

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.

1. **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.

1. **IDENTIFY ALTERNATIVE WAYS TO SOLVE THE PROBLEM**
2. Use number of steps to consider whether we have achieved our goal
3. Uses timer to fix the time for exercising
4. Calculate speed, uses the time taken, distance travelled and calories burned to determine the duration to reach the goal.
5. **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.

1. **LIST INSTRUCTIONS THAT ENABLE YOU TO SOLVE THE PROBLEM USING THE SELECTED SOLUTION**
2. Get the personal details, which are name, age, weight, height, gender from user
3. Get the goal from the user
4. Get the activity level from the user
5. Get the distance travelled, x, time taken, y and calories burned, z shown on the screen of the smart watch
6. Calculate Resting Metabolic Rate, RMR and Total Daily Energy Expenditure, TDEE
7. Calculate the calories needed daily if the user is trying to lose weight or gain weight
8. Calculate speed
9. At s speed, after y minutes, we can burn z calories.
10. Calories burned in one minute, c1
11. Calories yet to burn, c2
12. Time needed to achieve goal
13. Calculate the price for updating the program and the discount given with or without membership
14. **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.

1. **ALGORITHM**
2. Print out shop details such as shop name, address, careline, phone number and fax number
3. Introduce the features of the updating program
4. Redirect the user to the trial after updating the program.
5. Get the name, age, gender, weight in kg, height in cm from user.
6. Get the activity level from user.
7. 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.
8. 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
9. 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,

1. Calculate recommended goal = tdee \* 0.2
2. Calculate maximum calories to burn daily = rmr \*2.5,

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

1. 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,

1. 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.

1. 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%

1. 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;

1. 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.
2. Direct the user to the payment using cash or card.
3. 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.
4. **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

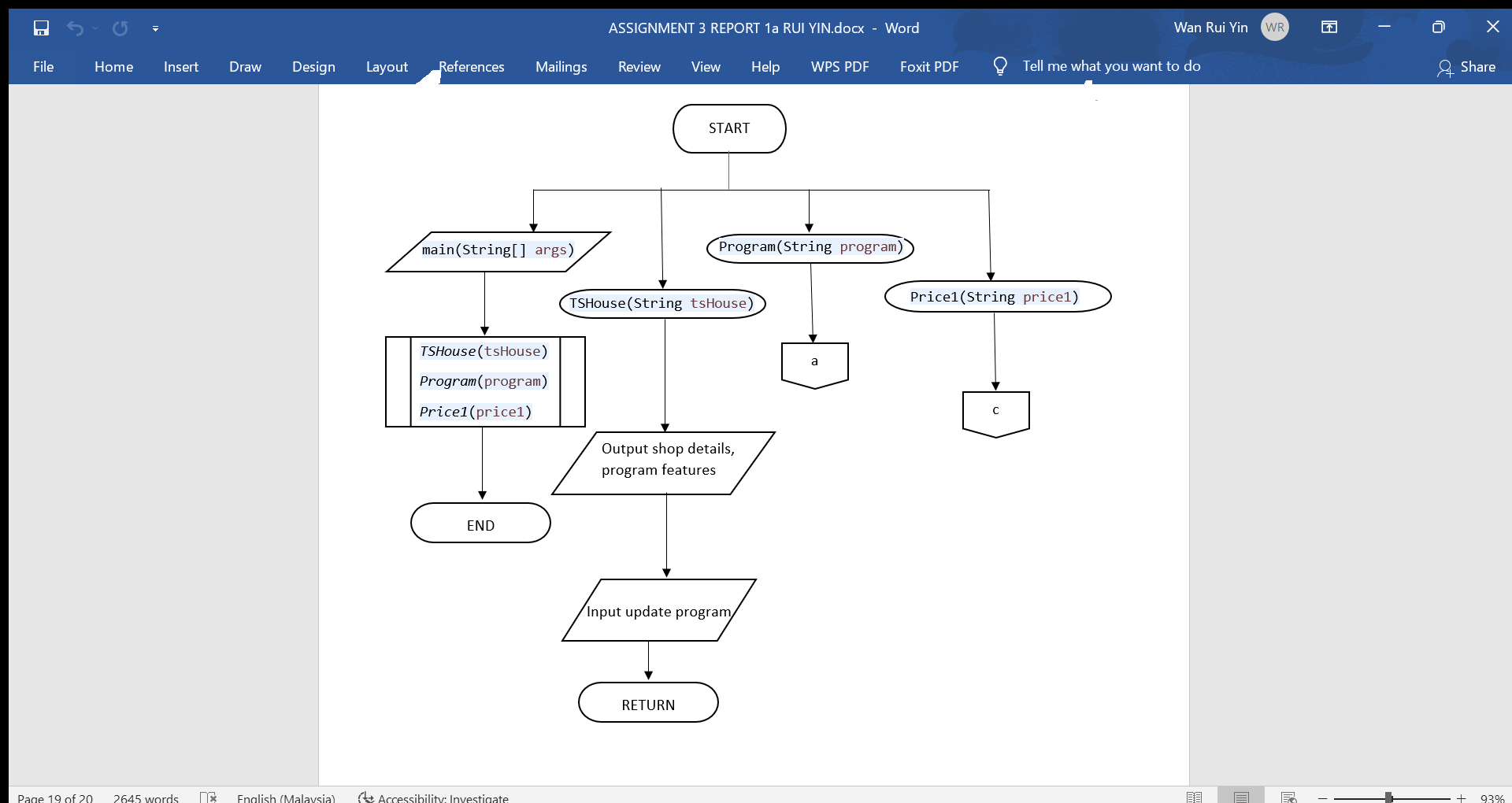
Output "The is your change RM " + change

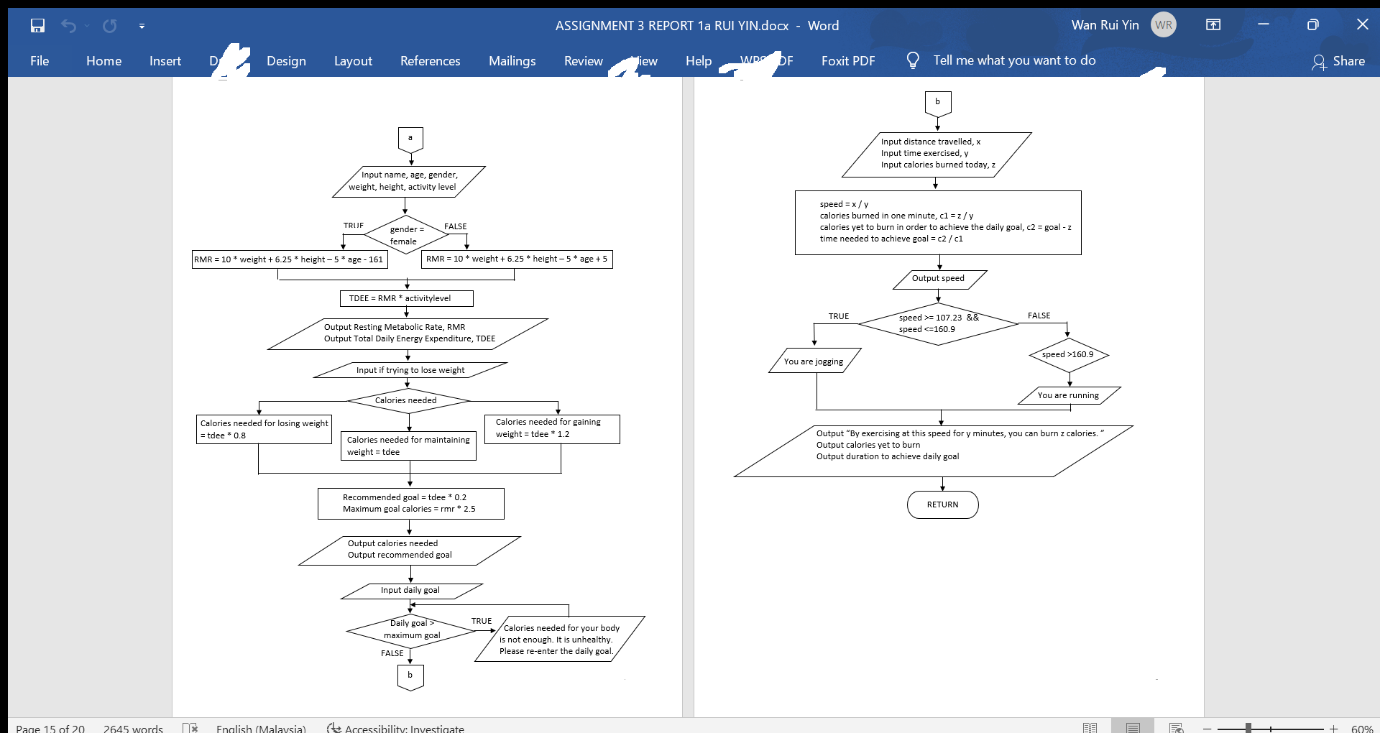
Output receipt which includes shop name, shop address, shop phone number, shop fax number, original price, discount price, final price, cash, change

