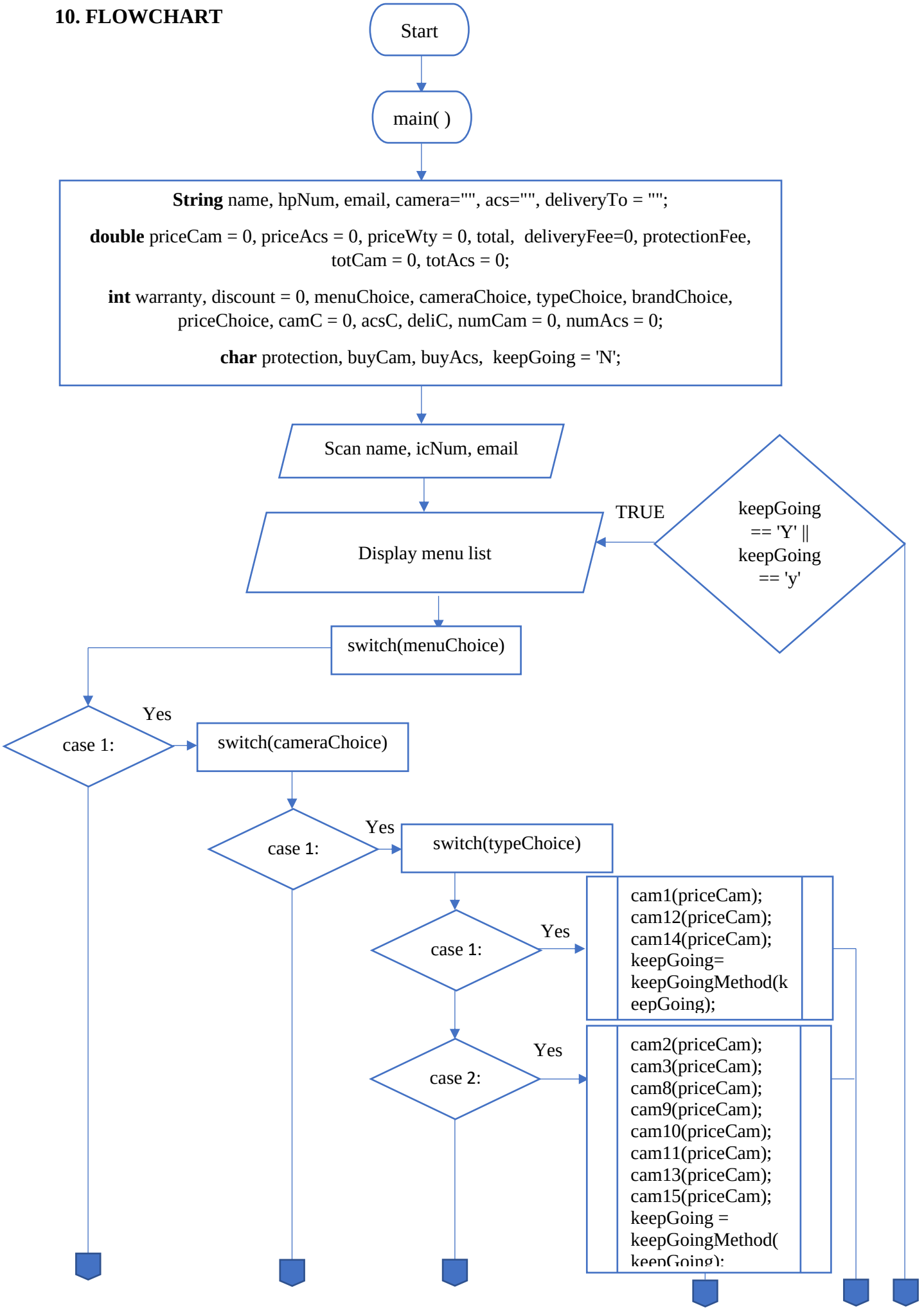
```
        priceCam = 5090;

method double cam7 (double priceCam)
        OUTPUT Nikon D850 information
        priceCam = 9099;
        RETURN priceCam;

method double cam8 (double priceCam)
        OUTPUT FujiFilm X-T30 information
        priceCam = 3379;
        RETURN priceCam;

method double cam9 (double priceCam)
        OUTPUT FujiFilm X-A7 information
        priceCam = 2999;
        RETURN priceCam;

method double cam10 (double priceCam)
        OUTPUT FujiFilm X100V information
        priceCam = 5899;
        RETURN priceCam;

method double cam11 (double priceCam)
        OUTPUT Sony A6000 information
        priceCam = 2199;
        RETURN priceCam;

method double cam12 (double priceCam)
        OUTPUT Sony A6400 information
        priceCam = 3899;
```

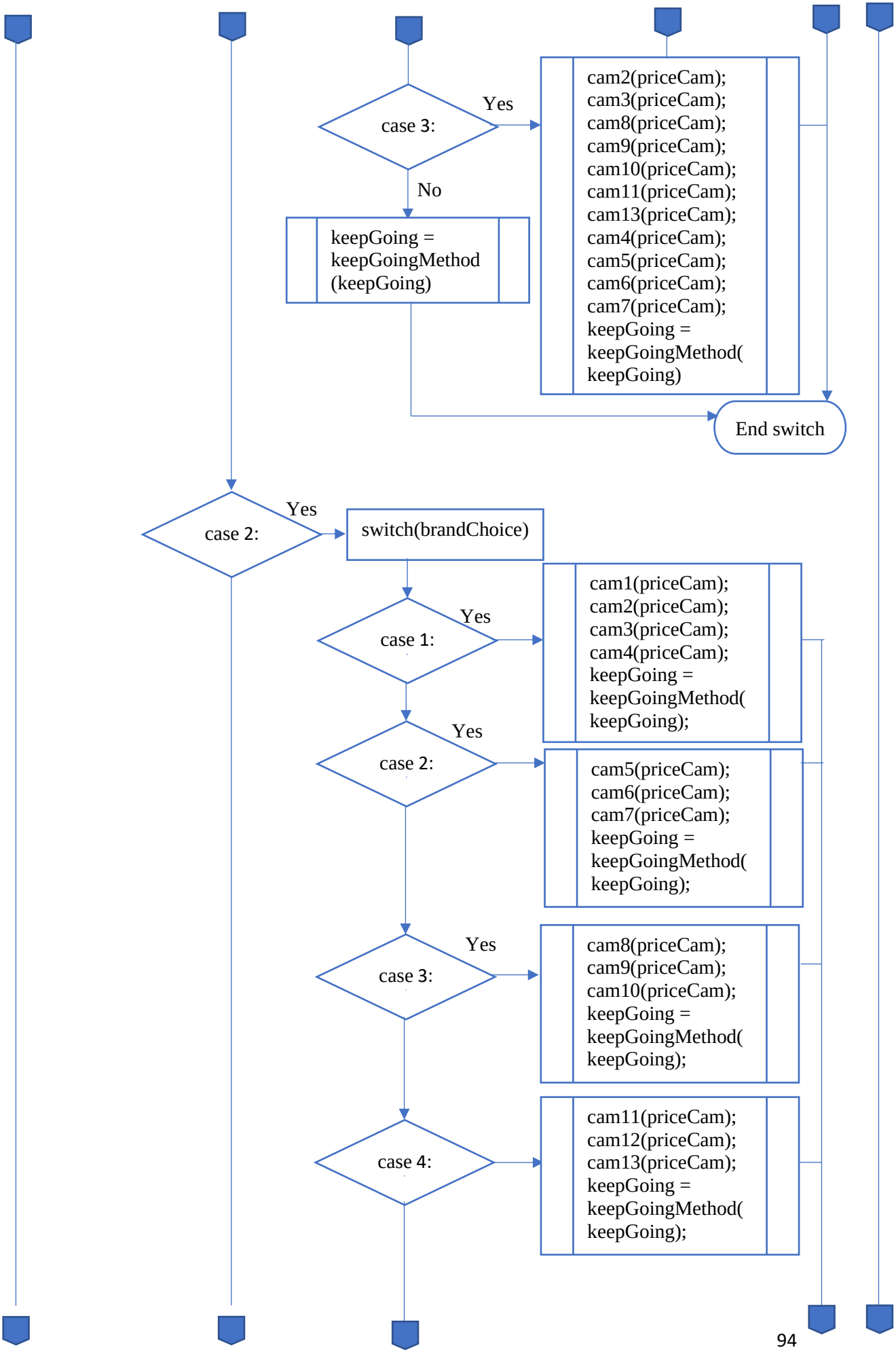
```
        RETURN priceCam;

method double cam13 (double priceCam)
        OUTPUT Sony A7 III information
        priceCam = 8588.90;
        RETURN priceCam;

method double cam14 (double priceCam)
        OUTPUT Leica Q2 information
        priceCam = 25260;
        RETURN priceCam;

method double cam15 (double priceCam)
        OUTPUT Leica M10 information
        priceCam = 27352;
        RETURN priceCam;

method char keepGoingMethod (char keepGoing)
        OUTPUT "Do you want to keep going?(Y/N): "
        INPUT keepGoing
        RETURN keepGoing;

method int numCamMethod (int numCam)
        OUTPUT "How many camera you want to buy?: "
        INPUT numCam
        RETURN numCam;

method int numAcsMethod(int numAcs)
        OUTPUT "How many accessories you want to buy?: "
        INPUT numAcs
```

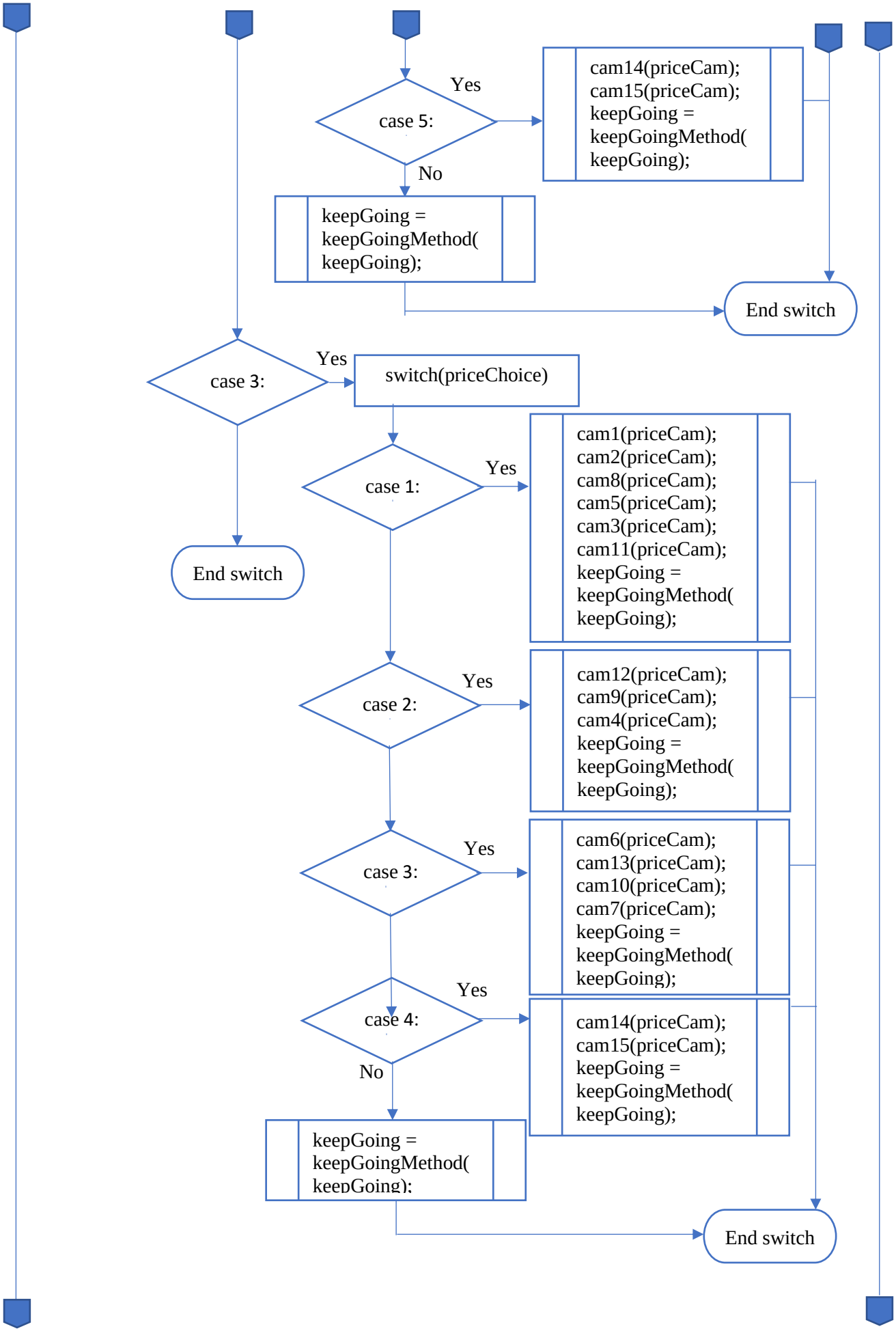
```
        RETURN numAcs;

method void printAcsList ()
        OUTPUT accessories list

method void printDeliWtyList()
        OUTPUT Delivery and Warranty List


method void freeGift2000()
        OUTPUT "- 32GB Memory Card"
        OUTPUT " - Camera Strap"

method void freeGift3500()
        OUTPUT " - 32GB Memory Card"
        OUTPUT " - Camera Strap"
        OUTPUT " - Camera Bag"
        OUTPUT " - Cleaning Kit"

method void freeGift5000()
        OUTPUT " - 32GB Memory Card"
        OUTPUT " - Camera Strap"
        OUTPUT " - Camera Bag"
        OUTPUT " - Cleaning Kit"
        OUTPUT " - Tripod"
        OUTPUT " - Battery"

method void buyCamList()
        OUTPUT camera price list
```

