

A211 STIA1113 – PROGRAMMING 1 ( GROUP C)

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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 now 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 SOLUTIONS.

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 value of integer s that will be use for the calculation of RMR and 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 speed
8. At s speed, after y minutes, we can burn z calories.
9. Calories burned in one minute, c1
10. Calories yet to burn, c2
11. Time needed to achieve goal
12. Calculate the price for updating the program and the discount given with or without membership
13. 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 and s (used for calculating RMR) 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 and TDEE is the Total Daily Energy Expenditure
9. . 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;

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%

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%

amount paid, cash=final price;

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. 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.
3. PSEUDO CODE

START

Output Details of Shop

Output Introduction of Program

Output “User is directed to trial.”

Output “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

Output “Enter -161 for female and 5 for male.”

Input s

Output “Enter your daily goal”

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

Calculate TDEE = RMR \* activity level

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 RMR

Output TDEE

Output speed

Output calories burned in one minute

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

Output time needed to achieve goal

Output “original price = RM 150”

Output “membership price = RM 10”

Output “discount for member= 20%, discount for non-member= 5%”

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

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

Calculate final price for non-member = 150\* 0.95

Calculate discount price for non-member = 150\* 0.05

Calculate amount paid, cash = price

Calculate change = cash – price

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. FLOW CHART

START

Input age, gender, weight, height, activity level, s, daily goal, x, y, z

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

TDEE = RMR \* activity level

Speed = x / y

calories burned in one minute, c1 = z / y

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

time needed to achieve goal = c2 / c1

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

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

-Calculate final price for non-member = 150\* 0.95

-Calculate discount price for non-member = 150\* 0.05

amount paid, cash = price

change = cash – price

Output shop details, RMR, TDEE, speed, calories burned in one minute, calories yet to burn in order to achieve the daily goal, time needed to achieve goal, original price, member price and discount rate, receipt with shop name, address, careline, phone number, fax number, original price, discount price, discount rate, final price, the amount paid and the change.

END

1. CODING– NUMERICAL COMPUTATION & EXPRESSION

<https://github.com/STIA1113-GROUP-C-WAN-RUI-YIN/ASSIGNMENT-1-GROUP-7-LIFESTYLE.git>



A211 STIA1113 – PROGRAMMING 1 ( GROUP C)

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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)

1. **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. IDENTIFY ALTERNATIVE WAYS TO SOLVE THE PROBLEM**

1. 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.
2. Use a scanner that can scan and print the tag without even need to open the box.
3. Use the old printed tag at the shoes

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

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

1. Enter the name of customers and gender  
2. Gender will be categories base on size  
3. Enter sport shoes size   
4. The shoes size will be included into the total price, the larger the feet size the higher the price  
5. Enter the wanted sport shoes design, the design will be also included in total price. The price for designed shoes will affect the price  
6.Enter wanted brand and type of sport shoes

7. Price for brand will be based on brand(type)  
8. Buyers that bought a certain set will get offer base on terms and condition apply

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

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

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

1. **EVALUATE THE 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 Offers

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

Calculation of Total Price

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

1. **PSEUDOCODE**

Start

List of product offers by the shop

Output “Enter your name”

Input name

Output “Gender”

Input gender

Output “Enter your shoes size”

Input shoes size

Output “Enter chosen shoes design”

Input shoes design

Output “Enter brand(type)”

Input brands and type

Output “Enter your chosen set”

Input set

Calculate total price by adding price of size, design, brand and offers

Output Final amount of price

END

1. **FLOW CHART**

INPUT name, gender, size, design, brand(type), set

Start

Price size for women: 30-33 = total price + RM1.00  
34-37 = total price +RM2.00   
38-41 = total price + RM3.00  
Price size for men: 37-40 = total price + RM3.00  
41-44 = total price + RM4.00  
45-48 = total price + RM5.00  
Plain with chosen color design = RM60.00  
Stripe design = RM80.00  
Air max design = RM100.00  
Autumn Travel design = RM150.00  
Limited edition design = RM200.00  
Adidas brands with types = design and size price + RM2.00  
Puma brands with types = design and size price + RM2.50  
Skechers brands with types = design and size price + RM3.00  
Nike brands with types = design and size price + RM3.20  
Line7 brands with types = design and size price + RM3.50  
Set A = Price set A + RM0  
Set B = Price set B + (price set B \* 30%)  
Set C = Price set C + free gifts  
Set D = Price set D + RM5.00  
Set E = Price set E + RM10.00  
Price Formula: set A =(RM60.00 OR RM 80.00) + RM0  
set B =RM150.00 + (RM80 \* 30%) OR RM80 + (RM150 \*30%)  
set C = RM150.00 \* 3 + FREE GIFTS  
set D =(RM200.00 \* 2) + RM5.00  
set D =(RM60.00 OR RM 80.00 OR RM100.00 OR RM150.00 OR RM200.00) + RM10.00

