UNIVERSITI TEKNOLOGI MARA
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FACULTY OF MATHEMATICAL AND SCIENCES
(CS110)

OBJECT ORIENTED PROGRAMMING
(CSC186)

PROJECT NAME:
BINAPHOTO – PHOTOSHOOT BOOKING MANAGEMENT

GROUP PROJECT REPORT

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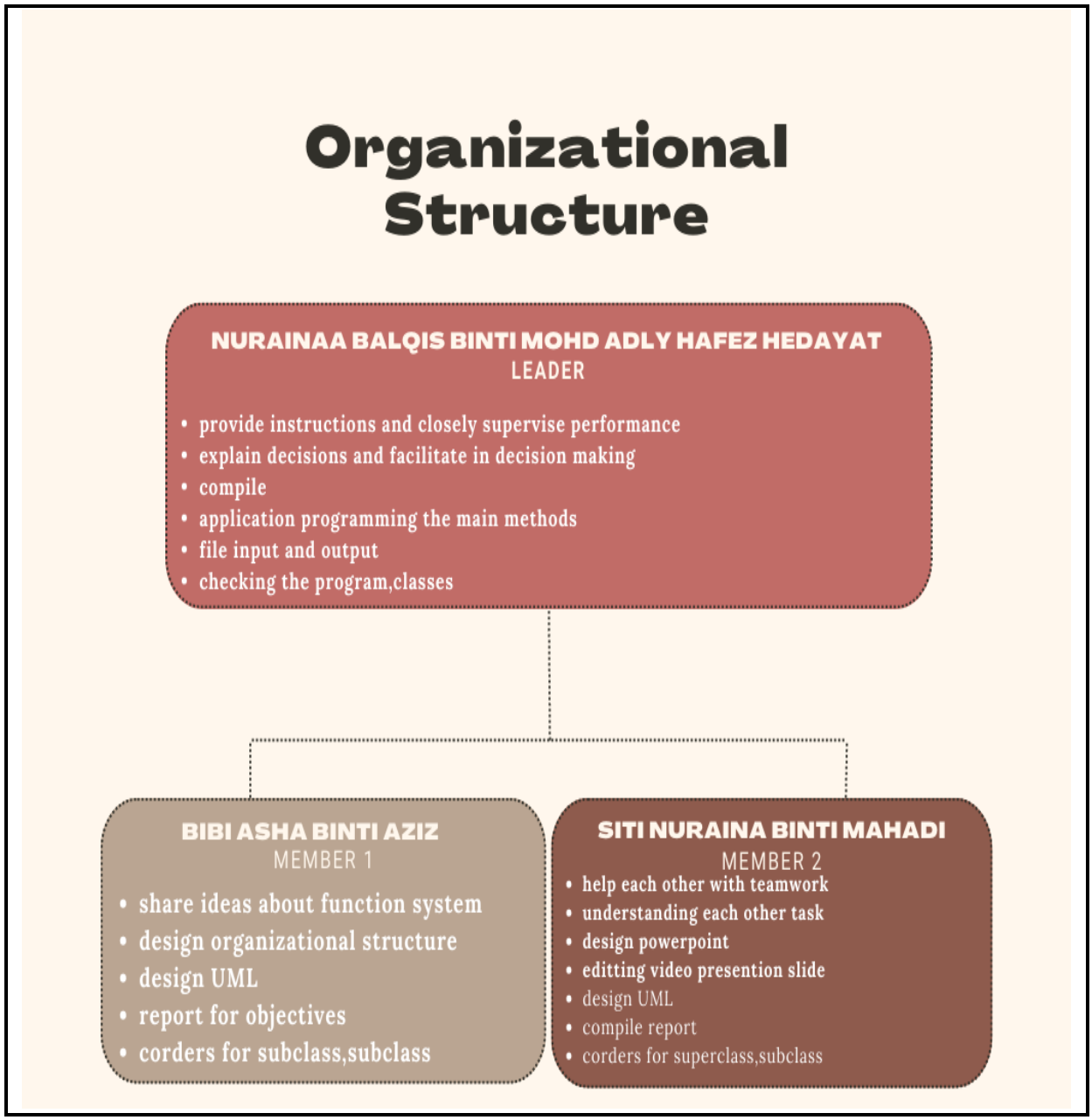
REPORT CONTENTS

1.0 ORGANIZATIONAL STRUCTURE



2.0 INTRODUCTION

This project is carried out as a contribution for our final grades in Object Oriented Programming's (CSC186) subject. Our group have discussed with each other, and we also have decided to choose the BINAPHOTO which is a photoshoot service management system as our group project for this semester. This project was created to help people save their memories from the photoshoot service with their beloved person, family and others.