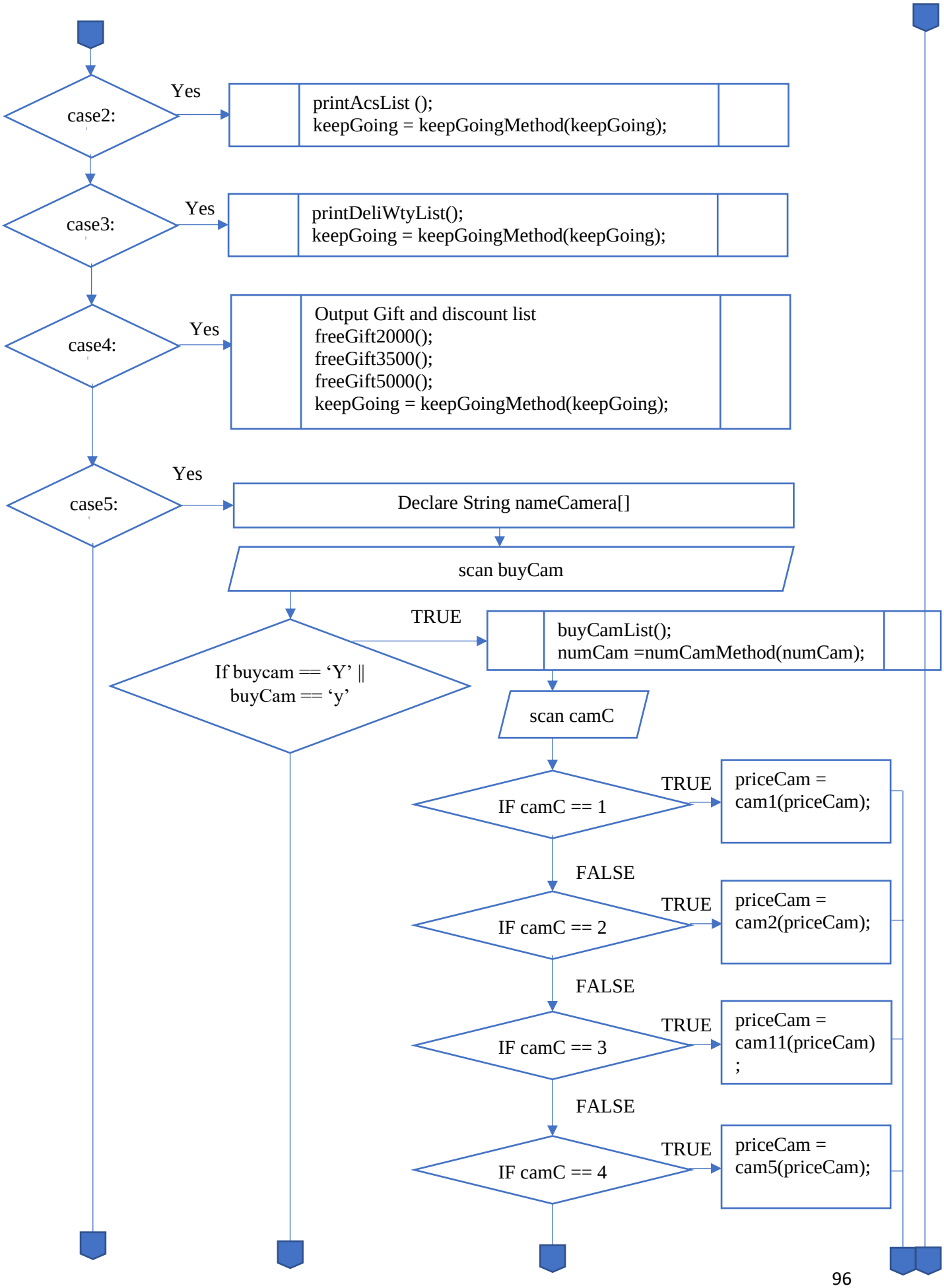
```
method void buyAcsList()
    OUTPUT accessories price list

method void buyDeliWtyList()
    OUTPUT delivery and warranty price list
```