Output shop, size, design, brands(type), sets with any brands, sets with offer, formula price, name, gender, shoes size, wanted design, brand(type), chosen set, price

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

END

1. **CODING – NUMERICAL COMPUTATION & EXPRESSION**

<https://github.com/STIA1113-GROUP-C-WAN-RUI-YIN/ASSIGNMENT-1-GROUP-7-LIFESTYLE.git>

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A211 STIA1113 – PROGRAMMING 1 ( GROUP C)

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MATRICS NUMBER : 287471

TOPIC : LIFESTYLE

SUBTOPIC : HANDBAG

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1. **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:

1. Sizes and weight of handbags not suitable and become a burden to customers
2. Type of handbags and its purpose using not match
3. Customer cannot find their “ideal” handbag
4. Handbag’s compartment not enough & not convenience for use (can’t easily finds item when needed)
5. **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 | Each RM10 (max 4) |
| Handle / Chain Strap | RM12 |
| Zipper | RM3 |
| Inner pocket | RM6 |
| Clip / Key ring | RM2.50 |

1. **IDENTIFY ALTERNATIVE WAYS TO SOLVE THE PROBLEM**
2. Input the customer’s requirement and compare it with the data preset, then show the relevant result to the customer.
3. 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.
4. 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)
5. **SELECT THE BEST WAY TO SOLVE THE PROBLEM FROM THE LIST OF ALTERNATIVE SOLUTIONS.**

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

1. 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 )
2. Show the result of recommend size and weight of the handbags.
3. 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.
4. Choose the feature and specification of the handbags. (Materials, accessories of the handbags, size and weight,color)
5. All the personalization feature choose will be calculate as its (Price \* Quantity).
6. The price of the handbags will vary depends on the selection of the customer make.
7. Identify the membership status of the customer.
8. Offer will be available and be calculate if the customer fulfil the requirement.
9. 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**

1. Get all the information from the customer, customer’s height, weight and types of body shape.
2. Based on the information obtain, give the suggestion and recommend for the size, weight and type of handbag to the customer.
3. The customer can compare their personal information with the result of recommend size and weight of the handbags.
4. 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.
5. 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.
6. A list of the personalization section will be shown by the following sequence:
   1. List of material with prices
   2. List of accessories add-on with prices
   3. List of color
   4. List of size of handbags
7. Customer will be ask to select their custom handbag compartment, material used, color and also accessories with quantity.
8. All the personalization feature choose will be include its prices with the price of handbag chosen.
9. The price of the handbags will vary depends on the selection of the customer make.
10. 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

total\_price\_membership = (total\_price - shipping\_fees) \* 90/100

money\_change = total\_price - amount\_paid

1. Identify the membership status of the customer, ask the customer to renew the membership if the membership is invalid, expire or unregistered.
2. Offer will be available and be calculate if the customer fulfil the requirement.
3. The order that make by customer will be print out to double confirm.
4. Payment method will be chosen and proceed.

**8. PSUEDO CODE**

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 brands

Output “Please select the brand of the handbag”

Input brand

Output List of handbags type

Output “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 “Accessories 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

Output “Please select your color”

Input color

Output “Size selection”

Output List of size with prices

Output “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”

Output “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. FLOW CHART**

START

Input height,weight,body type, brand and type of bag,personalization feature (material, accessories,color, size

Calculation:

total\_material\_price = material\_price \* quantity (default1)

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

total\_price\_membership = (total\_price - shipping\_fees) \* 90/100

money\_change = total\_price - amount\_paid

Output the shop details, list of brand and type of handbag, chart of size and weight for handbag by body shape, feature of handbags been purchase, price for the handbags,description of the handbags and the recommend for the user, price after discount, discount rate, amount for paid, change for the paid