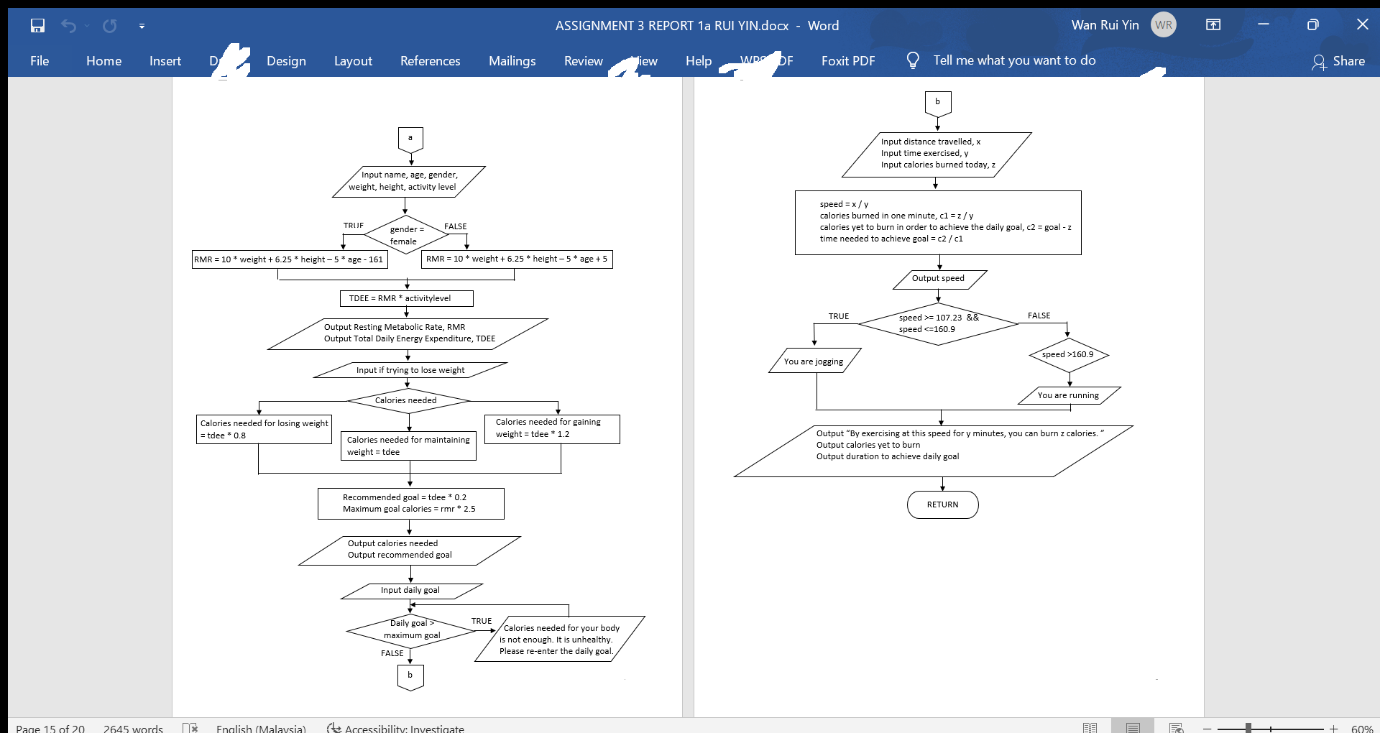
Output “Thank you. Please come again.”

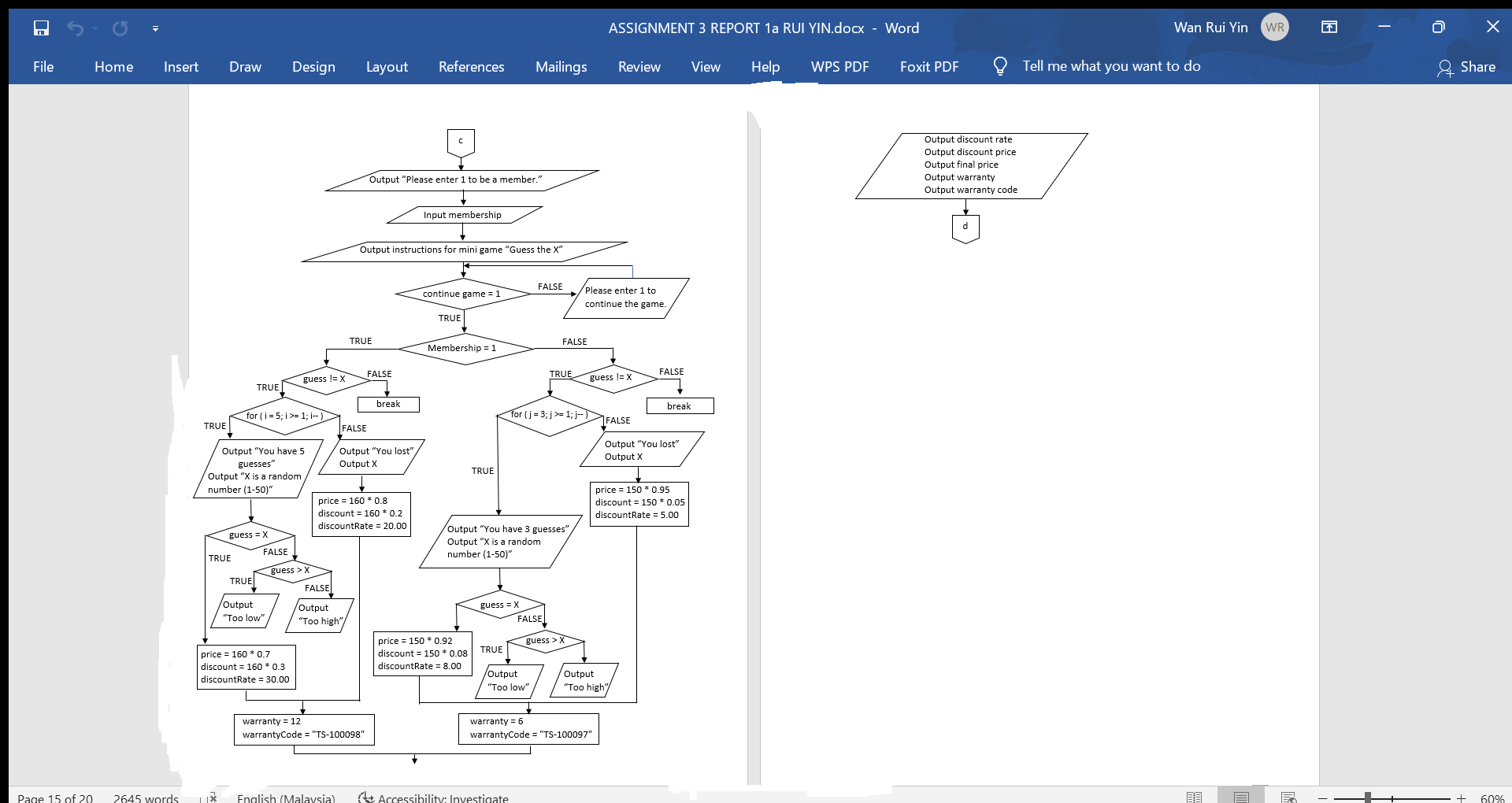
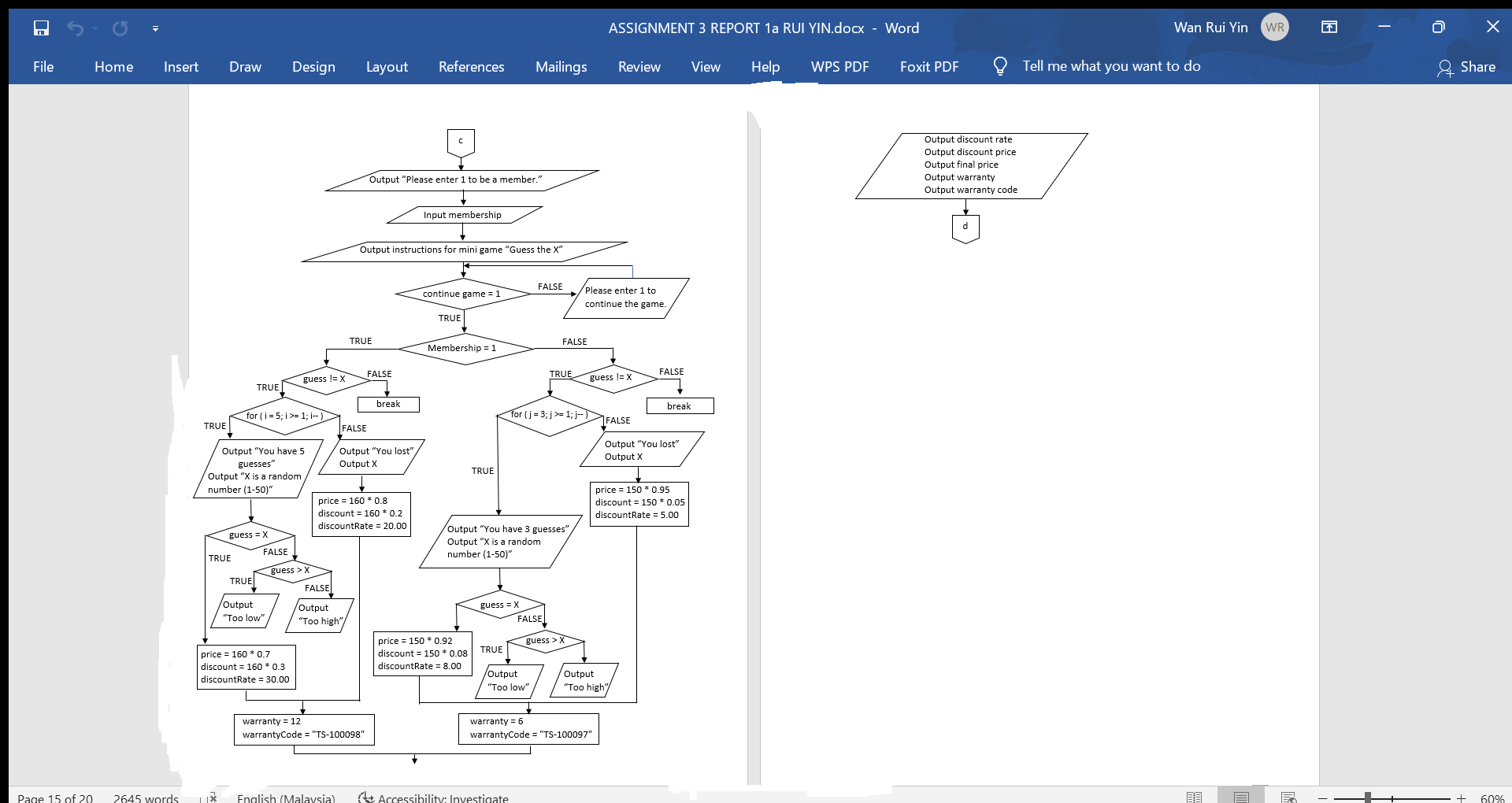
END