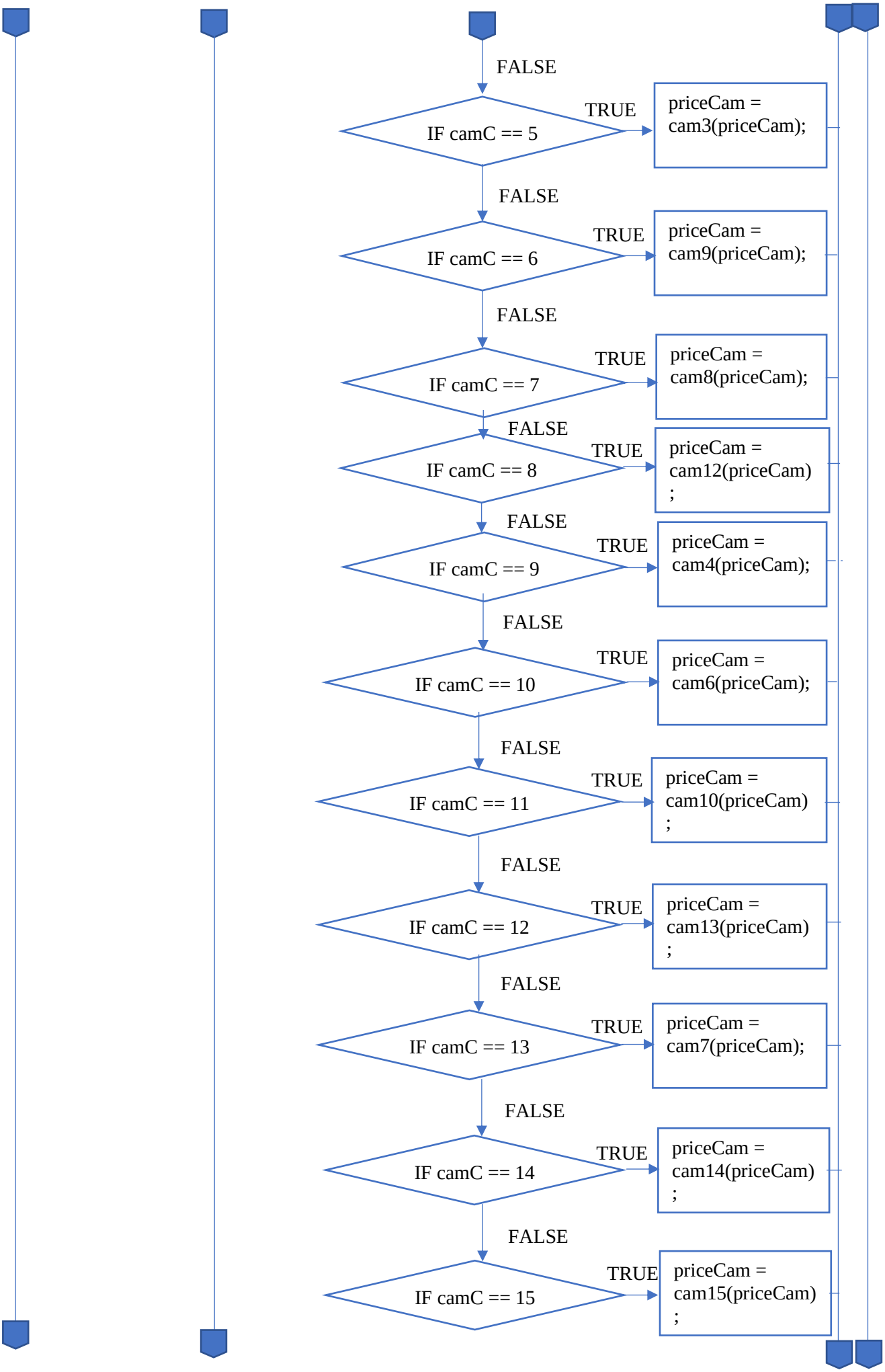
10. FLOWCHART

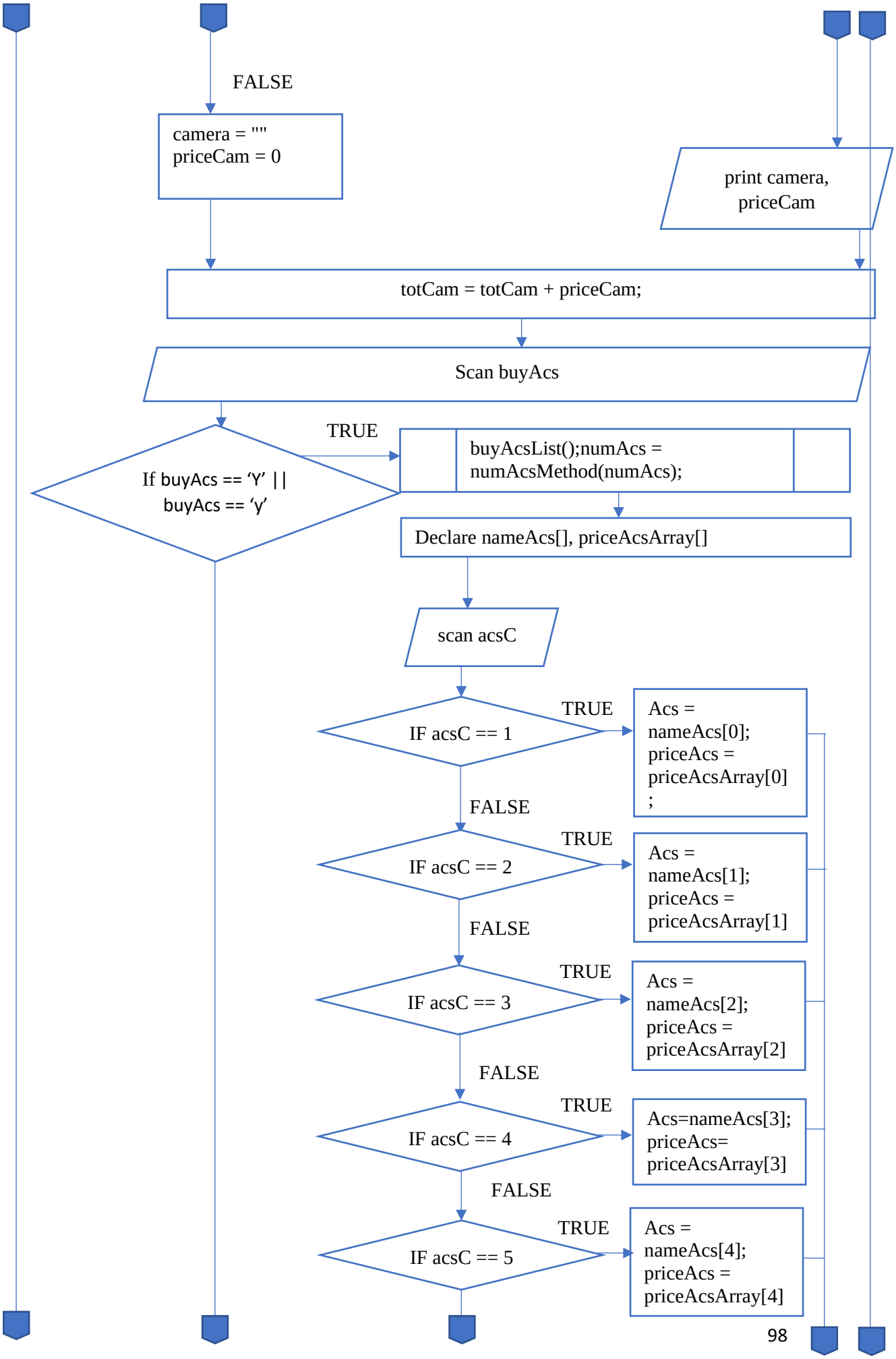


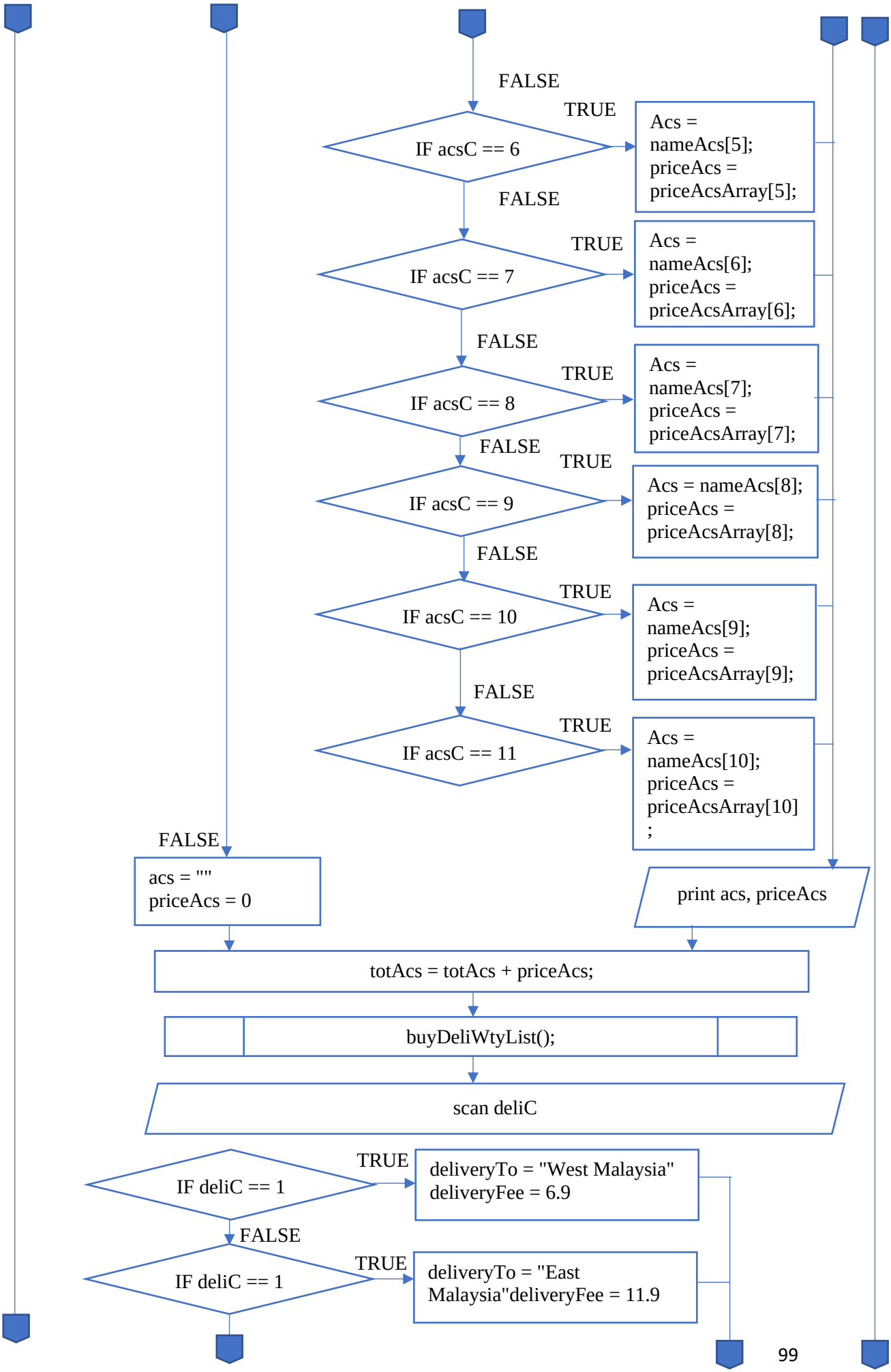

case 3:
Yes
No
cam2(priceCam);
cam3(priceCam);
cam8(priceCam);
cam9(priceCam);
cam10(priceCam);
cam11(priceCam);
cam13(priceCam);
cam4(priceCam);
cam5(priceCam);
cam6(priceCam);
cam7(priceCam);
keepGoing = keepGoingMethod(keepGoing)
keepGoing = keepGoingMethod (keepGoing)
End switch
case 2:
Yes
switch(brandChoice)
case 1:
Yes
cam1(priceCam);
cam2(priceCam);
cam3(priceCam);
cam4(priceCam);
keepGoing = keepGoingMethod(keepGoing);
case 2:
Yes
cam5(priceCam);
cam6(priceCam);
cam7(priceCam);
keepGoing = keepGoingMethod(keepGoing);
case 3:
Yes
cam8(priceCam);
cam9(priceCam);
cam10(priceCam);
keepGoing = keepGoingMethod(keepGoing);
case 4:
cam11(priceCam);
cam12(priceCam);
cam13(priceCam);
keepGoing = keepGoingMethod(keepGoing);

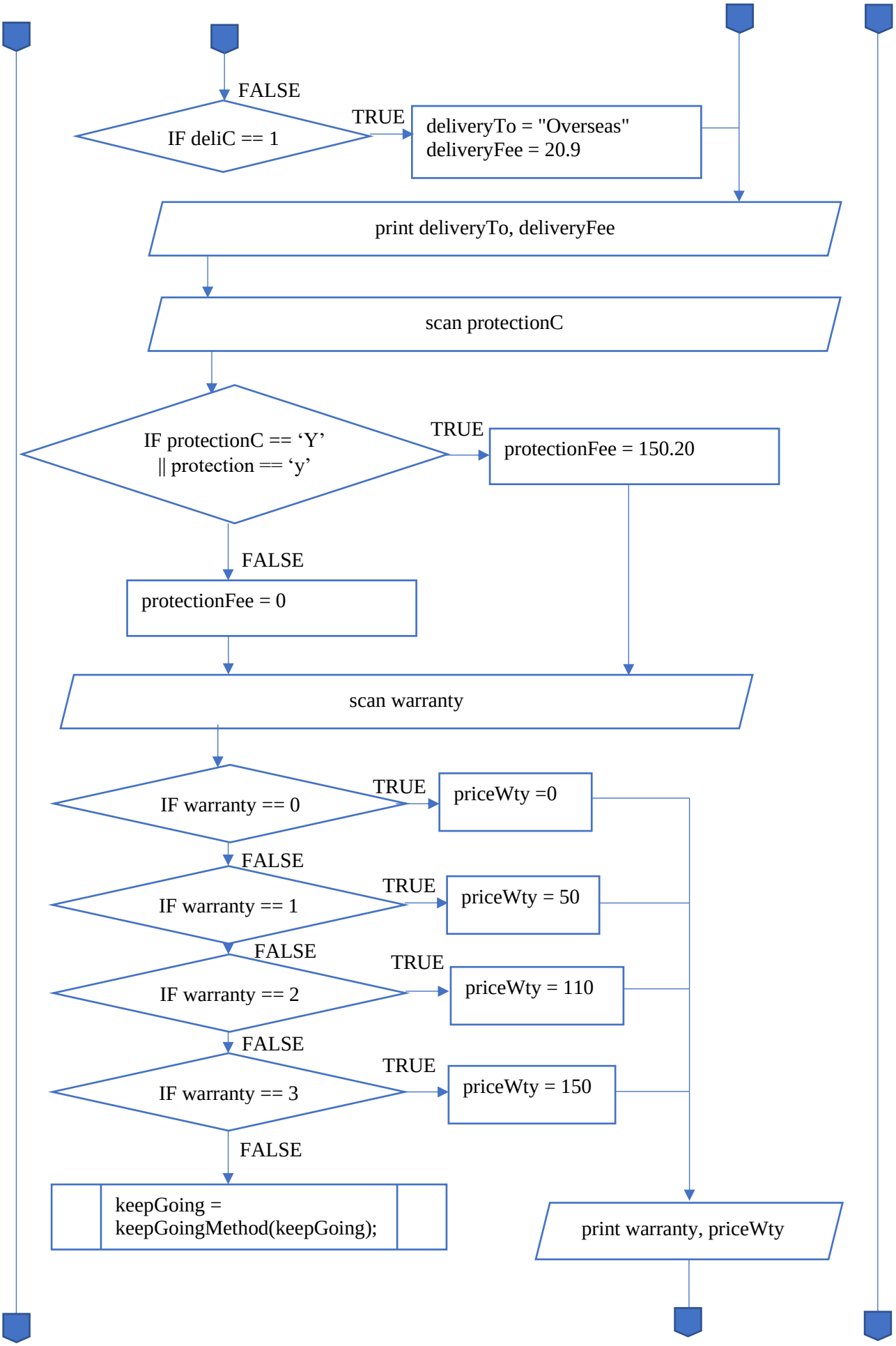

case 5:
Yes
No
cam14(priceCam);
cam15(priceCam);
keepGoing =
keepGoingMethod(
keepGoing);
keepGoing =
keepGoingMethod(
keepGoing);
End switch
case 3:
Yes
switch(priceChoice)
End switch
case 1:
Yes
cam1(priceCam);
cam2(priceCam);
cam8(priceCam);
cam5(priceCam);
cam3(priceCam);
cam11(priceCam);
keepGoing =
keepGoingMethod(
keepGoing);
case 2:
Yes
cam12(priceCam);
cam9(priceCam);
cam4(priceCam);
keepGoing =
keepGoingMethod(
keepGoing);
case 3:
Yes
cam6(priceCam);
cam13(priceCam);
cam10(priceCam);
cam7(priceCam);
keepGoing =
keepGoingMethod(
keepGoing);
case 4:
Yes
No
cam14(priceCam);
cam15(priceCam);
keepGoing =
keepGoingMethod(
keepGoing);
keepGoing =
keepGoingMethod(
keepGoing);
End switch