END

**10. CODING– NUMERICAL COMPUTATION & EXPRESSION**

<https://github.com/STIA1113-GROUP-C-WAN-RUI-YIN/ASSIGNMENT-1-GROUP-7-LIFESTYLE.git>

**ASSIGNMENT 1**



A211 STIA1113 – PROGRAMMING 1 (GROUP C)

LECTURER : Prof. Madya Dr. Azman B Yasin

NAME : NUR AQIL NAJJAH BINTI RUZAIDI

MATRICS NUMBER: 287491

TOPIC : LIFESTYLE

SUBTOPIC : GARDEN

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1. 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 Garden’s Map

About: 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.

Some of interesting places and activities in Perdana Botanical Garden:

 

Perdana Botanical Garden, Kuala Lumpur

Aerial view of The Lake Gardens, Kuala lumpur

 

Fun activities to do with family members

Canopy at the Main Square (*Laman Perdana*) of the garden.



A fountain in Lake Gardens, Kuala Lumpur

1. Understand the problem

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

1. Identify alternative ways to solve the problem
2. Calculate the ticket price by using number of people and price for each citizen
3. Calculate ticket price by using number of people, price for each citizen and display all the packages for non-member visitors only.
4. Calculate the ticket price by using 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 customer with the packages.
5. Select the best way to solve the problem from the list of alternative solutions.

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)

1. List instructions that enable you to solve the problem using the selected solution.
2. Used all important information filled by user.
3. The system will display all packages available based on number of people(child, adult and senior citizens)
4. User will receive some discount if they are member of Royal Botanical Garden (discount = total price\*20%).
5. The system will display all package’s final price ticket price in two conditions (with membership and without membership
6. 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 discount as our team have been updated and modified the program. The visitor can released their stress by spend time with their family members or friends in Perdana Botanical Garden with affordable price.

1. Algorithm
2. Get the personal information of customer from user such as name, age and phone number
3. Get the number of children, number of adult and number of senior citizen
4. Calculate the total price for ticket

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

1. 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)

1. 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)

1. Print all the package available for customer , activities, gift and offers for package and total price for member and non-member

CALCULATION TABLE

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 |

1. Pseudo code

Start

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

Print name, age

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

Print number of people

Display all package available based on number of people

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

End



9.

10. Coding - Numerical Computation & Expression

<https://github.com/STIA1113-GROUP-C-WAN-RUI-YIN/ASSIGNMENT-1-GROUP-7-LIFESTYLE.git>



A211 STIA1113 – PROGRAMMING 1 ( GROUP C)

LECTURER : Prof. Madya Dr. Azman B Yasin

NAME : LIM HUI QI

MATRICS NUMBER : 287499

TOPIC : LIFESTYLE

SUBTOPIC : CAMERA

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**1. Identify 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*](https://en.wikipedia.org/wiki/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.

1. **Identify alternative ways to solve the problem**

- Open a physical store

- Cooperate with physical store

- Create a guidance purchasing program

1. **Select the best way to solve the problem from the list of alternative solutions.**

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.

1. **List instructions 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 solution**

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 cameras.

**7. Algorithm**

i. User insert 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. Output name, brand, camera, acs, warranty, priceCam, priceAcs, deliveryFee, protectionFee, priceWty, total will be displayed

**CALCULATION TABLE**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 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. Pseudo Code:**

Start

Output instructions

Input name

Input icNum

Input email

Output camera image and shop name

Output camera, accessories, delivery fee and warranty lists

Output instructions

Input brand, camera, priceCam, acs, priceAcs, deliveryFee, protectionFee, warranty, priceWty, discount

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

Output name, brand, camera, acs, warranty, priceCam, priceAcs, deliveryFee, protectionFee, priceWty, total

End

**9. Flowchat:**

Declare

String name, icNum, email, brand, camera, acs, warranty;

float priceCam, priceAcs, priceWty, deliveryFee, protectionFee;

int discount;

Scan name, icNum, email

Display camera, accessories, delivery fee and warranty options

Scan brand, camera, priceCam, acs, priceAcs, deliveryFee, protectionFee, warranty, priceWty, discount

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

Print name, brand, camera, acs, warranty, priceCam, priceAcs, deliveryFee, protectionFee, priceWty, total

**10. CODING – NUMERICAL COMPUTATION AND EXPRESSION**

<https://github.com/STIA1113-GROUP-C-WAN-RUI-YIN/ASSIGNMENT-1-GROUP-7-LIFESTYLE.git>

**ASSIGNMENT 1**Logo

Description automatically generated

A211 STIA1113 – PROGRAMMING 1 (GROUP C)

LECTURER : Prof. Madya Dr. Azman B Yasin

NAME : NURFARAH WAHIDA BINTI ZULKFLE

MATRICS NUMBER: 288062

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 room, kitchen, or toilet in order to create a suitable design.