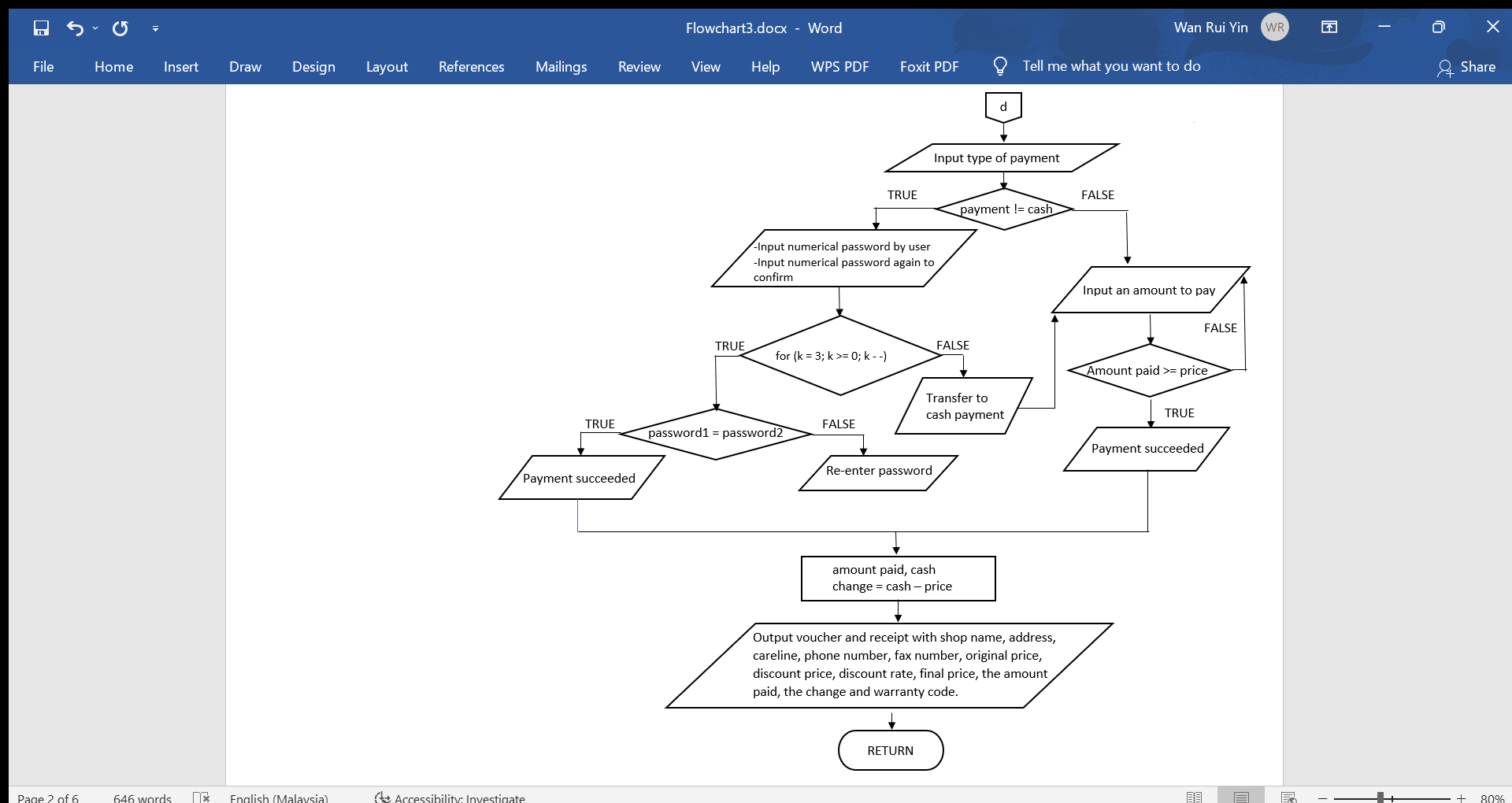
1. **FLOWCHART**











**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](mailto: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

|  |  |
| --- | --- |
| 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 |

FOR SIZE BASED ON GENDER

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  -Hiking | Price design + RM 3.00 |
| NIKE | -Football  -Skate  -Gym | Price design + RM3.20 |
| Line7 | -Cycling  -Jogging  -Tennis | Price design + RM 3.50 |

|  |  |
| --- | --- |
| 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 WITH ANY BRAND

|  |  |  |
| --- | --- | --- |
| 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 |

Sets That Come with Offer

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)

PriceCalculation(String pricecalculation)

InputUserDetails(String inputuserdetails)

InputUserDetails(inputuserdetails)  
MainProgram(mainprogram)  
PriceCalculation(pricecalculation)  
TypeOfPayment(typeofpayment)

TypeOfPayment(typeofpayment)

c

a

MainProgram(String mainprogram)

d

b

END

a

Input name, gender, shoes size

Gender = W / w

TRUE FALSE

Size for men:   
37-40 = total price + RM3.00  
41-44 = total price + RM4.00  
45-48 = total price + RM5.00

Size for women:   
30-33 = total price + RM1.00  
34-37 = total price +RM2.00   
38-41 = total price + RM3.00

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 Do you want payWave or pin, THANK YOU for purchasing with us

Input please hand in the money to the cashier, THANK YOU for purchasing with us

Output shop’s name, customer’ s name, gender, size, design, brands, list sets, sets of offers, total price

Output shop’s name, customer’ s name, gender, size, design, brands, list sets, sets of offers, total price

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](https://www.collinsdictionary.com/dictionary/english/woman) uses to carry things such as her [money](https://www.collinsdictionary.com/dictionary/english/money) and [keys](https://www.collinsdictionary.com/dictionary/english/key) in when she [goes](https://www.collinsdictionary.com/dictionary/english/goes) out, or also known as a [handled](https://en.wikipedia.org/wiki/Handle_(grip)) medium-to-large [bag](https://en.wikipedia.org/wiki/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** |
| IMG_256 | Inverted Triangle Body Type | crossbody handbags  hobo handbags  shoulder handbags |
| IMG_256 | Triangle Body Type | satchel handbags |
| IMG_256 | Rectangle Body Type | satchel handbags  hobo handbags |
| IMG_256 | Hourglass Body Type | tote handbags  satchel handbags  hobo handbags  crossbody handbags  shoulder handbags |
| IMG_256 | 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)

paymentReceipt ( String receipt)

Input\_user\_details (String user\_details)

Output Online Platform details

Input\_user\_details (user\_details)

mainProgram (program)

paymentReceipt (receipt)

END

Output Voucher coupon for online platform shop

mainProgram (String program)

Input height,weight,body type feature

Output Handbag suggestion & size chart by height

Output list of brand and type of handbag,material, accessories, colour and size

InputDetails

Input height,weight,body type feature

Output Online Platform details

Redirect to customize section

Output Handbag suggestion & size chart by height

Suggestion

TRUE

FALSE

Handbag\_size = Small

Handbag\_size = Medium

Handbag\_size = Large of Extra Large

FALSE

Height< 160

Height > 175

160<Height <175

FALSE

FALSE

TRUE

TRUE

TRUE

Handbag\_size = Medium

Handbag\_size = Medium or Large

Handbag\_size = Large of Extra Large

FALSE

weight > 75

60<Weight <75

FALSE

FALSE

TRUE

TRUE

TRUE

Output Handbag suggestion & size chart by weight

45<Weight <60

case ‘1’

Handbag\_size = Small

FALSE

TRUE

Weight <45

Output Handbag suggestion & size chart by type of body

Type of handbag

Output list of brand and type of handbag,material, accessories, colour and size

case ‘2’

TRUE

TRUE

break

case ‘3’

TRUE

Type = hobo handbag\_price = 210;

break

Type = clutch handbag\_price = 150;

case ‘4’

TRUE

break

Type = satchel handbag\_price = 175;

Type = Travel handbag\_price = 250;

FALSE

break

case ‘5’

TRUE

Type = Shopper handbag\_price = 100;

FALSE

FALSE

FALSE

Type = cross=body handbag\_price = 130;

FALSE

case ‘6’

TRUE

break

Type = sports handbag\_price = 90;

FALSE

case ‘7’

TRUE

break

Type = beach handbag\_price = 60;

FALSE

case ‘8’

TRUE

break

Type = messenger bag handbag\_price = 90;

FALSE

case ‘9’

TRUE

break

break

break

Invalid Input

FALSE

break

default

TRUE

case ‘a’

Accessories

case ‘b’

TRUE

TRUE

break

case ‘c’

TRUE

Accessories = Handle accessories\_price = 7;

break

Accessories = compartment accessories\_price = 15;

case ‘d’

TRUE

break

Accessories = Zipper accessories\_price = 5;

Accessories = key ring accessories\_price = 2.5;

FALSE

break

case ‘e’

TRUE

Accessories = Pocket accessories\_price = 12;

FALSE

FALSE

FALSE

FALSE

default

TRUE

break

break

break

Invalid Input

Colour

case ‘a’

Material

case ‘b’

TRUE

TRUE

break

case ‘c’

TRUE

Material = Vegan leather material\_price = 25;

break

Material = leather material\_price = 90;

case ‘d’

TRUE

break

Material = Cotton canvas material\_price = 55;

Material = Cordura material\_price = 35;