This project also will execute the same function as the booking the photoshoot service. Our system uses a user-friendly design and style so that our customers can make a choice easily. Not only that, but it will also reduce the problems that we and our customers might encounter when they do not know more about the photoshoot service.Also, this system is a project for managing booking for photoshoot service. It contains all of the features and functions required to effectively manage a booking system for a photoshoot to customer. It includes admin which is used to manage and control all system functions and customer to booking the photoshoot. The system keeps track of status for the booking system.

A booking is the arrangement you make when you reserve a photoshoot date, a type of photo to buy, the amount of photo, or a quality for the photo. A booking software keeps list of each booking by the customer and all of the details that customer provide.Furthermore, we must understand when the booking system for photoshoot service which is that the most prevalent reason for booking errors and can happen a breakdown in communication of booking system. An event management system (booking) enables these photoshoot service to communicate instantaneously and to share timely information with their customers.

This system bring order to schedule and update the date and time because its streamline the process of scheduling and eliminating an all issue or problem that happen such as double booking or fully book date and time by other customer. This system also can gain your better understanding on your customer. Moreover, a user of photoshoot service management system, should be able to use the system by entering their details. Normally, like such as their name, phone number email, date of photoshoot service, theme of their photoshoot and others. Then, the system will also perform operation corresponding to that the user choices. For an instance, the user will choose type of quality, copy and number of who involved for photoshoot, then the system will execute their details that they choose and the total prices of the photoshoot service.

3.0 OBJECTIVES

This project is about photoshoot and photo printer that handles all the booking. One of our objectives is to design a user-friendly booking and management system that provides packages to all customers. Customers will be able to book a photo shoot or if you want to print printer you can book for a photo printer packages easily and systematically. Admin also can key in the information for customer if customer didn't want to do by themselves. There are many packages in many varieties that customer can choose which is for photoshoot, there is two packages one is for single person photoshoot or group photoshoot. Next for photo quality, there is two type of photo quality and that is glossy print and matte print. We also offer varieties of size that you can choose. Lastly for packages we also give customer two type of photocopy which is hardcopy and soft copy.

Next, this project is to make it easier to makes the booking matters and it will orderly for us and customer to handle. Customer just need to fill their personal information to book a photoshoot or photo print. First, the customer needs to put in their personal information's like their name and phone number. In this system their personal information is guaranteed safe. Next, they have to choose if they want a photoshoot or printer booking, they also need to put the date of the booking, then they have to choose the quality and what type of copy they want and in what size. Upon completion, our system will display for the information that the customer just fills in just to make sure they double check and put all of their booking right.

Lastly, the most extreme part of our objective is to calculate the total price of the booking. After done filling up the form, customers will receive an invoice of their booking.

Usually, photoshoot and photo printer manual system are unable to cope with the high quantity of customer's bookings. Among others, their order tends to be mixed up with the other customers. Furthermore, the old-style process is costing so much time because customers have to make an appointment first at the office. Hence, we will develop an online system to overcome these situations. The system will be able to allow customers to choose their orders accurately according to their desire. Secondly, computerize everything and reduce major errors compared to the manual booking system.

There are several advantages of using this project. Firstly, the system is more systematic and more organized. After that, all the information would be safer in the computer system than the manual system because the information will be saved in the system. Besides, the data and system are clearer and easier to understand. Since we are in technology era, this booking system will be very useful and convenient to everyone, we hope that people will find this booking system easier and understandable to use, because only then our main objective of this booking system will be accomplished.