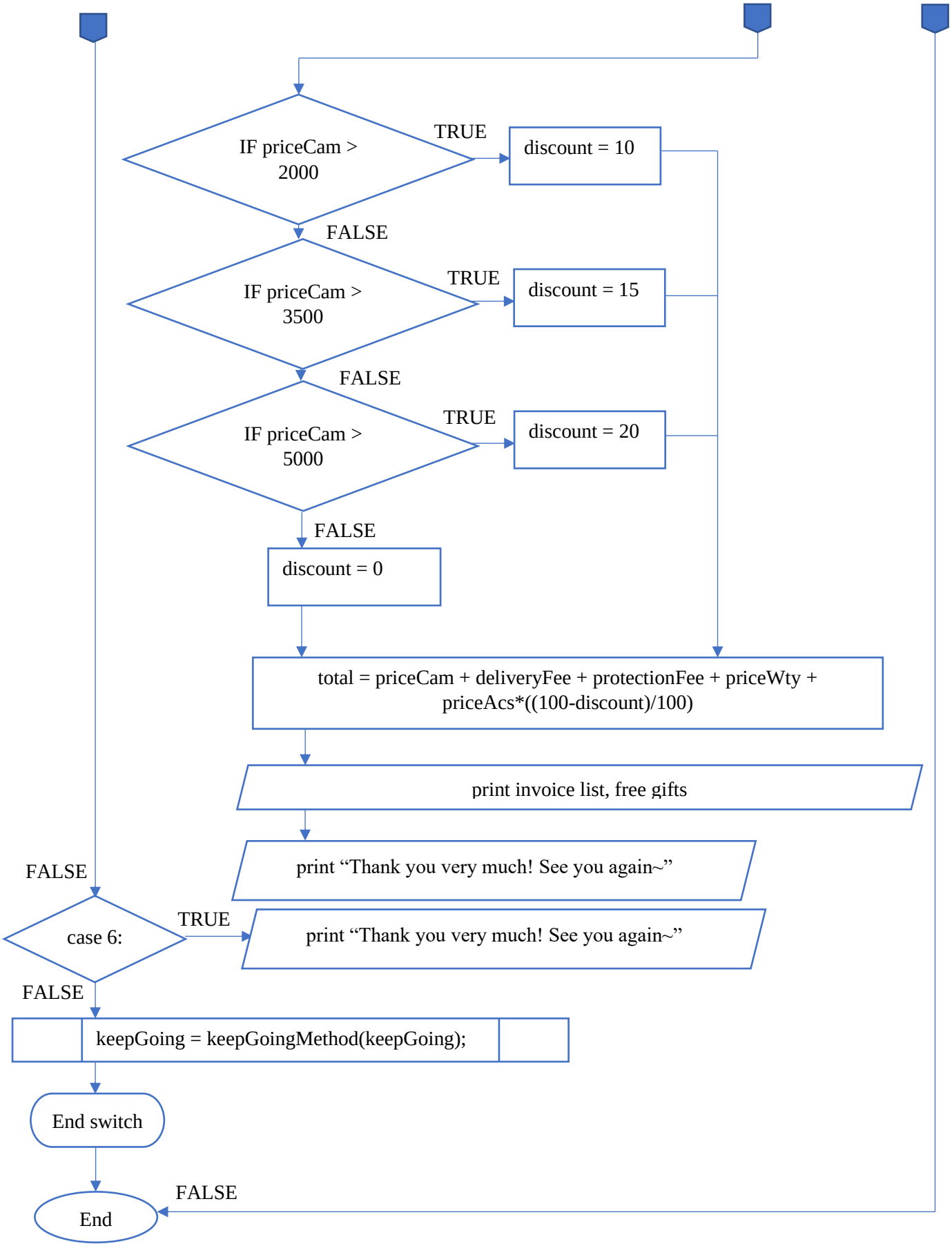

case2:
Yes
printAcsList ();
keepGoing = keepGoingMethod(keepGoing);
case3:
Yes
printDeliWtyList();
keepGoing = keepGoingMethod(keepGoing);
case4:
Yes
Output Gift and discount list
freeGift2000();
freeGift3500();
freeGift5000();
keepGoing = keepGoingMethod(keepGoing);
case5:
Yes
Declare String nameCamera[]
scan buyCam
If buycam == 'Y' ||
buyCam == 'y'
TRUE
buyCamList();
numCam =numCamMethod(numCam);
scan camC
IF camC == 1
TRUE
priceCam =
cam1(priceCam);
FALSE
IF camC == 2
TRUE
priceCam =
cam2(priceCam);
FALSE
IF camC == 3
TRUE
priceCam =
cam11(priceCam)
;
FALSE
IF camC == 4
TRUE
priceCam =
cam5(priceCam);

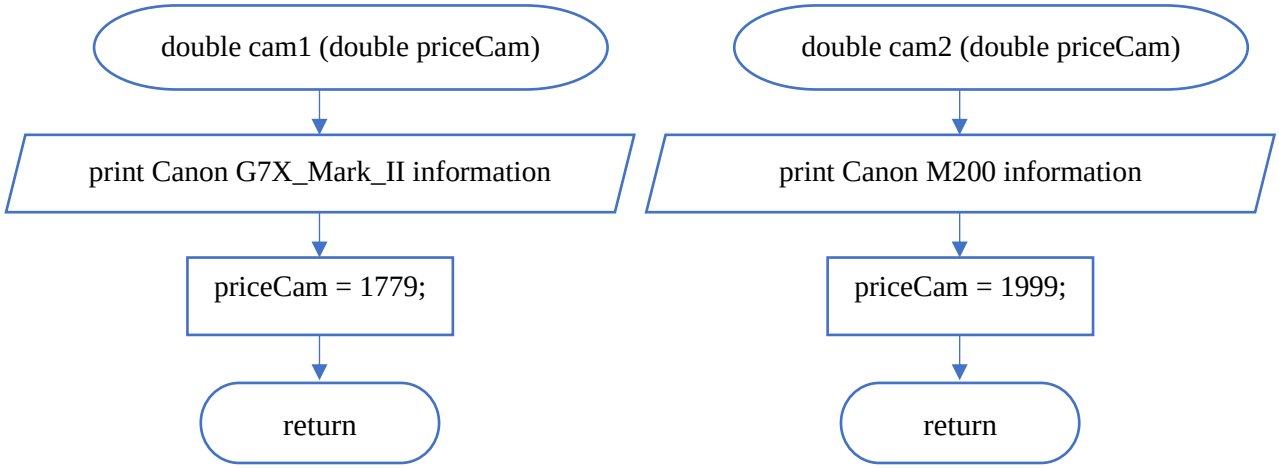

FALSE
IF camC == 5
TRUE
priceCam = cam3(priceCam);
FALSE
IF camC == 6
TRUE
priceCam = cam9(priceCam);
FALSE
IF camC == 7
TRUE
priceCam = cam8(priceCam);
FALSE
IF camC == 8
TRUE
priceCam = cam12(priceCam) ;
FALSE
IF camC == 9
TRUE
priceCam = cam4(priceCam);
FALSE
IF camC == 10
TRUE
priceCam = cam6(priceCam);
FALSE
IF camC == 11
TRUE
priceCam = cam10(priceCam) ;
FALSE
IF camC == 12
TRUE
priceCam = cam13(priceCam) ;
FALSE
IF camC == 13
TRUE
priceCam = cam7(priceCam);
FALSE
IF camC == 14
TRUE
priceCam = cam14(priceCam) ;
FALSE
IF camC == 15
TRUE
priceCam = cam15(priceCam) ;

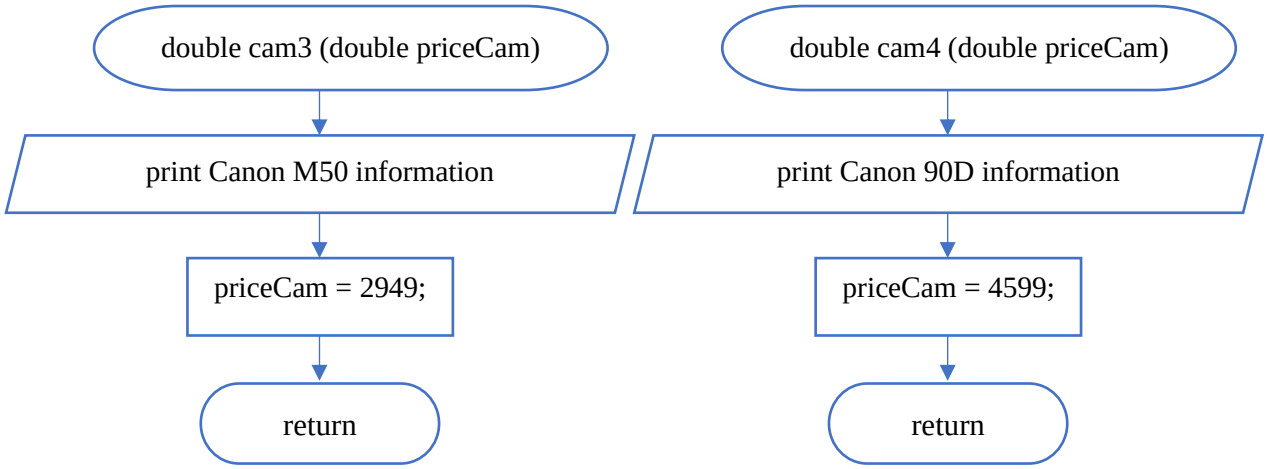

FALSE
camera = ""
priceCam = 0
print camera, priceCam
totCam = totCam + priceCam;
Scan buyAcs
TRUE
If buyAcs == 'Y' || buyAcs == 'y'
buyAcsList();numAcs = numAcsMethod(numAcs);
Declare nameAcs[], priceAcsArray[]
scan acsC
TRUE
IF acsC == 1
Acs = nameAcs[0]; priceAcs = priceAcsArray[0] ;
FALSE
TRUE
IF acsC == 2
Acs = nameAcs[1]; priceAcs = priceAcsArray[1]
FALSE
TRUE
IF acsC == 3
Acs = nameAcs[2]; priceAcs = priceAcsArray[2]
FALSE
TRUE
IF acsC == 4
Acs=nameAcs[3]; priceAcs= priceAcsArray[3]
FALSE
TRUE
IF acsC == 5
Acs = nameAcs[4]; priceAcs = priceAcsArray[4]

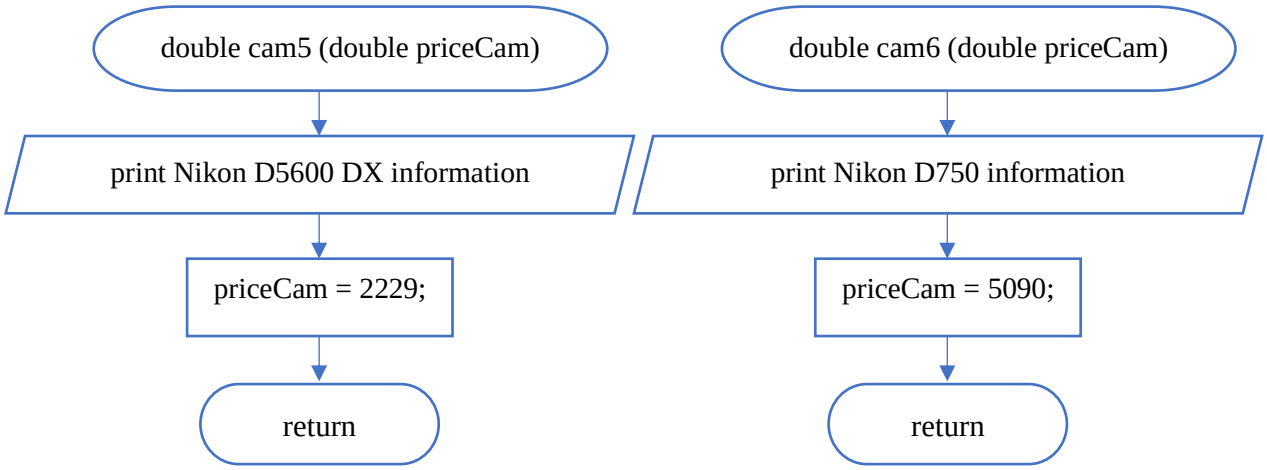

FALSE
TRUE
IF acsC == 6
Acs = nameAcs[5]; priceAcs = priceAcsArray[5];
FALSE
TRUE
IF acsC == 7
Acs = nameAcs[6]; priceAcs = priceAcsArray[6];
FALSE
TRUE
IF acsC == 8
Acs = nameAcs[7]; priceAcs = priceAcsArray[7];
FALSE
TRUE
IF acsC == 9
Acs = nameAcs[8]; priceAcs = priceAcsArray[8];
FALSE
TRUE
IF acsC == 10
Acs = nameAcs[9]; priceAcs = priceAcsArray[9];
FALSE
TRUE
IF acsC == 11
Acs = nameAcs[10]; priceAcs = priceAcsArray[10] ;
FALSE
acs = "" priceAcs = 0
print acs, priceAcs
totAcs = totAcs + priceAcs;
buyDeliWtyList();
scan deliC
TRUE
IF deliC == 1
deliveryTo = "West Malaysia" deliveryFee = 6.9
FALSE
TRUE
IF deliC == 1
deliveryTo = "East Malaysia"deliveryFee = 11.9


FALSE
IF deliC == 1
TRUE
deliveryTo = "Overseas"
deliveryFee = 20.9
print deliveryTo, deliveryFee
scan protectionC
IF protectionC == 'Y'
|| protection == 'y'
TRUE
protectionFee = 150.20
FALSE
protectionFee = 0
scan warranty
IF warranty == 0
TRUE
priceWty =0
FALSE
IF warranty == 1
TRUE
priceWty = 50
FALSE
IF warranty == 2
TRUE
priceWty = 110
FALSE
IF warranty == 3
TRUE
priceWty = 150
FALSE
keepGoing =
keepGoingMethod(keepGoing);
print warranty, priceWty