1. **IDENTIFY ALTERNATIVE WAYS TO SOLVE THE PROBLEM:**
2. Use size of the room to determine the price.
3. Use room colour to determine the price. (extra charge for premium colour such as gold, silver and rose gold)
4. Use type of design (modern, vintage, traditional, custom) to determine the price.
5. **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 three methods. The charges will be easier for the customer to understand.

1. **LIST INSTRUCTIONS THA ENABLE YOU TO SOLVE THE PROBLEM USING THE SELECTED SOLUTION:**
2. User choose either the design is for [1] for living room, [2] for kitchen, or [3] for bedroom
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 room size, design for [1] living room, [2] bedroom, or [3] kitchen

set 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 | Price10= 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 1= Total area x basic | Charge for basic colour 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 + Price1 | Set B = Vintage design and Basic Colours |
| Set C = Price12 + Price1 | Set C = Traditional design and Basic Colours |
| Set D = Price10 + Price2 | Set D= Custom design and Basic Colours |
| Set E = Price11 + Price2 | Set E = Modern design and Premium Colours |
| Set F = Price12 + Price2 | Set F = Vintage design and Premium Colours |
| Set G = Price13 + Price1 | Set G = Traditional design and Premium Colours |
| Set H = Price14 + 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. User insert design for [1] living room, [2] bedroom, or [3] kitchen
3. User insert width and length
4. Calculate total area = width (in ft) x length (in ft)
5. Calculate charges for each design

price10 = modern \* total\_area;

price11 = vintage \* total\_area;

price12= traditional \* total\_area;

price13 = 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\_A = price10 + price1;

set\_B = price11 + price1;

set\_C = price12 + price1;

set\_D = price10 + price2;

set\_E = price11 + price2;

set\_F = price12 + price2;

set\_G = price13 + price1;

set\_H = price13 + price2;

1. Output will display design for living room, bedroom or kitchen

Room, room size and total charges for each set.

1. **PSEUDO CODE**

Start

Read design for [1] living room, [2] bedroom, or [3] kitchen

Read width and length

Calculate total area = width (in ft) x length (in ft)

price10 = modern \* total\_area;

price11 = vintage \* total\_area;

price12= traditional \* total\_area;

price13 = custom \* total\_area;

Calculate charges for each design

price1 = total\_area \* basic;

price2 = total\_area \* premium;

Calculate charges for room painting

price1 = total\_area \* basic;

price2 = total\_area \* premium;

Calculate total charges for each set

set\_A = price10 + price1;

set\_B = price11 + price1;

set\_C = price12 + price1;

set\_D = price10 + price2;

set\_E = price11 + price2;

set\_F = price12 + price2;

set\_G = price13 + price1;

set\_H = price13 + price2;

Print room size

Print design for living room, bedroom or kitchen

Print total charges for each set

End

1. **FLOW CHART**

Read width and length

Read the design for living room, toilet

Calculate total area = width (in ft) x length (in ft)

Calculate charges for each design

price10 = modern \* total\_area;

price11 = vintage \* total\_area;

price12= traditional \* total\_area;

price13 = custom \* total\_area;

Calculate charges for room painting

price1 = total\_area \* basic;

price2 = total\_area \* premium;

Calculate total charges for each set

set\_A = price10 + price1;

set\_B = price11 + price1;

set\_C = price12 + price1;

set\_D = price10 + price2;

set\_E = price11 + price2;

set\_F = price12 + price2;

set\_G = price13 + price1;

set\_H = price13 + price2;

Print design for living room, bedroom or kitchen

Print total charges for each set

1. CODING – NUMERICAL COMPUTATION AND EXPRESSION

<https://github.com/STIA1113-GROUP-C-WAN-RUI-YIN/ASSIGNMENT-1-GROUP-7-LIFESTYLE.git>