4.0 SCOPE

Class diagram

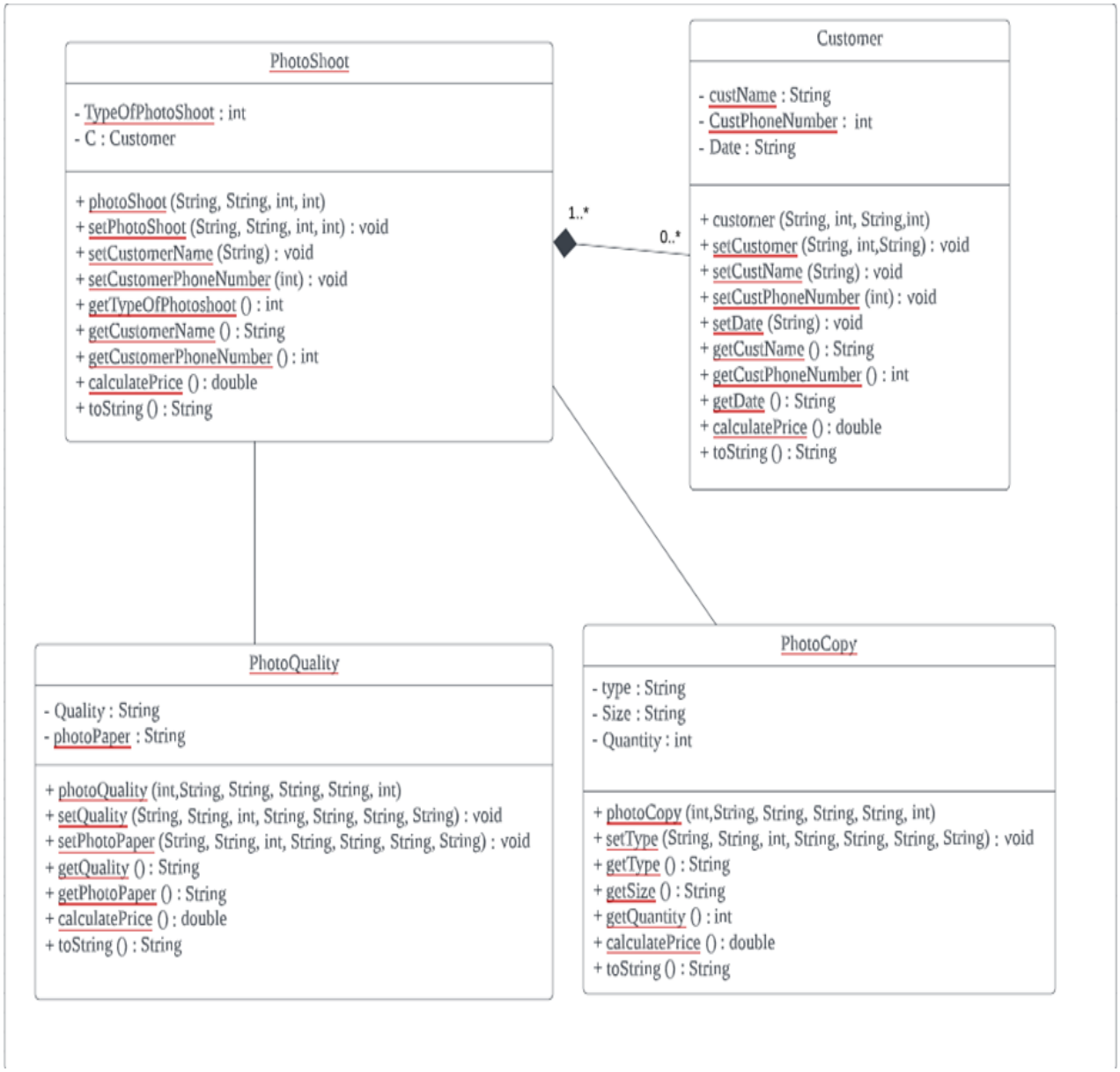
1. There are 4 classes; Customer, Photoshoot, Photo Quality and Photocopy.
2. Customer and Photoshoot has a many-to-many relationship with aggregation link. It is a part of relationship where Photoshoot is the whole and Customer is the part-of objects. Photoshoot with different type and amount can be purchased by many customers, no customer at all and one customer only. This implies a relationship which part of object Customer can still exist independently of the whole object Photoshoot.
3. Photo quality and photocopy are type of Photoshoot. This implies inheritance relationship where a photoshoot has general attributes; Type of photoshoot and quantity. Photo quality has unique attribute which is quality and photo paper to determine the quality print of the photo while photocopy has size, photocopy type which is softcopy or hardcopy and quantity.
4. Customer and photoshoot is composition they are depending to each other.