FALSE

break

case ‘e’

TRUE

Material = Nylon material\_price = 30;

FALSE

FALSE

FALSE

Material = denim material\_price = 70;

FALSE

case ‘f’

TRUE

break

Invalid Input

FALSE

default’

TRUE

break

break

break

case ‘1’

Size

case ‘a’

Colour

case ‘2’

TRUE

TRUE

break

case ‘3’

TRUE

Size = Large size\_price = 15;

break

Size = Extra Large size\_price = 25;

case ‘b’

case ‘4’

TRUE

TRUE

TRUE

break

break

case ‘c’

TRUE

Colour = white colour\_price = 0;

break

Colour =black colour\_price = 0;

case ‘d’

TRUE

break

Size = Medium size\_price = 10;

FALSE

break

default

TRUE

Colour = charcoal colour\_price = 0;

Colour = red colour\_price = 0;

Size = Small size\_price = 10;

FALSE

FALSE

break

FALSE

case ‘e’

FALSE

TRUE

break

break

break

Invalid Input

Colour = beige colour\_price = 0;

FALSE

FALSE

FALSE

Colour = yellow colour\_price = 0;

FALSE

case ‘f’

TRUE

break

Colour = P.Multi-colour colour\_price = 25;

FALSE

case ‘g’

TRUE

break

Colour = Premium Pearl colour\_price = 14;

FALSE

case ‘h’

TRUE

break

Colour = Premium B.Gold colour\_price = 20;

FALSE

case ‘i’

TRUE

break

break

break

Invalid Input

FALSE

break

default

TRUE

Total\_after\_discount = total\_before\_discount - discount\_price

Output cost membership

Apply membership

Input member id

Membership

Output membership details and privilege

TRUE

FALSE

Output membership status

FALSE

TRUE

End

Order confirm

Output order confirmation details

TRUE

FALSE

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;

Shipping = 0 discount\_price = total\_before\_discount \* 10/100

membership

TRUE

FALSE

Output Payment change

Amount >= total\_after\_discount

Input amount paid

Insufficient amount. Please Re-enter.

TRUE

FALSE

Output Thank you very much! Please enjoy your day!

change = amount -total\_after\_discount

**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

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                                      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’)

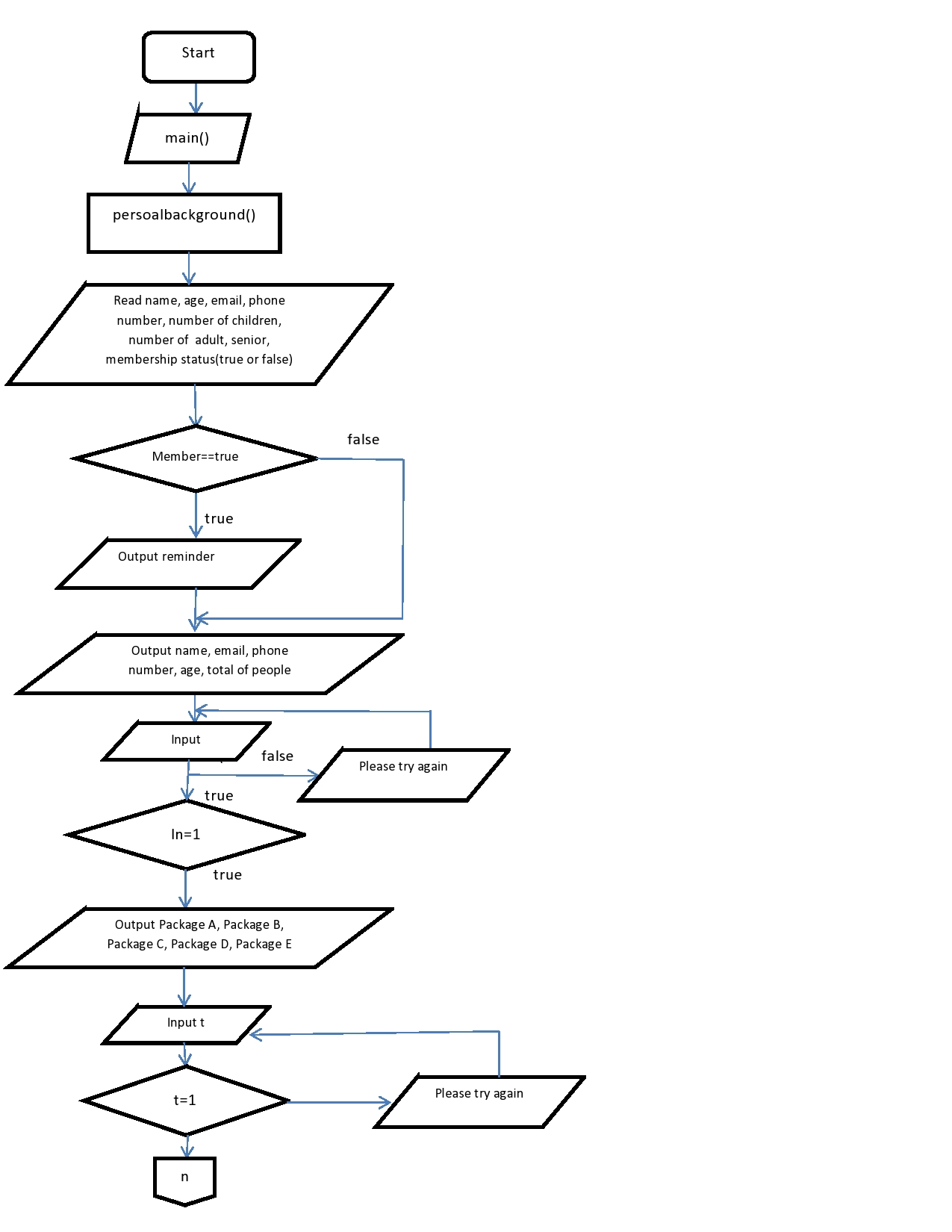
print Thankyou

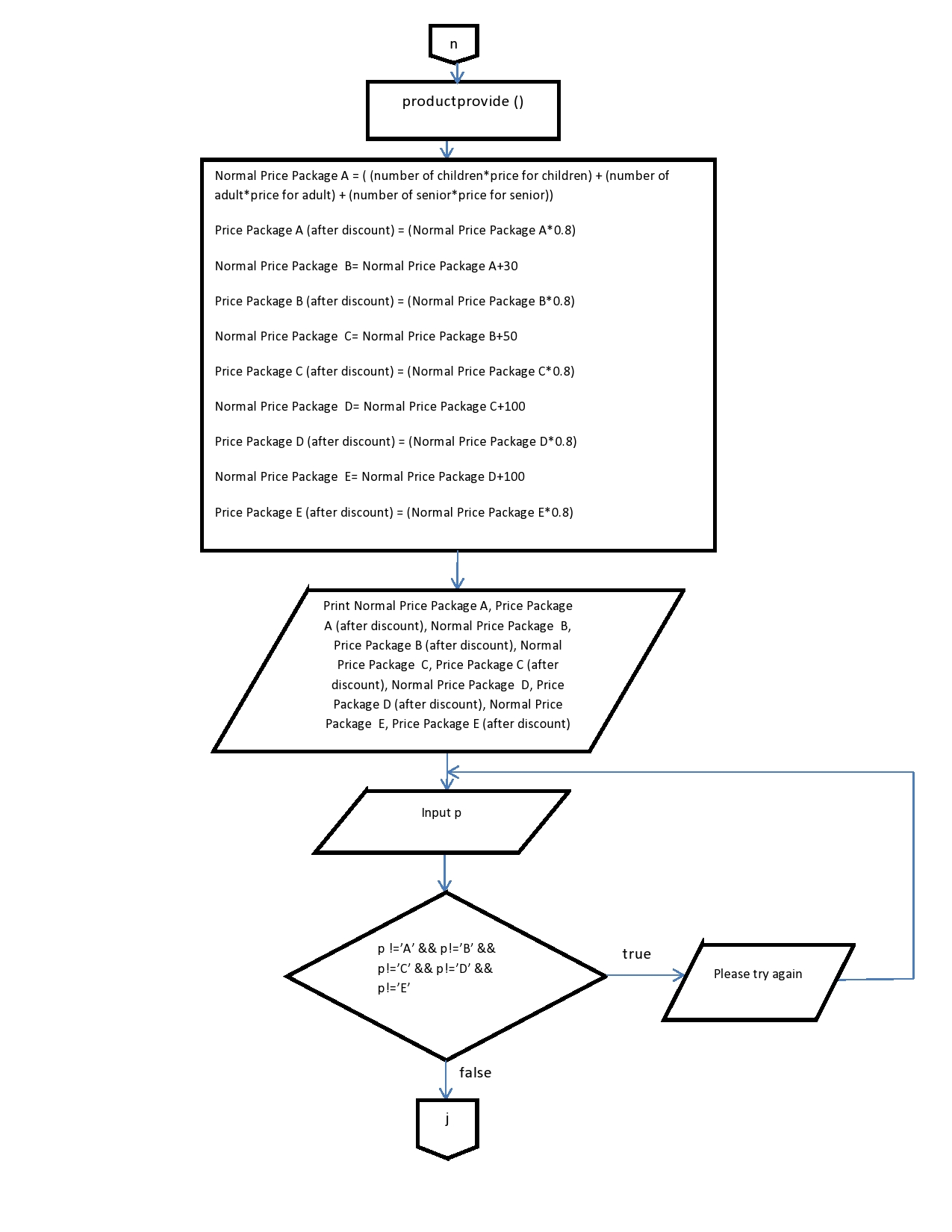
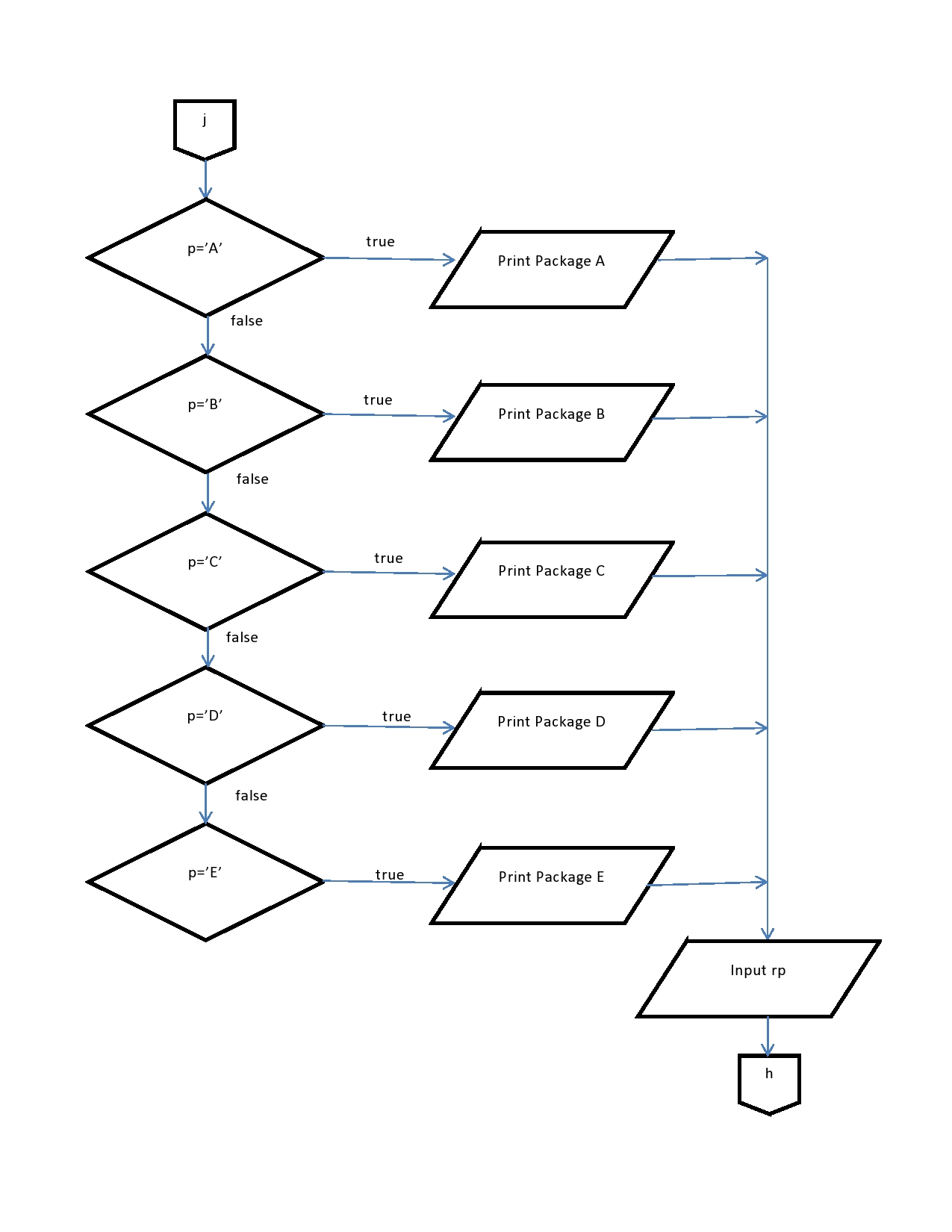
else