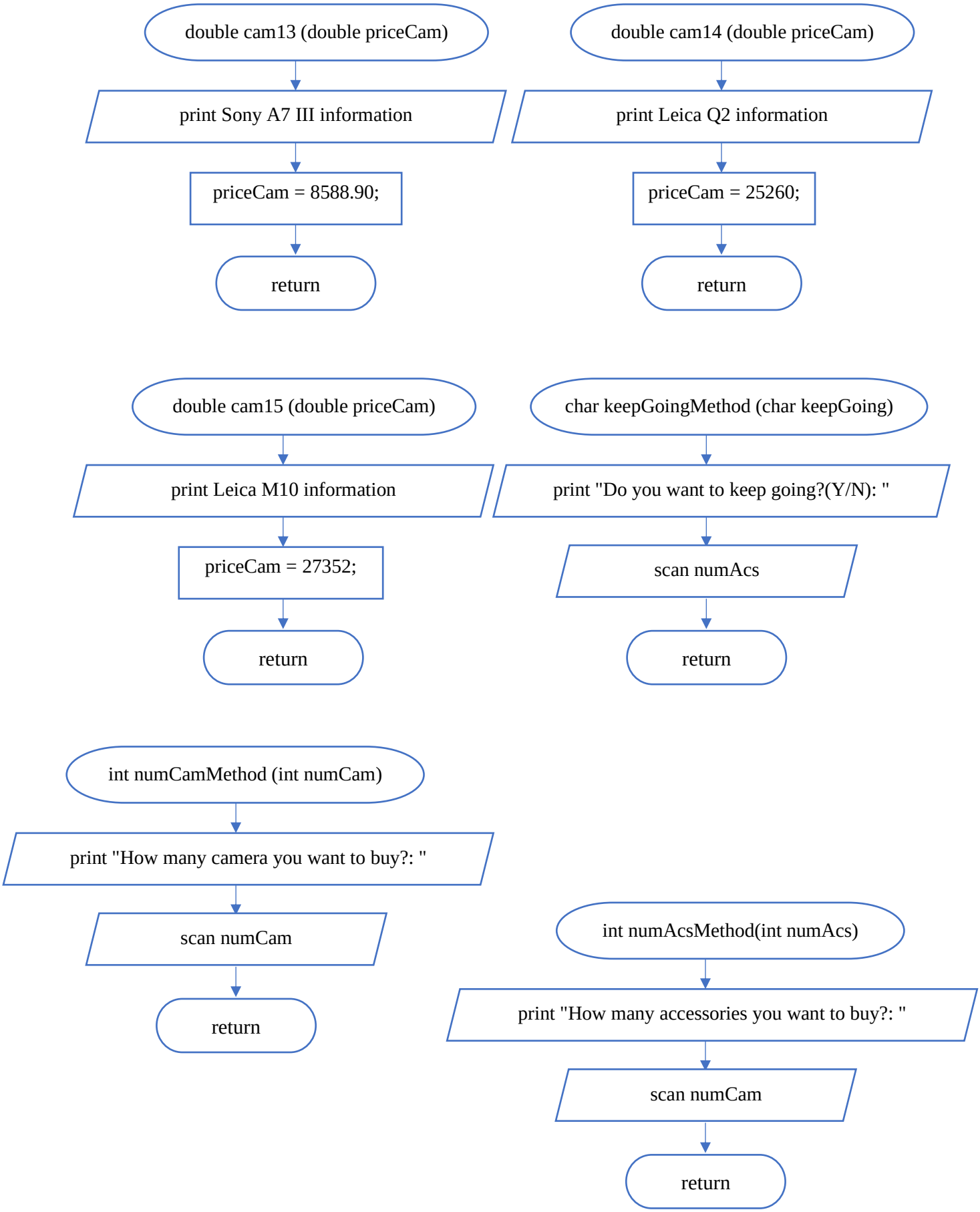

IF priceCam > 2000
TRUE
discount = 10
FALSE
IF priceCam > 3500
TRUE
discount = 15
FALSE
IF priceCam > 5000
TRUE
discount = 20
FALSE
discount = 0
total = priceCam + deliveryFee + protectionFee + priceWty + priceAcs*((100-discount)/100)
print invoice list, free gifts
print “Thank you very much! See you again~”
FALSE
case 6:
TRUE
print “Thank you very much! See you again~”
FALSE
keepGoing = keepGoingMethod(keepGoing);
End switch
FALSE
End

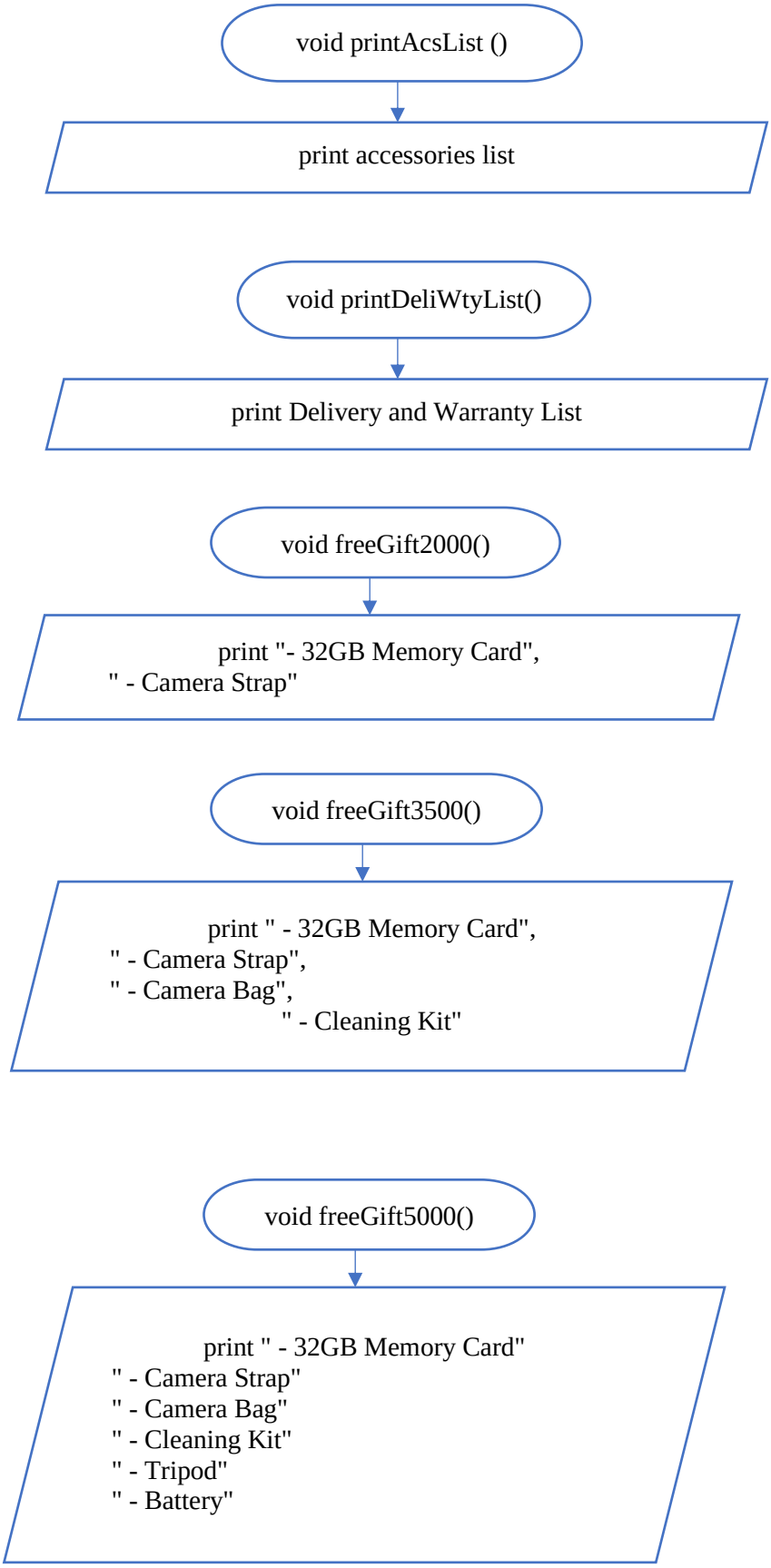

double cam1 (double priceCam)
print Canon G7X_Mark_II information
priceCam = 1779;
return
double cam2 (double priceCam)
print Canon M200 information
priceCam = 1999;
return

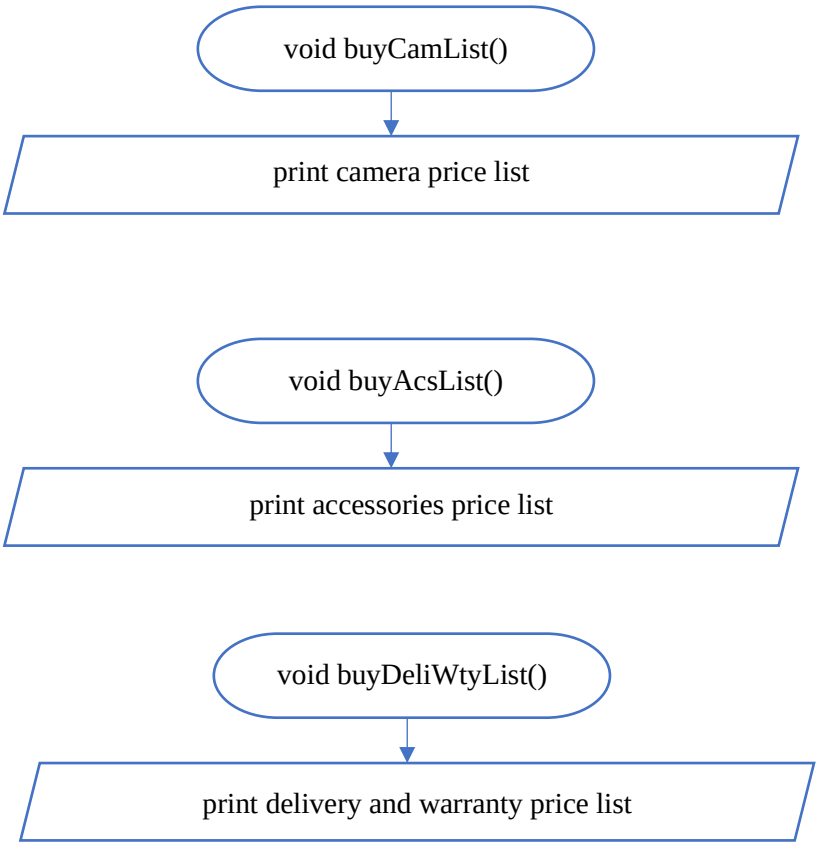

double cam3 (double priceCam)
print Canon M50 information
priceCam = 2949;
return
double cam4 (double priceCam)
print Canon 90D information
priceCam = 4599;
return


double cam5 (double priceCam)
print Nikon D5600 DX information
priceCam = 2229;
return
double cam6 (double priceCam)
print Nikon D750 information
priceCam = 5090;
return

double cam7 (double priceCam)
print Nikon D850 information
priceCam = 9099;
return
double cam8 (double priceCam)
print FujiFilm X-T30 information
priceCam = 3379;
return
double cam9 (double priceCam)
print FujiFilm X-A7 information
priceCam = 2999;
return
double cam10 (double priceCam)
print FujiFilm X100V information
priceCam = 5899;
return
double cam11 (double priceCam)
print Sony A6000 information
priceCam = 2199;
return
double cam12 (double priceCam)
print Sony A6400 information
priceCam = 3899;
return


double cam13 (double priceCam)
print Sony A7 III information
priceCam = 8588.90;
return
double cam14 (double priceCam)
print Leica Q2 information
priceCam = 25260;
return
double cam15 (double priceCam)
print Leica M10 information
priceCam = 27352;
return
char keepGoingMethod (char keepGoing)
print "Do you want to keep going?(Y/N): "
scan numAcs
return
int numCamMethod (int numCam)
print "How many camera you want to buy?: "
scan numCam
return
int numAcsMethod(int numAcs)
print "How many accessories you want to buy?: "
scan numCam
return


void printAcsList ()
print accessories list
void printDeliWtyList()
print Delivery and Warranty List
void freeGift2000()
print "- 32GB Memory Card",
" - Camera Strap"
void freeGift3500()
print " - 32GB Memory Card",
" - Camera Strap",
" - Camera Bag",
" - Cleaning Kit"
void freeGift5000()
print " - 32GB Memory Card"
" - Camera Strap"
" - Camera Bag"
" - Cleaning Kit"
" - Tripod"
" - Battery"



11. Coding:

https://github.com/LimHuiQi/Coding.git

A211 STIA1113 – PROGRAMMING 1 (GROUP C)

LECTURER : Prof. Madya Dr. Azman B Yasin

NAME : YAP JIA JUN

MATRICS NUMBER : 287652

TOPIC : LIFESTYLE

SUBTOPIC : CLOTHES

CONTENTS

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1. IDENTIFY THE PROBLEM

The Mytheresa online shop was founded in 2006 by Susanne and Christoph Botschen and is associated with the multi-brand store in Munich (previously THERESA. store). Their selection consists of high-end clothing, shoes, bags and accessories from luxury designer brands such as Bottega Veneta, Burberry, Fendi, Gucci, Moncler, Loro Piana and many more. As an international retailer, Mytheresa operates in 8 languages: English, German, French, Italian, Spanish, Arabic, Chinese and Korean. Its CEO is Michael Kliger.

In January 2021, Mytheresa filed an IPO on the New York Stock Exchange that valued the company at $2.2 billion; its valuation increased to $3 billion on its first day of trading. In the same year, Mytheresa also launched a kidswear category and January 2020 saw the launch of Mytheresa Men. Mytheresa is an online based clothes selling platform. It will clear its' off-season stock every year just to make sure there's not much leftover stock.