Use Case diagram

1. The system has two actor which is Administrator and customer. Administrator either contract or permanent can do the same process.
2. Processes;
    a. Administrator can add information about customer.
    b. Administrator can add information about photoshoot.
    c. Administrator can add information about photo quality.
    d. Administrator can add information about photocopy.
    e. Administrator can determine the highest demand of photoshoot.
    f. Administrator can calculate and display the total of price of purchases.
    g. Customer can add information about customer.
    h. Customer can choose information about photoshoot.
    i. Customer can choose information about photo quality.
    j. Customer can choose information about photocopy.
    k. Calculate and display the total purchase price for customer

5.0 UML DIAGRAM

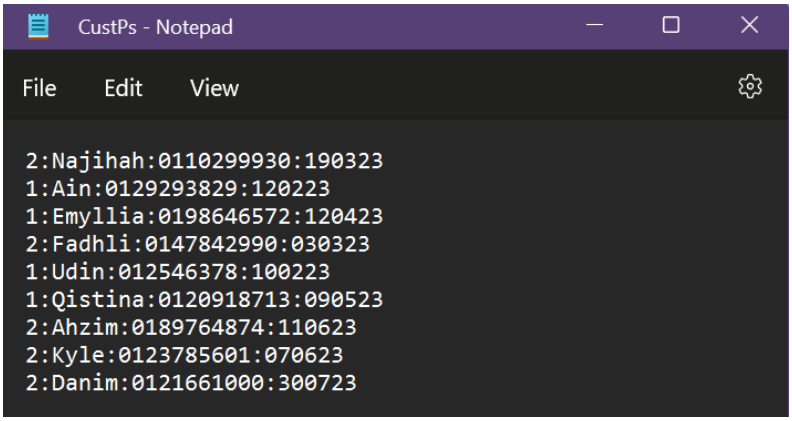
UML Class Diagram



UML Use Case Diagram

6.0 INPUT FILE

Input file : CustPs.txt



7.0 CLASS DEFINITION OF INHERITANCE, POLYMORPHISM AND RELATED CLASSES

Superclass : photoShoot

```
//Superclass
public abstract class photoShoot{
  //Data members
  private int typeOfPhotoShoot;

  //Default Constructor
  public photoShoot(){
    typeOfPhotoShoot = 0;
  }

  //Normal constructor
  public photoShoot(int tps){
    typeOfPhotoShoot = tps;
  }

  //Setter or Mutator
  public void setTypeOfPhotoShoot(int tps){
    typeOfPhotoShoot = tps;
  }

  //Getter or accessor
  public int getTypeOfPhotoShoot(){
    return typeOfPhotoShoot;
  }

  //Processor
  public abstract double calculatePrice();

  //Printer
  public String toString(){
    return "\n\nType Of PhotoShoot: " +typeOfPhotoShoot;

  }
}
```

Composition : Customer

```
//Subclass
public class Customer extends photoShoot{
  //Data member
  private String custName;
  private int CustPhoneNumber;
  private String Date;

  //Default constructor
  public Customer(){
    super();
    custName = "";
    CustPhoneNumber = 0;
    Date = "";
  }

  //Normal constructor
  public Customer(int tps, String cn, int cpn, String dt){
    super(tps);
    custName = cn;
    CustPhoneNumber = cpn;
    Date  = dt;
  }

  //setter
  public void setCustName(String cn){
    custName = cn;
  }
  public void setCustPhoneNumber(int cpn){
    CustPhoneNumber = cpn;
  }
  public void setDate(String dt){
    Date = dt;
  }

  //Getter
  public String getCustName(){
    return custName;
  }
  public int getCustPhoneNumber(){
    return CustPhoneNumber;
  }
  public String getDate(){
    return Date;
  }
  //processor
  public double calculatePrice(){
      return 0.0;
  }

  //Printer
  public String toString(){
    return   super.toString()   +"\ncustName:   "   +custName+   "\nCustPhoneNumber:
"+CustPhoneNumber+"\nDate: "+Date;

  }
}
```