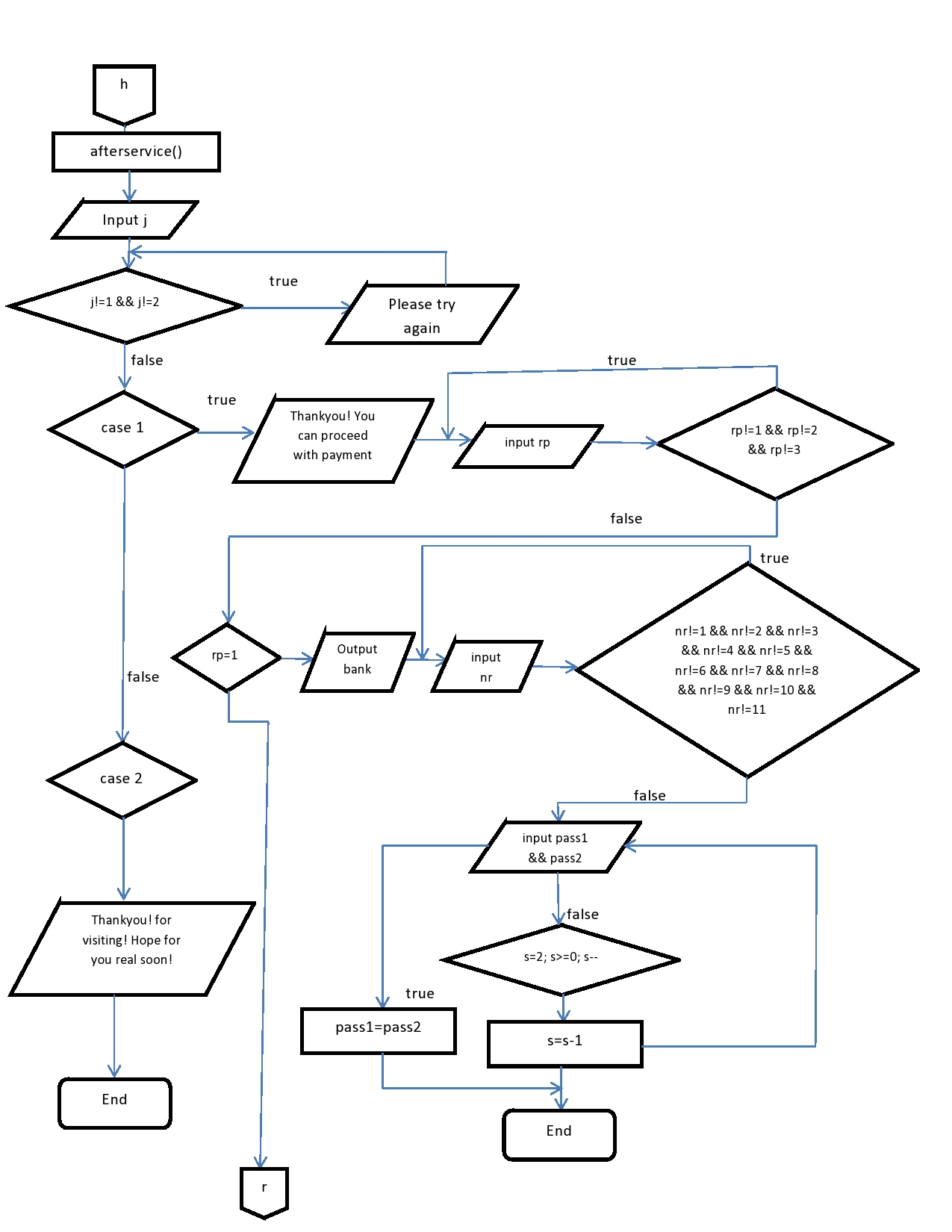
print sorry

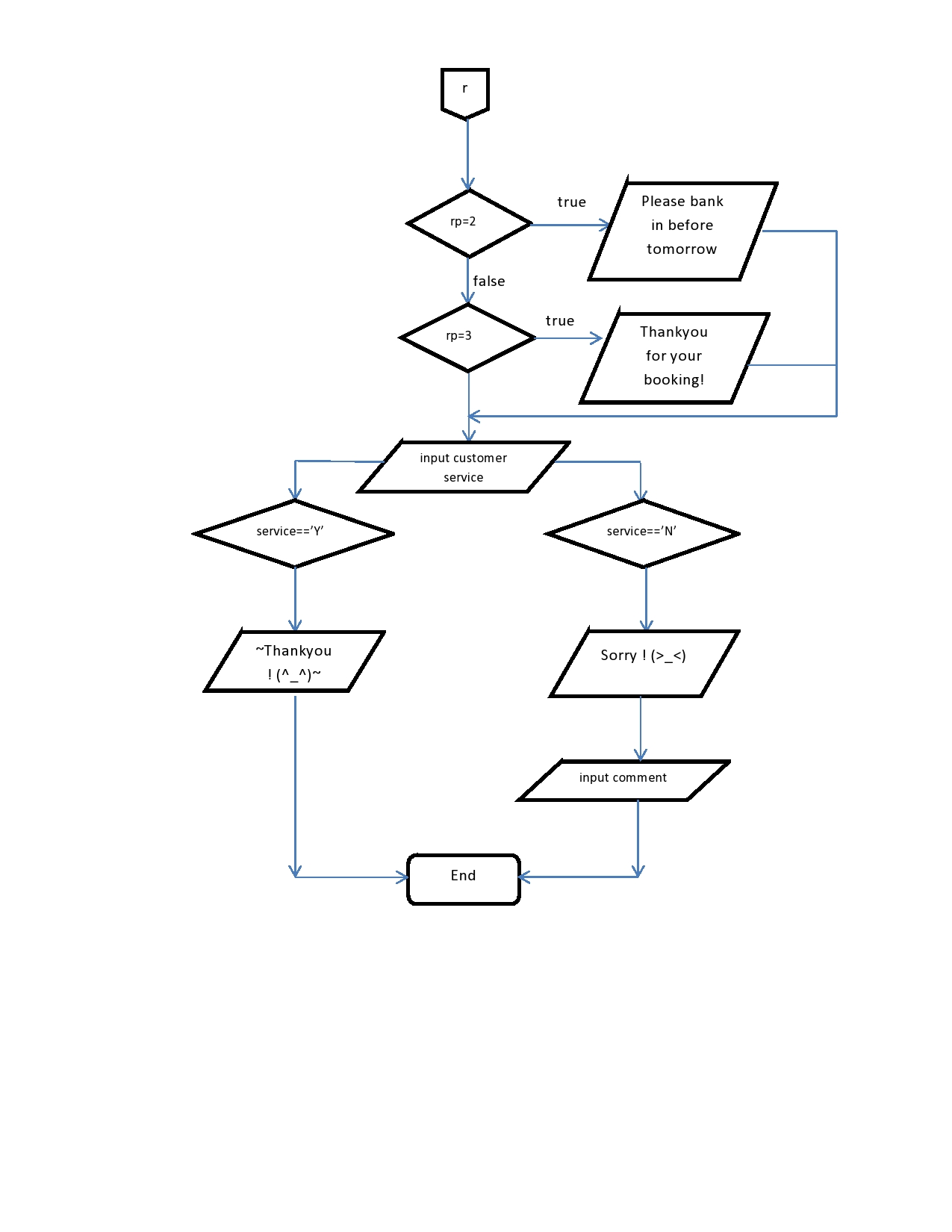
End

**FLOWCHART**









**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

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**1. IDENTIFY THE PROBLEM**

A camera is an [optical](https://en.wikipedia.org/wiki/Optics) instrument that captures a visual [image](https://en.wikipedia.org/wiki/Image). At a basic level, cameras are sealed boxes (the camera body) with a small hole (the [aperture](https://en.wikipedia.org/wiki/Aperture)) that allows [light](https://en.wikipedia.org/wiki/Light) through to capture an image on a light-sensitive surface (usually [photographic film](https://en.wikipedia.org/wiki/Photographic_film) or a [digital sensor](https://en.wikipedia.org/wiki/Image_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](https://en.wikipedia.org/wiki/Nic%C3%A9phore_Ni%C3%A9pce).

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](https://en.wikipedia.org/wiki/Digital_camera) that combines the optics and the mechanisms of a [single-lens reflex camera](https://en.wikipedia.org/wiki/Single-lens_reflex_camera) with a [digital imaging sensor](https://en.wikipedia.org/wiki/Image_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](https://en.wikipedia.org/wiki/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](https://en.wikipedia.org/wiki/Image_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](https://en.wikipedia.org/wiki/Photo_camera) featuring a single, removable [lens](https://en.wikipedia.org/wiki/Lens) and a [digital display](https://en.wikipedia.org/wiki/Digital_display). The camera does not have a [reflex mirror](https://en.wikipedia.org/wiki/Reflex_mirror) or [optical viewfinder](https://en.wikipedia.org/wiki/Optical_viewfinder) like a [digital single-lens reflex](https://en.wikipedia.org/wiki/Digital_single-lens_reflex) (DSLR) camera.[[1]](https://en.wikipedia.org/wiki/Mirrorless_camera#cite_note-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](https://en.wikipedia.org/wiki/Lens_mount).

A point-and-shoot camera, also known as a compact camera and sometimes abbreviated to P&S, is a [still camera](https://en.wikipedia.org/wiki/Still_camera) designed primarily for simple operation. Most use [focus free lenses](https://en.wikipedia.org/wiki/Focus_free_lens) or [autofocus](https://en.wikipedia.org/wiki/Autofocus) for [focusing](https://en.wikipedia.org/wiki/Focus_(optics)), automatic systems for setting the [exposure](https://en.wikipedia.org/wiki/Exposure_(photography)) options, and have [flash](https://en.wikipedia.org/wiki/Flash_(photography)) units built in. They are popular for [vernacular photography](https://en.wikipedia.org/wiki/Vernacular_photography) by people who do not consider themselves photographers but want easy-to-use cameras for [snapshots](https://en.wikipedia.org/wiki/Snapshot_(photography)) 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  - 20.1 Megapixel CMOS sensor  - New DIGIC 7 Imaging Processor  - Weight: 302g | Digital Camera  (Compact) |
|  | 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 Face/Eye Detection  - Weight: 271g | Mirrorless |
|  | 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**

**String** name, hpNum, email, camera="", acs="", deliveryTo = "";

**double** priceCam = 0, priceAcs = 0, priceWty = 0, total, deliveryFee=0, protectionFee, totCam = 0, totAcs = 0;

**int** warranty, discount = 0, menuChoice, cameraChoice, typeChoice, brandChoice, priceChoice, camC = 0, acsC, deliC, numCam = 0, numAcs = 0;

**char** protection, buyCam, buyAcs, keepGoing = 'N';

main( )

Start

Scan name, icNum, email

keepGoing == 'Y' || keepGoing == 'y'

1:

TRUE