During this clearing stock season Mytheresa will employ a lot of part-timer to do the stock clearing action. Although there will be a lot of part-timer but they are not familiar with the clearing system and they will cause Mytheresa facing some loss when they are making the 4th quarter report. So, Mytheresa is developing a new system to make sure all the employer including those part-timer to use to make sure there's no more mistakes that will cause loss to the company.

2. UNDERSTAND THE PROBLEM

It's the final season of the year and Mytheresa wants to make a clothes promotion of the year. This promotion is held to clear the stocks that is remaining in the store. This promotion includes all the clothes that are currently selling in the store. The company wants to make sure that all the off-season stock can be cleared as much as they can so that they can refill with new stock. All the clothes were categorised based on the size, gender and type of clothes. The promotion will be held from 24th of December 2021 till 1st of January 2022. So

the team need to create a system that can calculate the price for each clothes based on the promotion.

3. IDENTIFY ALTERNATIVE WAYS TO SOLVE THE PROBLEM

1. Calculate the price for each categories' clothes after the promotion starts.
2. Calculate the price if customers buy the first piece of clothes will get 10% discount, 25% discount on the second one and then 45% discount on the third one and this promotion is only valid for the customer with membership.

4. SELECT THE BEST WAY TO SOLVE THE PROBLEM FROM THE LIST OF ALTERNATIVE SOLUTIONS.

The best solution is the combination of the two solutions that is stated above because it is more accurate and customers with membership or without it will know how much are they paying for the clothes.

5. EVALUATE THE SOLUTION :

This combination of two solutions is more accurate and it will help the customer to know how much are the price for the clothes. The customer will then satisfy with the promotion when they are buying clothes.

6. LIST INSTRUCTIONS THAT ENABLE YOU TO SOLVE THE PROBLEM USING THE SELECTED SOLUTION.

1. Enter the name of the customer.

    a. Example : name : "yap jia jun"

2. Enter the gender of the customer.

    b. Example : gender : "male"

3. Do you have membership?

    c. Example : membership : "yes" or "no"

3. Enter the ID number for the customer with membership and non-membership will need to enter "-"

    c. Example : membership ID : "220345" or "-"

5. Your membership is already expired. Do you want to renew it?

e. Example: Renew or not : “yes” or “no”

6. The membership fee is RM 20 for 1 year membership, RM 35 for 2 year membership and RM 50 for 3 year membership. Which one would you like to prefer?

f. Example : Which one would you like to prefer? : “1 year membership”

4. Enter the type of clothes.

e. Example : type : “jacket”

8. enter the size that is needed.

h. Example : size : “M”

5. Enter the quantity that is needed.

f. Example : quantity : “1”

6. Calculate the price for the clothes that is selected by the customer.

g. Example : price : “RM 150”

7. Enter whether is there anymore clothes that is needed by the customer.

h. Example : is there anymore clothes that is needed? : “yes” or “no”

8. Total original price.

i. Example : total original price : “RM 150”

9. Total price after the promotion.

j. Example : total price after the promotion : “RM 135”

7. ALGORITHM :

Type of clothes	Price
Casual wear :	
Tee	450
Shorts	580
Skirt	650
Polo shirt	550
Formal :	
Suit jacket	2000
Pants	950
Blouse	1450

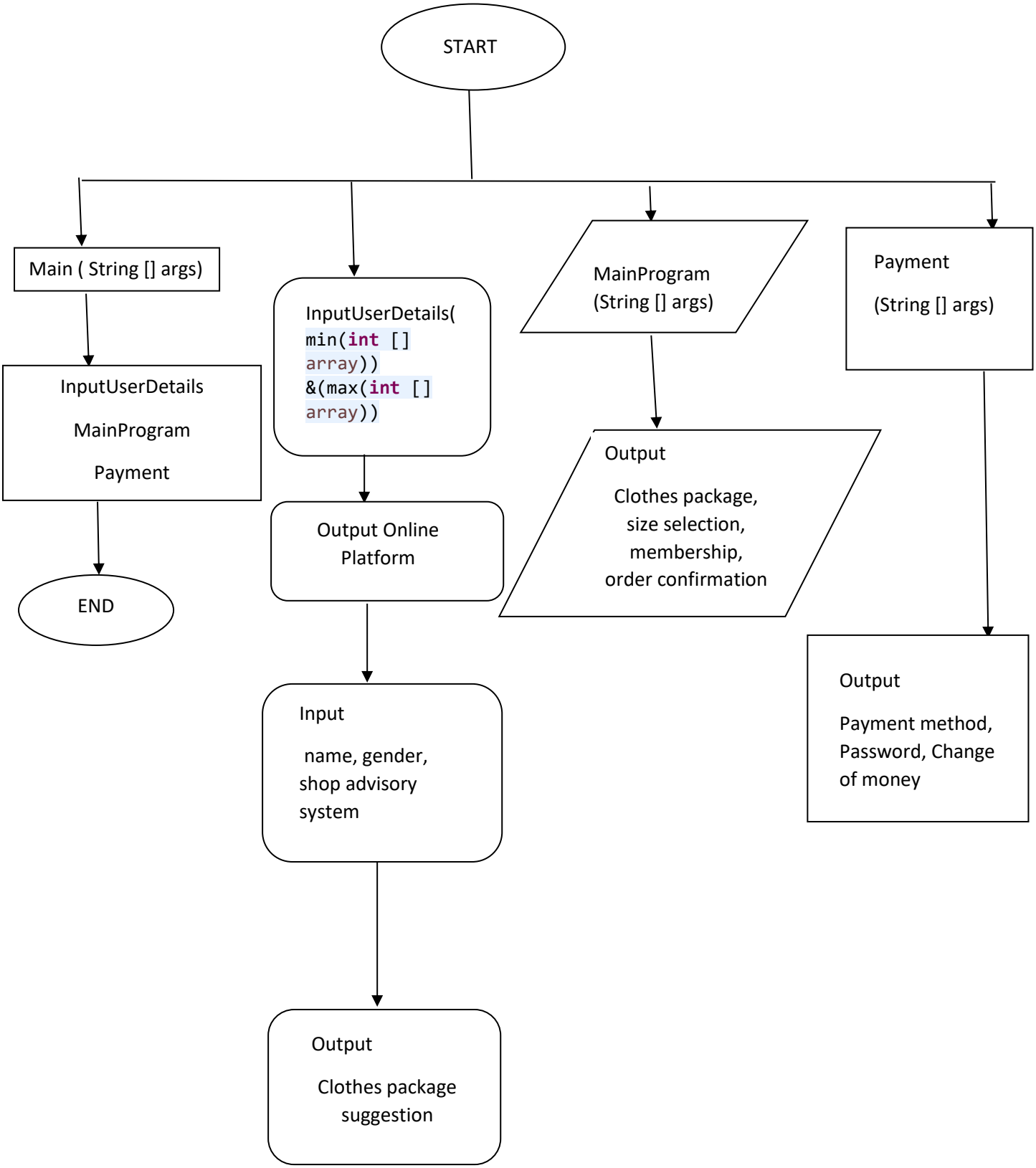
Dress	3500
Long sleeve : Jacket Hoodies Coat Sweater	 840 680 3800 1000

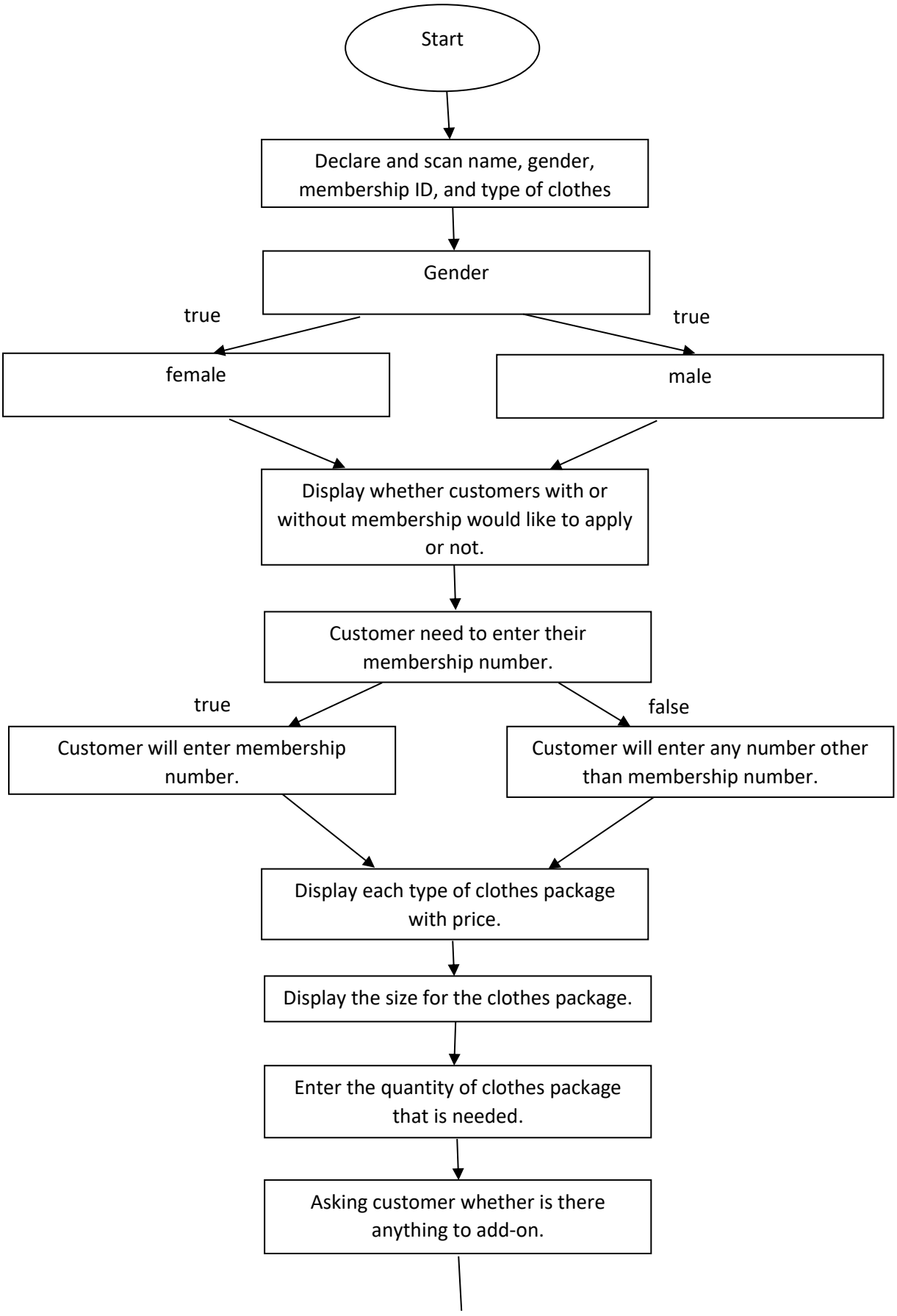
With membership	Non-membership
First piece of clothes with 10% discount Total price = Price of the clothes * 90/100 = RM X	Original price Total price = Price of the clothes
Second piece of clothes with 25% discount Total price = Price of the clothes * 75/100 = RM Y	Original price Total price = Price of the clothes
Third piece of clothes with 45% discount Total price = Price of the clothes * 55/100 = RM Z	Original price Total price = Price of the clothes

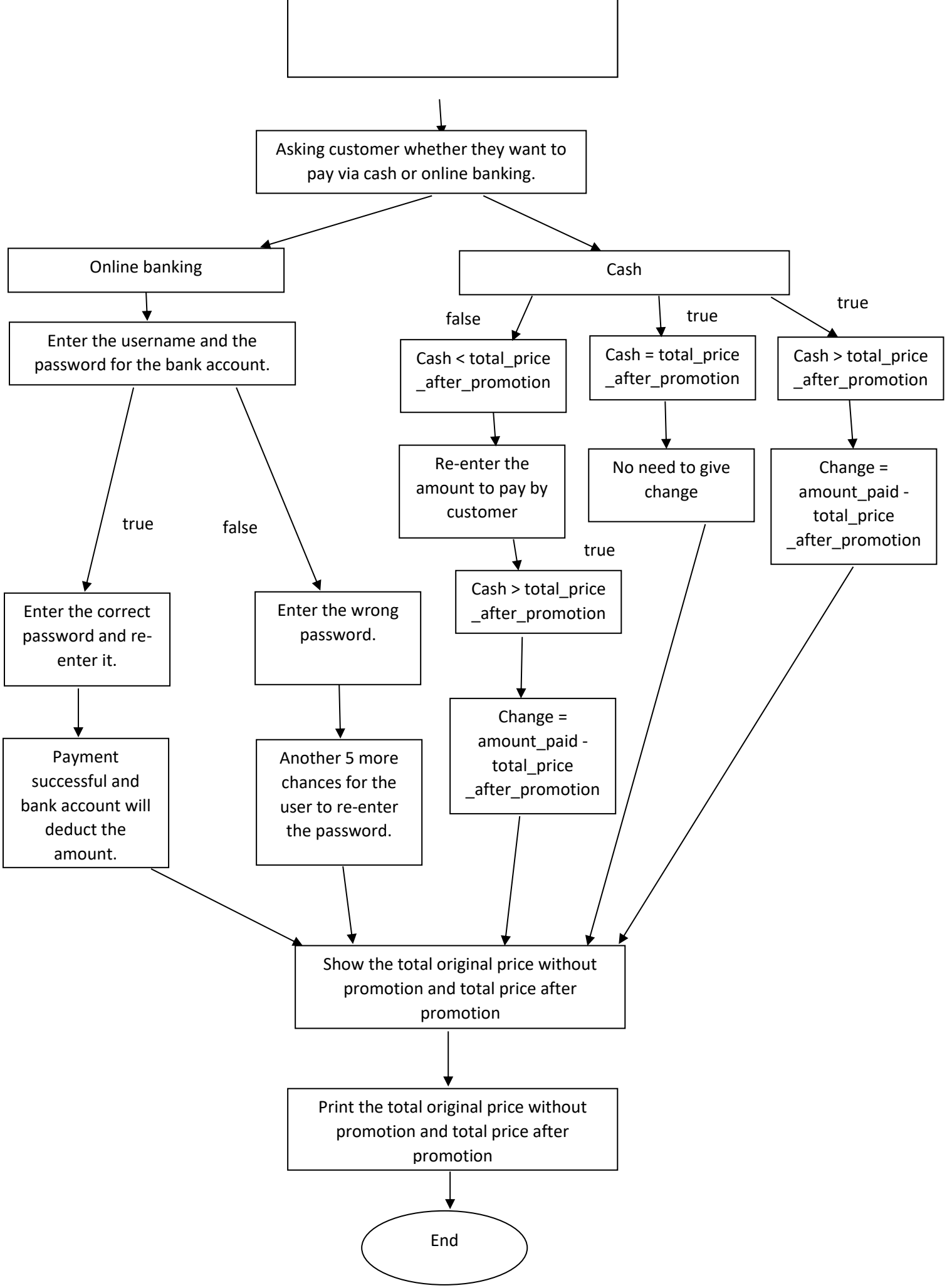
8. PSEUDOCODE :

1. Start
2. Declare name, gender, membership ID, and type of clothes
3. Scan the name, gender, membership ID
4. Display the type of clothes
5. Scan the type of clothes
6. Enter the quantity of clothes that is needed
7. Enter is there anymore clothes that is needed by the customer
8. Show the total original price without promotion
9. Print total original price
10. Show the total price after the discount
11. Print total price after promotion
12. End

9. FLOW CHART :


START
Main (String [] args)
InputUserDetails
MainProgram
Payment
END
InputUserDetails(
min(int [] array))
&(max(int [] array))
Output Online Platform
Input
name, gender, shop advisory system
Output
Clothes package suggestion
MainProgram
(String [] args)
Output
Clothes package, size selection, membership, order confirmation
Payment
(String [] args)
Output
Payment method, Password, Change of money


Start
Declare and scan name, gender, membership ID, and type of clothes
Gender
true
true
female
male
Display whether customers with or without membership would like to apply or not.
Customer need to enter their membership number.
true
false
Customer will enter membership number.
Customer will enter any number other than membership number.
Display each type of clothes package with price.
Display the size for the clothes package.
Enter the quantity of clothes package that is needed.
Asking customer whether is there anything to add-on.


Asking customer whether they want to pay via cash or online banking.
Online banking
Cash
Enter the username and the password for the bank account.
false
true
true
Cash < total_price _after_promotion
Cash = total_price _after_promotion
Cash > total_price _after_promotion
Re-enter the amount to pay by customer
No need to give change
Change = amount_paid - total_price _after_promotion
true
false
true
Enter the correct password and re-enter it.
Enter the wrong password.
Cash > total_price _after_promotion
Change = amount_paid - total_price _after_promotion
Payment successful and bank account will deduct the amount.
Another 5 more chances for the user to re-enter the password.
Show the total original price without promotion and total price after promotion
Print the total original price without promotion and total price after promotion
End

10. CODING
https://github.com/STIA1113-GROUP-C-WAN-RUI-YIN/ASSIGNMENT-3-GROUP-7-LIFESTYLE.git

ASSIGNMENT 3

A211 STIA1113 – PROGRAMMING 1 (GROUP C)

LECTURER : Prof. Madya Dr. Azman B Yasin

NAME : NURFARAH WAHIDA BINTI ZULKFLE

MATRICS NUMBER: 2288062

TOPIC : LIFESTYLE

SUBTOPIC : HOUSE INTERIOR DESIGN

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1. IDENTIFY THE PROBLEM

Interior design is the art and science of building in order to create a healthier and more aesthetically pleasing environment for those who use it. An interior designer plans, researches, coordinates, and manages such improvement projects. Interior design is a popular desire among today's generations. Meridian Interiors is a design firm that consistently delivers best-in-class interiors by combining design excellence with ability. Meridian Interiors, founded in 2002, is the collaboration of long-time colleagues Kath Scwendimann. As one of the best interior design companies in Selangor and Kuala Lumpur, we can assist you in creating environments that best reflects you Meridian Interior Design guides our clients through a simple Three-Step Method for selecting the look that best suits their individual lifestyle: A successful room is one that is functional, a successful room conveys a sense of mood or a successful room exudes a sense of balance. We believe in the importance of quality and dependability. Because each person is unique, we collaborate with our clients to create an environment that is as distinct as their own individual personality. However, as demand grows, the price of interior design fees rises sharply. Budgeting is one of the most difficult aspects of interior design

2. UNDERSTAND THE PROBLEM

Different clients have different budgets, making it difficult for designers to stick to them. An interior designer's vision may require the client to increase their budget at times, but how adaptable the designers are to mould themselves to a client's budget?

So, the designer must set a reasonable price. There are few factors can be selected to determine the charge for the design such as based on total area, design and colours. Aside from that, the designer must know whether the design will be used in a living room, bedroom, study room, gaming room, studio, kitchen, or toilet in order to create a suitable design.

3. IDENTIFY ALTERNATIVE WAYS TO SOLVE THE PROBLEM

a) Use type of room (living room, bedroom, study room, gaming room, studio, kitchen, or toilet) to determine the price.
b) Use size of the room to determine the price.
c) Use room colour to determine the price. (extra charge for premium colour such as gold, silver and rose gold)
d) Use type of design (modern, vintage, traditional, custom) to determine the price.

4. SELECT THE BEST WAY TO SOLVE THE PROBLEM FROM THE LIST OF ALTERNATIVE SOLUTIONS

To determine the logical and affordable price for the design, the best and most accurate method is to combine all four methods. The charges will be easier for the customer to understand.

5. LIST INSTRUCTIONS THAT ENABLE YOU TO SOLVE THE PROBLEM USING THE SELECTED SOLUTION

i. User choose either the design is for [1] living room, [2] bedroom, [3] study room, [4] gaming room, [4] studio, [5] kitchen, or [6] toilet.

ii. State type of set using String

iii. Example: a = "Modern + Basic"

iv. State price for each design

v. Example: Modern= RM 25 per square ft

vi. State price for room colour

vii. Basic = RM 2.20 per square ft

viii. Premium = RM 3.00 per square ft

ix. (premium colours: gold, silver and rose gold)

x. User insert room size (width, length in ft)

xi. Calculate total area = (width * length)

xii. Calculate charges for each design

Example: (modern x total area)

xiii. Calculate charges for room painting

Example: (basic x total area)

xiv. Calculate total charges for each set (charge for room painting + charge for design)

xv. Display house design for [1] living room, [2] bedroom, [3] study room, [4] gaming room, [4] studio, [5] kitchen, or [6] toilet, room size, sets and total charges for each set.

CALCULATION TABLE

No.	Type of Calculation	Formula	Explanation
1	Calculate total area	Total area = length (in ft) x width (in ft)	Length and width are inserted by the user
2	Calculate charges for each design	modern x total area	This is the calculation for modern design. Charge for modern design is RM 25 per square feet.
		vintage x total area	This is the calculation for vintage design. Charge for vintage design is RM 30 per square feet.
		traditional x total area	This is the calculation for traditional design. Charge for vintage design is RM 35 per square feet.
		custom x total area	This is the calculation for custom design. Charge for modern design is RM 45 per square feet.
3	Calculate charges for room painting	Price = Total area x basic	Charge for basic colours is RM 2.20 per square feet.
		Price 2 =Total area x premium	Charge for premium colours (gold, silver or rose gold) is RM 3.00 per square feet.
4	Calculate total charges for each set	Set A = Price10 + Price1	Set A = Modern design and Basic Colours
		Set B = Price11 + Price2	Set B = Modern design and Premium Colours
		Set C = Price12 + Price1	Set C = Vintage design and Basic Colours
		Set D = Price13 + Price2	Set D= Vintage design and Premium Colours
		Set E = Price14 + Price1	Set E = Traditional design and Basic Colours
		Set F = Price15 + Price2	Set F = Traditional design and Premium Colours
		Set G = Price16 + Price1	Set G = Custom design and Basic Colours
		Set H = Price17 + Price2	Set H = Custom design and Premium Colours

6. EVALUATE THE SOLUTION

Regarding this solution, the user, who is also the designer, can set fixed and reasonable prices with a few packages so that customers can choose which package suit their budgets. Aside from that, the customer can learn about the criteria used to determine the price of the design.

7. ALGORITHM

i. Store package, design, and colour in array

ii. User insert design for [1] living room, [2] bedroom, [3] study room, [4] gaming room, [4] studio, [5] kitchen, or [6] toilet.

iii. User insert width and length

iv. Use user-defined method declare and return width and length to calculate total area = width (in ft) x length (in ft)

v. Calculate charges for each design

```
price = modern * total_area;
price = vintage * total_area;
price= traditional * total_area;
price = custom * total_area;
```

vi. Calculate charges for room painting

```
price1 = total_area * basic;
price2 = total_area * premium;
```

vii. Calculate total charges for each set

```
Set = priceDesign + priceColour;
```

viii. Output will display design for living room, bedroom or kitchen Room, room size and total charges for each set (Order receipt).

Display Thanks greeting message using predefined method

8. PSEUDO CODE

Start

Display greetings

Read package

Begin while

While (set != 1 && set != 2 && set != 3 && set != 4 && set != 5 && set != 6 && set != 7 && set != 8)

Print “Invalid”

Print “Please choose your package”

End While

If (set ==1 && set ==3 && set== 5 && set== 7)

Read width and length

Calculate room size (Total area = width x length)

Read colour

If (choice ==1 && choice ==2 && choice ==3 && choice == 4 && choice == 5 && choice == 6)

Print Black, White, Green, Blue, Red or Yellow

End If

Read Type of Room

If (type ==1 && type ==2 && type ==3 && type == 4 && type == 5 && type == 6 && type ==7)

Print Design for Living Room, Bedroom, Study Room, Gaming Room, Studio, Kitchen or Toilet

End If

Calculate price for design

//Calculate price for design

int modern=25; int vintage = 30; int traditional = 35; custom=40;

price= modern * total_area, vintage * total_area, traditional*total_area,custom*total_area;

//Calculate for room painting

```
                    double basic = 2.20; /*Rm 2.20 per square feet*/

                    price1 = total_area * basic;

                    //Calculate Total Price for Set A,Set C, Set E, Set G

                    double set_A; /*(modern + basic) */ set_C; /*(vintage + basic)
                    */ set_E; /*(traditional + basic) */ set_G; /*(custom + basic) */

                    set_A = price10 + price1, set_C = price12 + price1; set_E =
                    price14 + price1; set_G = price16 + price1;

                    Print Order Receipt
If (set ==2 && set ==4 && set== 6 && set== 8)
        Read width and length
        Calculate room size (Total area = width x length)
        Read colour
            If (choice ==1 && choice ==2 && choice ==3)
                Print Gold, Silver or Rose Gold
            End If
        Read Type of Room
            If (type ==1 && type ==2 && type ==3 && type == 4 && type == 5
            && type == 6 && type ==7)
                Print Design for Living Room, Bedroom, Study Room, Gaming
                Room, Studio, Kitchen or Toilet
            End If

                    Calculate price for design

                    //Calculate price for design

                    int modern=25; int vintage = 30; int traditional = 35;
                    custom=40;

                    price= modern * total_area, vintage * total_area,
                    traditional*total_area,custom*total_area;

                    //Calculate for room painting

                    double premium = 3.00; /*Rm 3.00 per square feet*/

                    price2 = total_area * premium;

                    //Calculate Total Price for Set B, Set D, Set F, Set H
```

double set_B; /*(modern + premium) */ set_D; /*(vintage + premium) */ set_F; /*(traditional + premium) */ set_H; /*(custom + premium) */