Display menu list

switch(menuChoice)

switch(cameraChoice)

Yes

case 1:

switch(typeChoice)

Yes

case 1:

cam1(priceCam);

cam12(priceCam);

cam14(priceCam);

keepGoing= keepGoingMethod(keepGoing);

case 1:

Yes

cam2(priceCam);

cam3(priceCam);

cam8(priceCam);

cam9(priceCam);

cam10(priceCam);

cam11(priceCam);

cam13(priceCam);

cam15(priceCam);

keepGoing = keepGoingMethod(keepGoing);

Yes

case 2:

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)

Yes

case 3:

No

keepGoing = keepGoingMethod(keepGoing)

End switch

Yes

switch(brandChoice)

case 2:

cam1(priceCam);

cam2(priceCam);

cam3(priceCam);

cam4(priceCam);

keepGoing = keepGoingMethod(keepGoing);

Yes

case 1: 

Yes

cam5(priceCam);

cam6(priceCam);

cam7(priceCam);

keepGoing = keepGoingMethod(keepGoing);

case 2: 

cam8(priceCam);

cam9(priceCam);

cam10(priceCam);

keepGoing = keepGoingMethod(keepGoing);

Yes

case 3: 

cam11(priceCam);

cam12(priceCam);

cam13(priceCam);

keepGoing = keepGoingMethod(keepGoing);

case 4: 

cam14(priceCam);

cam15(priceCam);

keepGoing = keepGoingMethod(keepGoing);

Yes

case 5: 

No

keepGoing = keepGoingMethod(keepGoing);

End switch

Yes

switch(priceChoice)

case 3:

Yes

cam1(priceCam);

cam2(priceCam);

cam8(priceCam);

cam5(priceCam);

cam3(priceCam);

cam11(priceCam);

keepGoing = keepGoingMethod(keepGoing);

case 1: 

End switch

cam12(priceCam);

cam9(priceCam);

cam4(priceCam);

keepGoing = keepGoingMethod(keepGoing);

Yes

case 2: 

cam6(priceCam);

cam13(priceCam);

cam10(priceCam);

cam7(priceCam);

keepGoing = keepGoingMethod(keepGoing);

Yes

case 3: 0

Yes

case 4: 0

cam14(priceCam);

cam15(priceCam);

keepGoing = keepGoingMethod(keepGoing);

No

keepGoing = keepGoingMethod(keepGoing);

End switch

case2: 0

printAcsList ();

keepGoing = keepGoingMethod(keepGoing);

Yes

printDeliWtyList();

keepGoing = keepGoingMethod(keepGoing);

Yes

case3: 0

Output Gift and discount list

freeGift2000();

freeGift3500();

freeGift5000();

keepGoing = keepGoingMethod(keepGoing);

Yes

case4: 0

Yes

case5: 0

Declare String nameCamera[]

scan buyCam

buyCamList();

numCam =numCamMethod(numCam);

TRUE

If buycam == ‘Y’ || buyCam == ‘y’

scan camC

TRUE

priceCam = cam1(priceCam);

IF camC == 1

FALSE

IF camC == 2

priceCam = cam2(priceCam);

TRUE

FALSE

priceCam = cam11(priceCam);

IF camC == 3

TRUE

FALSE

TRUE

priceCam = cam5(priceCam);

IF camC == 4

FALSE

priceCam = cam3(priceCam);

IF camC == 5

TRUE

FALSE

priceCam = cam9(priceCam);

IF camC == 6

TRUE

FALSE

priceCam = cam8(priceCam);

IF camC == 7

TRUE

FALSE

priceCam = cam12(priceCam);

TRUE

IF camC == 8

priceCam = cam4(priceCam);

FALSE

IF camC == 9

TRUE

FALSE

TRUE

priceCam = cam6(priceCam);

IF camC == 10

FALSE

TRUE

priceCam = cam10(priceCam);

IF camC == 11

FALSE

TRUE

priceCam = cam13(priceCam);

IF camC == 12

FALSE

priceCam = cam7(priceCam);

IF camC == 13

TRUE

FALSE

priceCam = cam14(priceCam);

IF camC == 14

TRUE

FALSE

TRUE

priceCam = cam15(priceCam);

IF camC == 15

FALSE

camera = ""

priceCam = 0

print camera, priceCam

totCam = totCam + priceCam;

Scan buyAcs

If buyAcs == ‘Y’ || buyAcs == ‘y’

buyAcsList();numAcs = numAcsMethod(numAcs);

TRUE

Declare nameAcs[], priceAcsArray[]

scan acsC

Acs = nameAcs[0];

priceAcs = priceAcsArray[0];

TRUE

IF acsC == 1

FALSE

TRUE

Acs = nameAcs[1];

priceAcs = priceAcsArray[1];

IF acsC == 2

FALSE

Acs = nameAcs[2];

priceAcs = priceAcsArray[2];

TRUE

IF acsC == 3

FALSE

Acs=nameAcs[3];

priceAcs=

priceAcsArray[3];

IF acsC == 4

TRUE

FALSE

Acs = nameAcs[4];

priceAcs = priceAcsArray[4];

TRUE

IF acsC == 5

FALSE

TRUE

IF acsC == 6

Acs = nameAcs[5];

priceAcs = priceAcsArray[5];