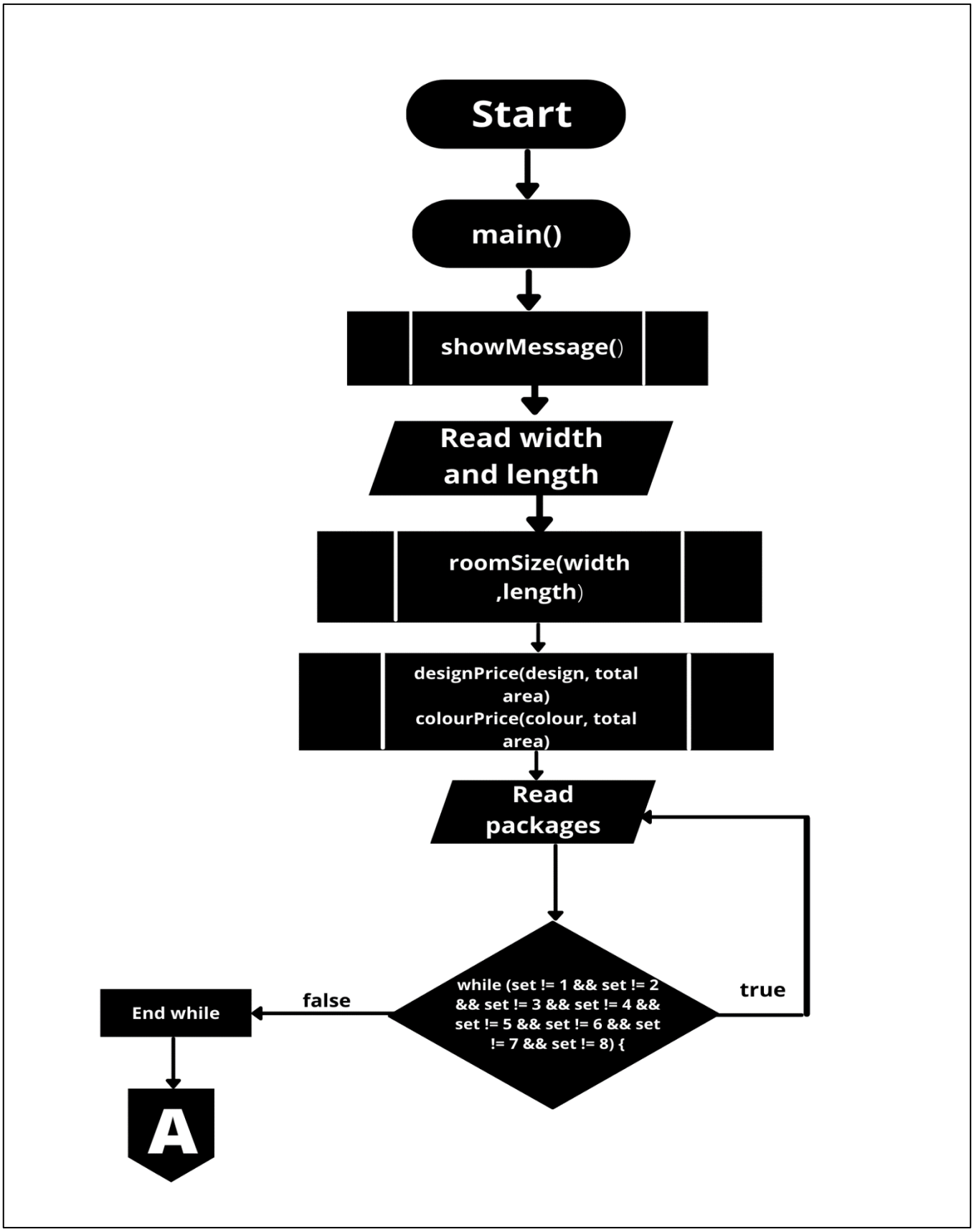
set_B = price11 + price2, set_D = price13 + price2; set_F = price15 + price2; set_H = price17 + price2;

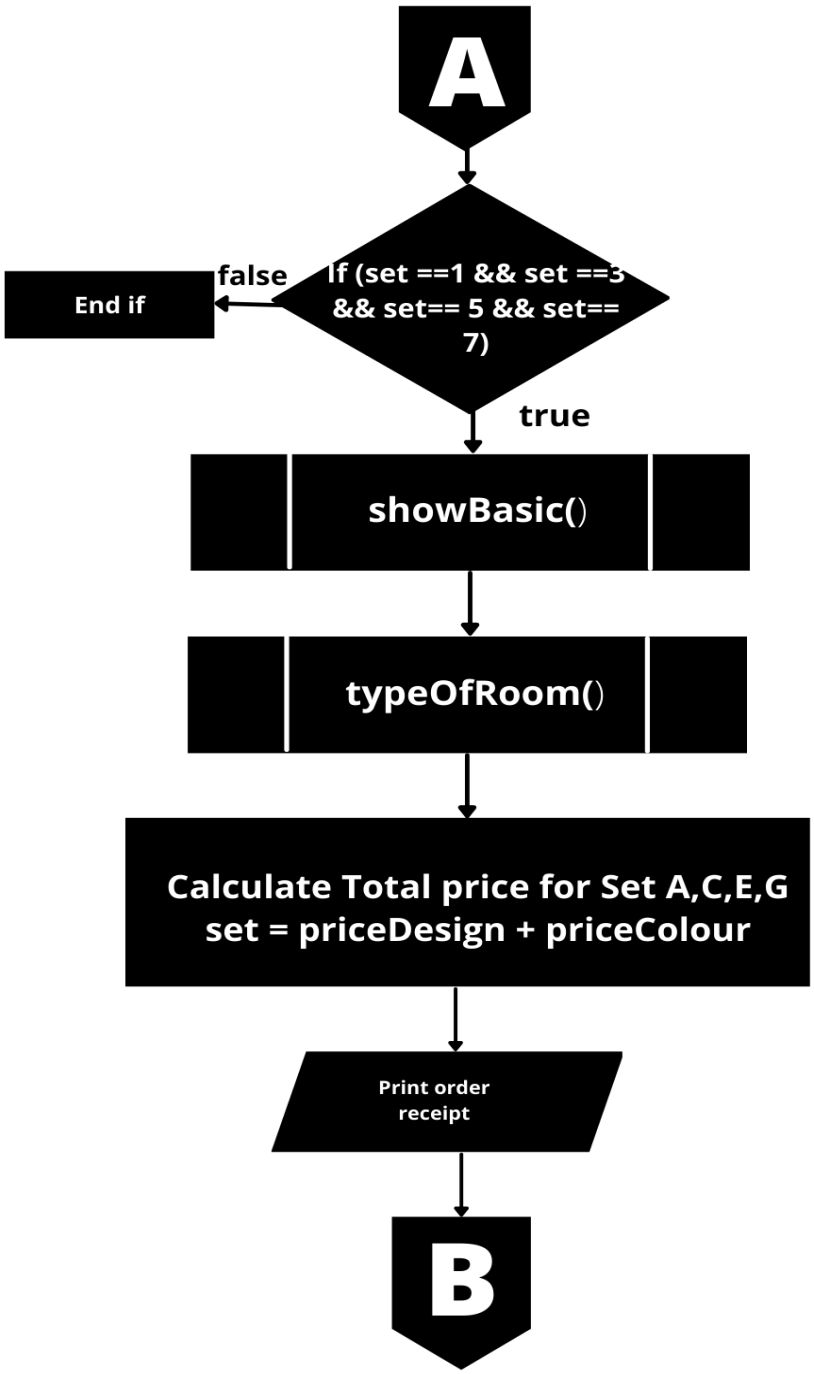
Print Order Receipt

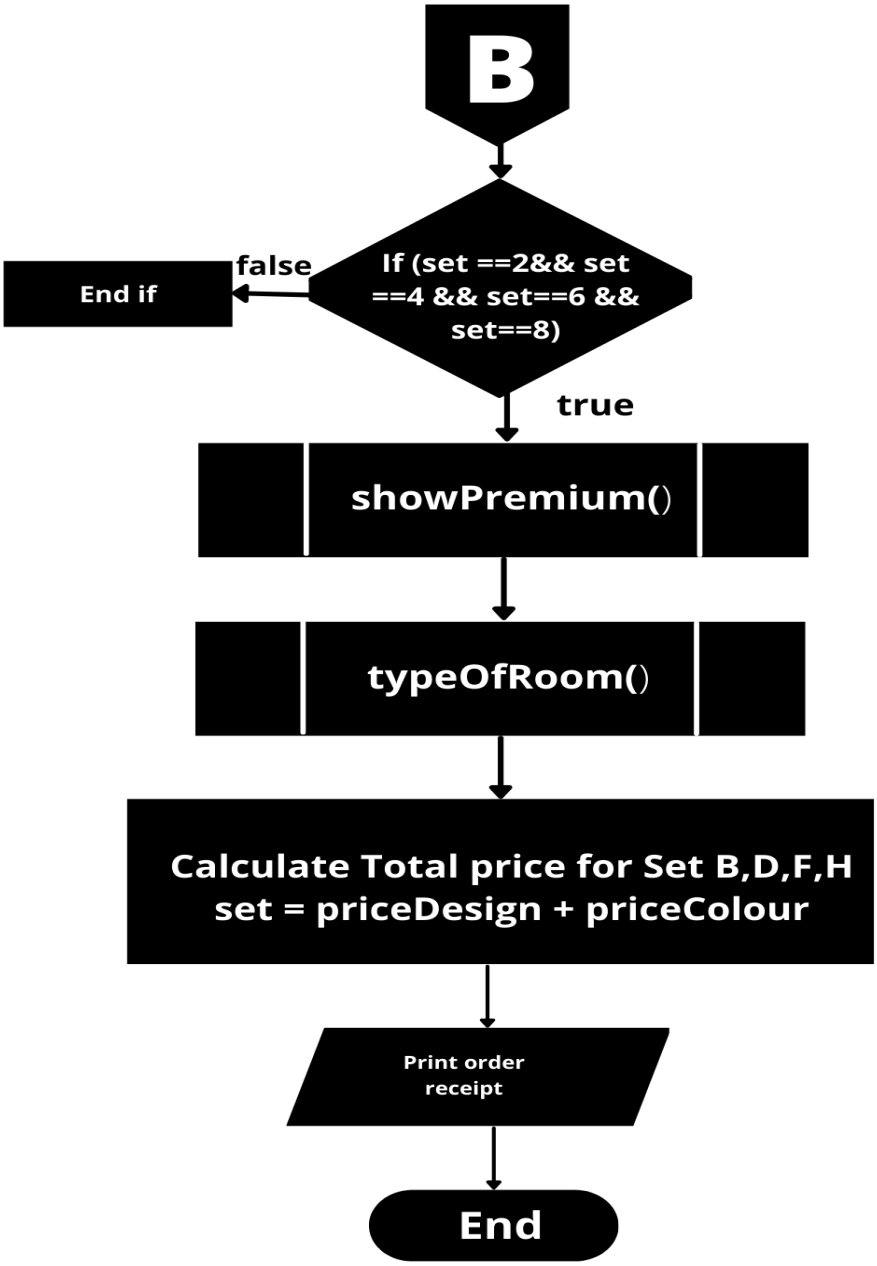
Display Thanks Greeting message

End

9. FLOWCHART


Start
main()
showMessage()
Read width and length
roomSize(width ,length)
designPrice(design, total area)
colourPrice(colour, total area)
Read packages
while (set != 1 && set != 2 && set != 3 && set != 4 && set != 5 && set != 6 && set != 7 && set != 8) {
false
true
End while
A


A
If (set ==1 && set ==3 && set== 5 && set== 7)
false
End if
true
showBasic()
typeOfRoom()
Calculate Total price for Set A,C,E,G
set = priceDesign + priceColour
Print order receipt
B


B
If (set ==2&& set ==4 && set==6 && set==8)
false
End if
true
showPremium()
typeOfRoom()
Calculate Total price for Set B,D,F,H
set = priceDesign + priceColour
Print order receipt
End

10. CODING

https://github.com/STIA-1113-GROUP-C-NURFARAH/ASSIGNMENT-3.git