FALSE

Acs = nameAcs[6];

priceAcs = priceAcsArray[6];

TRUE

IF acsC == 7

FALSE

Acs = nameAcs[7];

priceAcs = priceAcsArray[7];

IF acsC == 8

TRUE

FALSE

TRUE

Acs = nameAcs[8];

priceAcs = priceAcsArray[8];

IF acsC == 9

FALSE

Acs = nameAcs[9];

priceAcs = priceAcsArray[9];

IF acsC == 10

TRUE

FALSE

Acs = nameAcs[10];

priceAcs = priceAcsArray[10];

TRUE

IF acsC == 11

FALSE

print acs, priceAcs

acs = ""

priceAcs = 0

totAcs = totAcs + priceAcs;

buyDeliWtyList();

scan deliC

TRUE

deliveryTo = "West Malaysia"

deliveryFee = 6.9

IF deliC == 1

FALSE

deliveryTo = "East Malaysia"deliveryFee = 11.9

TRUE

IF deliC == 1

FALSE

deliveryTo = "Overseas"

deliveryFee = 20.9

IF deliC == 1

TRUE

print deliveryTo, deliveryFee

scan protectionC

IF protectionC == ‘Y’ || protection == ‘y’

TRUE

protectionFee = 150.20

FALSE

protectionFee = 0

scan warranty

priceWty =0

TRUE

IF warranty == 0

FALSE

priceWty = 50

TRUE

IF warranty == 1

FALSE

TRUE

IF warranty == 2

priceWty = 110

FALSE

priceWty = 150

TRUE

IF warranty == 3

FALSE

keepGoing = keepGoingMethod(keepGoing);

print warranty, priceWty

TRUE

discount = 10

IF priceCam > 2000

FALSE

discount = 15

IF priceCam > 3500

TRUE

FALSE

TRUE

discount = 20

IF priceCam > 5000

FALSE

discount = 0

total = priceCam + deliveryFee + protectionFee + priceWty + priceAcs\*((100-discount)/100)

print invoice list, free gifts

FALSE

print “Thank you very much! See you again~”

print “Thank you very much! See you again~”

case 6:

TRUE

FALSE

keepGoing = keepGoingMethod(keepGoing);

End switch

FALSE

double cam2 (double priceCam)

return

print Canon M200 information

priceCam = 1999;

double cam1 (double priceCam)

return

print Canon G7X\_Mark\_II information

priceCam = 1779;

double cam4 (double priceCam)

return

print Canon 90D information

priceCam = 4599;

double cam3 (double priceCam)

return

print Canon M50 information

priceCam = 2949;

double cam6 (double priceCam)

return

print Nikon D750 information

priceCam = 5090;

double cam5 (double priceCam)

return

print Nikon D5600 DX information

priceCam = 2229;

double cam12 (double priceCam)

return

print Sony A6400 information

priceCam = 3899;

double cam11 (double priceCam)

return

print Sony A6000 information

priceCam = 2199;

double cam10 (double priceCam)

return

print FujiFilm X100V information

priceCam = 5899;

double cam9 (double priceCam)

return

print FujiFilm X-A7 information

priceCam = 2999;

double cam7 (double priceCam)

return

print Nikon D850 information

priceCam = 9099;

double cam8 (double priceCam)

return

print FujiFilm X-T30 information

priceCam = 3379;

double cam15 (double priceCam)

return

print Leica M10 information

priceCam = 27352;

double cam14 (double priceCam)

return

print Leica Q2 information

priceCam = 25260;

double cam13 (double priceCam)

return

print Sony A7 III information

priceCam = 8588.90;

char keepGoingMethod (char keepGoing)

return

print "Do you want to keep going?(Y/N): "

scan numAcs

int numCamMethod (int numCam)

return

print "How many camera you want to buy?: "

scan numCam

int numAcsMethod(int numAcs)

return

print "How many accessories you want to buy?: "

scan numCam

void printDeliWtyList()

print Delivery and Warranty List

void printAcsList ()

print accessories list

void freeGift2000()

print "- 32GB Memory Card",

" - Camera Strap"

void freeGift5000()

print " - 32GB Memory Card"

" - Camera Strap"

" - Camera Bag"

" - Cleaning Kit"

" - Tripod"

" - Battery"

void freeGift3500()

print " - 32GB Memory Card",

" - Camera Strap",

" - Camera Bag",

" - Cleaning Kit"

void buyDeliWtyList()

print delivery and warranty price list

void buyAcsList()

print accessories price list

void buyCamList()

print camera price list

**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

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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](https://en.wikipedia.org/wiki/IPO) on the [New York Stock Exchange](https://en.wikipedia.org/wiki/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  Shorts  Skirt  Polo shirt | 450  580  650  550 |
| Formal :  Suit jacket  Pants  Blouse  Dress | 2000  950  1450  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

Payment

(String [] args)

Main ( String [] args)

MainProgram (String [] args)

InputUserDetails(min(**int** [] array)) &(max(**int** [] array))

InputUserDetails

MainProgram

Payment

Output

Clothes package, size selection, membership, order confirmation

Output Online Platform

END

Output

Payment method, Password, Change of money

Input

name, gender, shop advisory system

Output

Clothes package suggestion

Declare and scan name, gender, membership ID, and type of clothes

Gender

true

true

female

Display whether customers with or without membership would like to apply or not.

Customer need to enter their membership number.

male

true

Customer will enter membership number.

Display the size for the clothes package.

Display each type of clothes package with price.

Customer will enter any number other than membership number.

Enter the quantity of clothes package that is needed.

Asking customer whether is there anything to add-on.

false

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.

Cash < total\_price \_after\_promotion

Cash = total\_price \_after\_promotion

Cash > total\_price \_after\_promotion

true

true

false

Re-enter the amount to pay by customer

Change = amount\_paid - total\_price \_after\_promotion

No need to give change

true

true

false

Cash > total\_price \_after\_promotion

Enter the correct password and re-enter it.

Enter the wrong password.

Payment successful and bank account will deduct the amount.

Change = amount\_paid - total\_price \_after\_promotion

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

1. CODING

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

**ASSIGNMENT** Logo

Description automatically generated**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

1. **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.

1. **IDENTIFY ALTERNATIVE WAYS TO SOLVE THE PROBLEM**
2. Use type of room (living room, bedroom, study room, gaming room, studio, kitchen, or toilet) to determine the price.
3. Use size of the room to determine the price.
4. Use room colour to determine the price. (extra charge for premium colour such as gold, silver and rose gold)
5. Use type of design (modern, vintage, traditional, custom) to determine the price.
6. **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.

1. **LIST INSTRUCTIONS THAT ENABLE YOU TO SOLVE THE PROBLEM USING THE SELECTED SOLUTION**
2. 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.
3. State type of set using String
4. Example: a = "Modern + Basic"
5. State price for each design
6. Example: Modern= RM 25 per square ft
7. State price for room colour
8. Basic = RM 2.20 per square ft
9. Premium = RM 3.00 per square ft
10. (premium colours: gold, silver and rose gold)
11. User insert room size (width, length in ft)
12. Calculate total area = (width \* length)
13. Calculate charges for each design

Example: (modern x total area)

1. Calculate charges for room painting

Example: (basic x total area)

1. Calculate total charges for each set (charge for room painting + charge for design)
2. 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 |

1. **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.

1. **ALGORITHM**
2. Store package, design, and colour in array
3. User insert design for [1] living room, [2] bedroom, [3] study room, [4] gaming room, [4] studio, [5] kitchen, or [6] toilet.
4. User insert width and length
5. Use user-defined method declare and return width and length to calculate total area = width (in ft) x length (in ft)
6. Calculate charges for each design

price = modern \* total\_area;

price = vintage \* total\_area;

price= traditional \* total\_area;

price = custom \* total\_area;

1. Calculate charges for room painting

price1 = total\_area \* basic;

price2 = total\_area \* premium;

1. Calculate total charges for each set

Set = priceDesign + priceColour;

1. 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

1. **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) \*/

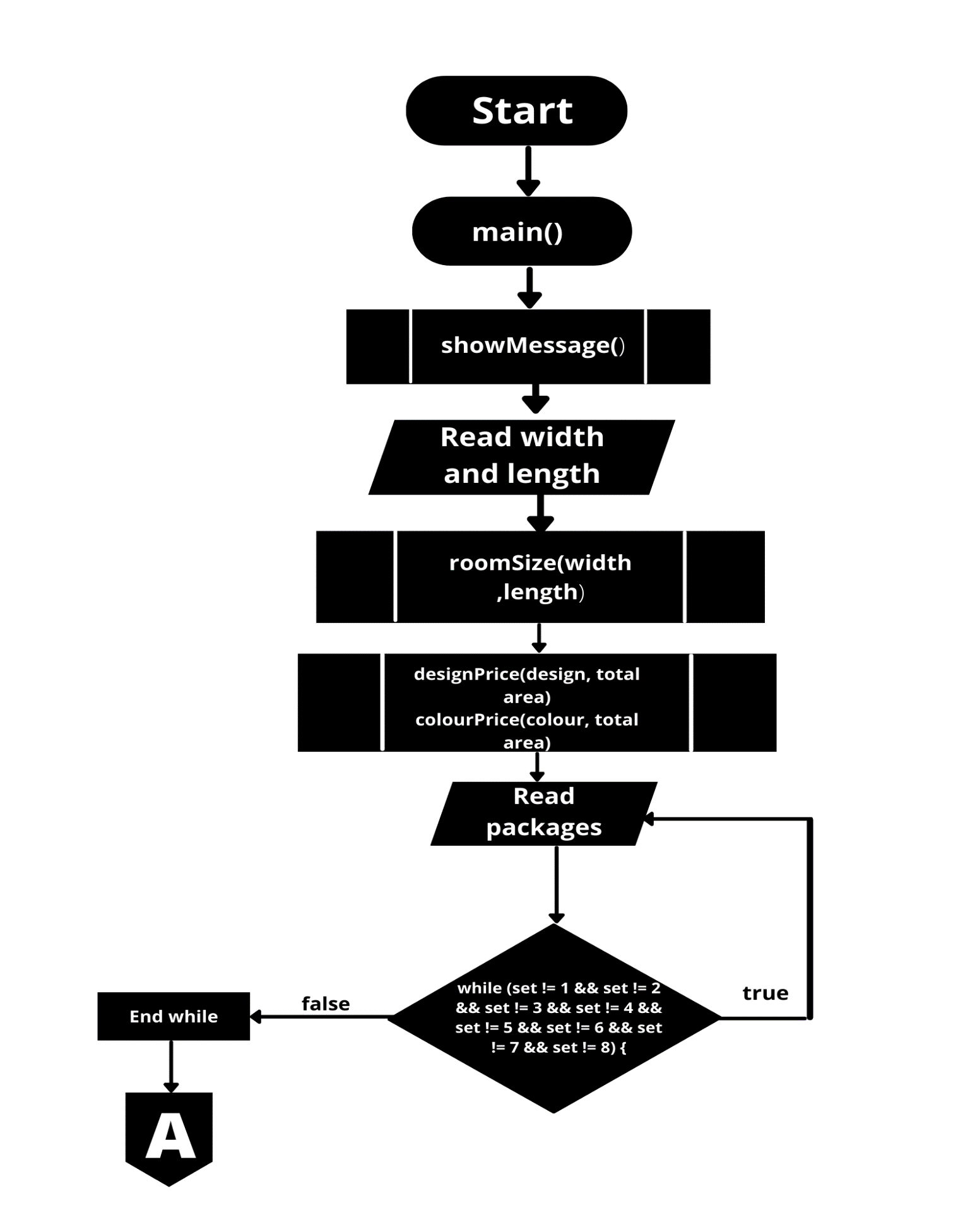
set\_B = price11 + price2, set\_D = price13 + price2; set\_F = price15 + price2; set\_H = price17 + price2;

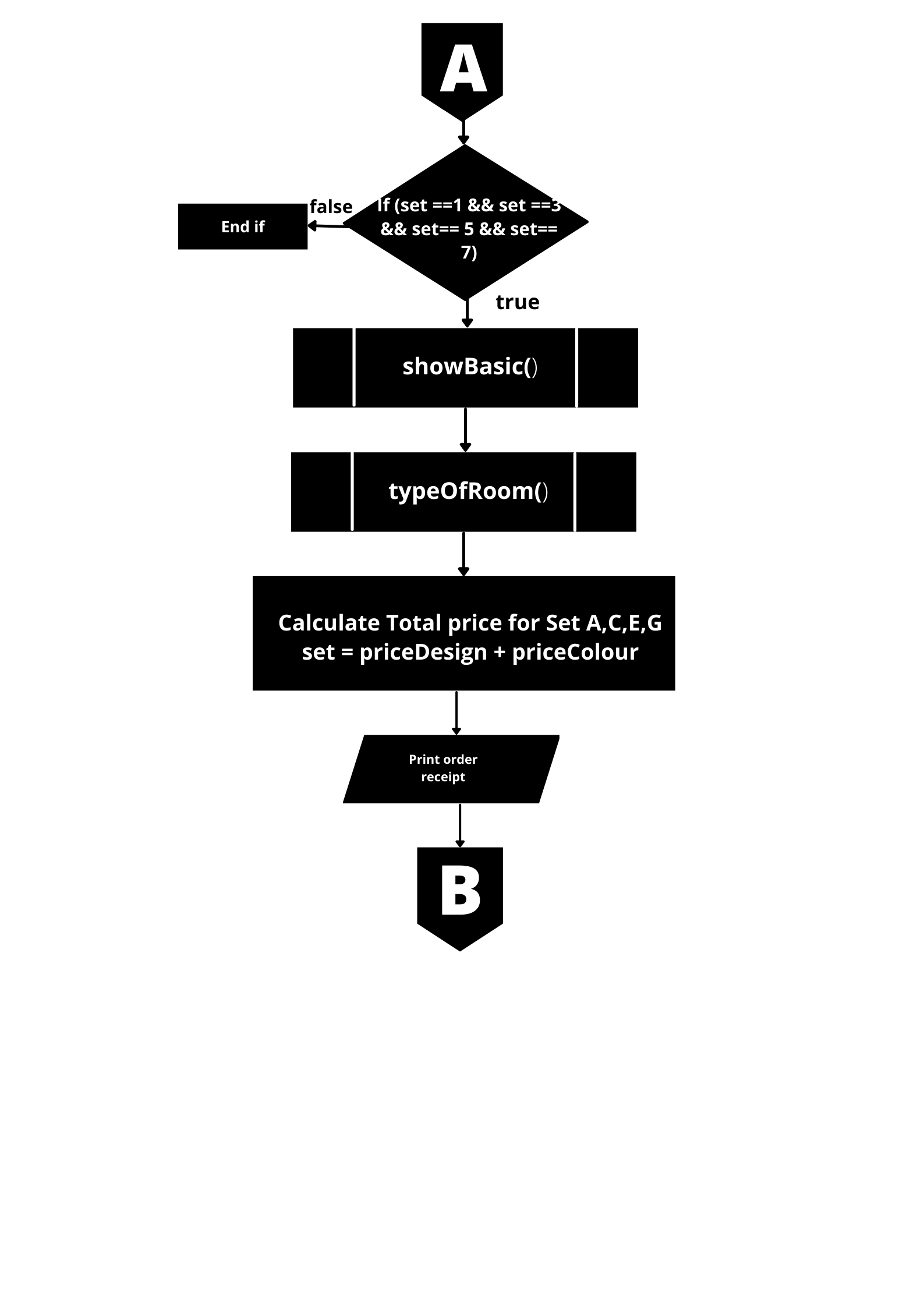
Print Order Receipt

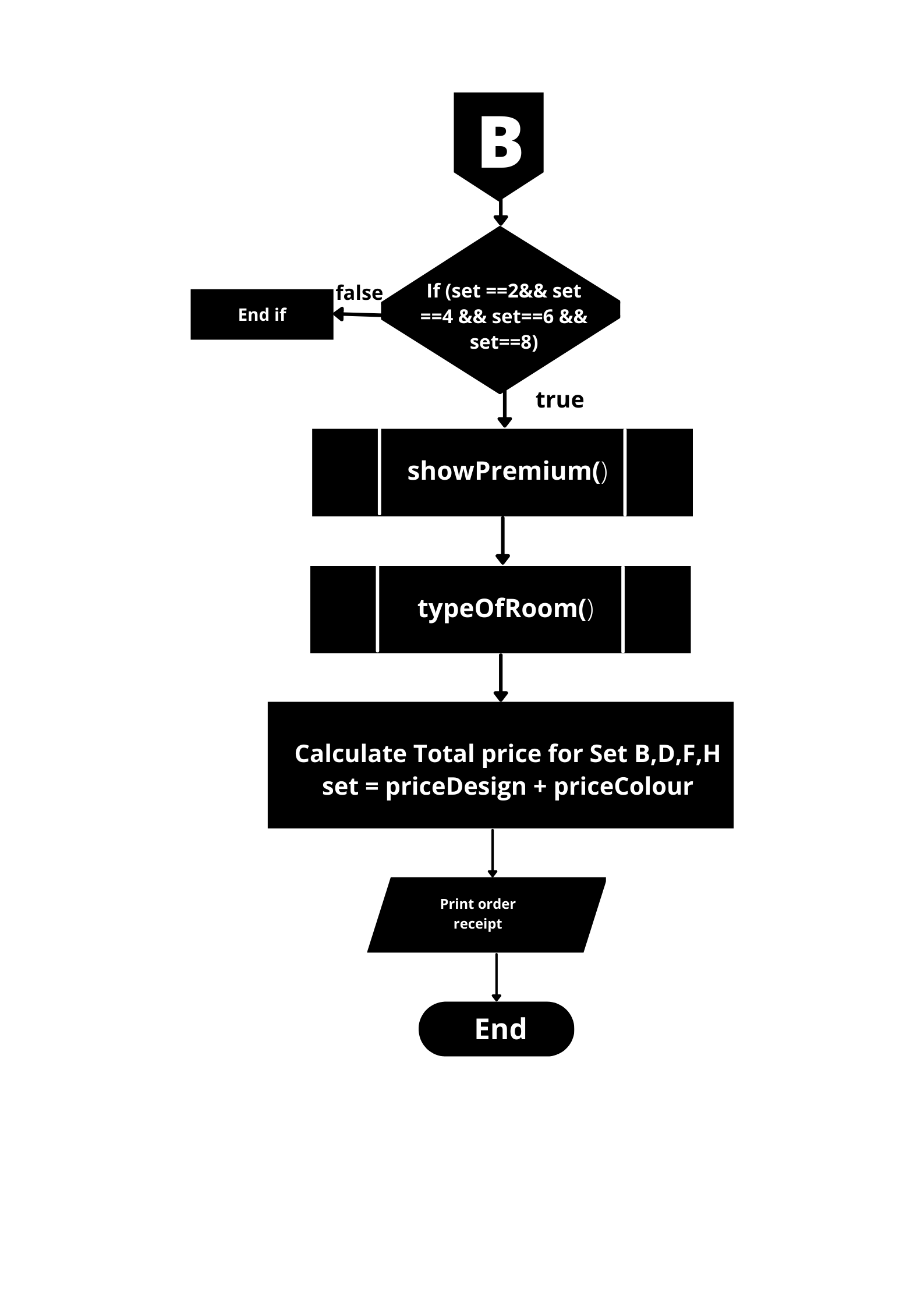
Display Thanks Greeting message

End

1. **FLOWCHART**







**10. CODING**

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