Subclass : photoQuality

```
//Subclass
public class photoQuality extends photoShoot{

  //Data Member
  private String quality;
  private String photoPaper;

  //Default Constructor
  public photoQuality(){
    super();
    quality = "";
    photoPaper = "";
  }

  //Normal Constructor
  public photoQuality(int tps, String qy, String pp){
    super(tps);
      quality = qy;
      photoPaper = pp;
  }

  //Setter/Mutator
  public void setQuality (String qy){
    quality = qy;
  }
  public void setPhotoPaper (String pp){
    photoPaper = pp;
  }

  //Getter/Retriever/Accessor
  public String getQuality(){
    return quality;
  }
  public String getPhotoPaper(){
    return photoPaper;
  }

  //Processor
  public double calculatePrice(){
    double price = 0;

  if(photoPaper.equalsIgnoreCase("Glossy")){
       price = 3.00;
    if(quality.equalsIgnoreCase("Low")){
       price += 2.60;
    }
    else if(quality.equalsIgnoreCase("Medium")){
       price += 4.60;
    }
    else if(quality.equalsIgnoreCase("High")){
       price += 6.60;
    }
  }
  else{
     price = 2.00;
    if(quality.equalsIgnoreCase("Low")){
```

```
      price += 2.60;
    }
    else if(quality.equalsIgnoreCase("Medium")){
      price += 4.60;
    }
    else if(quality.equalsIgnoreCase("High")){
      price += 6.60;
    }
}
   return price;
}
//processor
  //Printer
  public String toString(){
    return super.toString() +"\nQuality: " +quality+ "\nPhoto Paper: " +photoPaper;
  }
}
```

Subclass : photocopy

```
//Subclass
public class photoCopy extends photoShoot{

  //Data Member
  private String type;
  private String size;
  private int quantity;

  //Default Constructor
  public photoCopy(){
    super();
    type = "";
    size = "";
    quantity = 0;
  }

    //Normal Constructor
    public photoCopy (int tps, String ty, String sz, int qt){
      super(tps);
      type = ty;
      size = sz;
      quantity = qt;
    }

    //Setter/Mutator
    public void setType (String ty){
      type = ty;
    }
    public void setSize (String sz){
      size = sz;
    }
    public void setQuantity (int qt){
      quantity = qt;
    }

    //Getter/Retriever/Accessor
    public String getType(){
      return type;
    }
    public String getSize(){
       return size;
    }
    public int getQuantity(){
       return quantity;
    }

    //abstract method
    public double calculatePrice(){
    double price = 0;


     if(getTypeOfPhotoShoot() == 1){
       price = 10.0;

      if(type.equalsIgnoreCase("Hardcopy")){
         price += 12.0;
```

```
       if (size.equalsIgnoreCase("4R")) {
         price += 1.80;
       }
       else if (size.equalsIgnoreCase("6R")) {
         price += 1.00;
       }
       else if (size.equalsIgnoreCase("8R")) {
         price += 3.50;
       }
       else if (size.equalsIgnoreCase("A4")) {
         price += 5.50;
       }
       else if (size.equalsIgnoreCase("A3")) {
         price += 9.90;
       }
      }
      else{
       price += 8.00;
      }
     }

     else if(getTypeOfPhotoShoot() == 2){
        price = 4.00;

      if(type.equalsIgnoreCase("Hardcopy")){
         price += 12.00;

       if (size.equalsIgnoreCase("4R")) {
         price += 1.80;
       }
       else if (size.equalsIgnoreCase("6R")) {
         price += 1.00;
       }
       else if (size.equalsIgnoreCase("8R")) {
         price += 3.50;
       }
       else if (size.equalsIgnoreCase("A4")) {
         price += 5.50;
       }
       else if (size.equalsIgnoreCase("A3")) {
         price += 9.90;
       }
      }
      else{
       price += 8.00;
      }
     }
      price = price * quantity;
      return price;
    }

    //Printer
    public String toString(){
      return  super.toString()  +"\nType:  "+type+  "\nSize:  "+size+  "\nQuantity:
"+quantity;
    }

}
```

8.0 CLASS APPLICATION

Main : photoShootApp

```
import java.io.*;
import java.util.*;

public class photoShootApp{
	public static void main(String[] args){
		Scanner scan = new Scanner(System.in);

		//photoshoot session
		System.out.print("Enter number of photoshoot session: ");
	int numSessions = scan.nextInt();
	photoShoot[] sessions = new photoShoot[numSessions];

	photoCopy pc[] = new photoCopy[numSessions];
	photoQuality pq[] = new photoQuality[numSessions];
	//input
	for(int i=0; i<numSessions; i++){
		//option for session photoShoot
		//b & h  . add information about photoshoot(Admin and customer)
		System.out.print("Enter an option for photoshoot session [1-Group or 2-
Single]: ");
		int tps = scan.nextInt();

		//enter option if admin or customer
		System.out.print("Enter an option [1-Admin OR 2-Customer]: ");
		int opt = scan.nextInt();

	    //admin
		if(opt == 1){
			//a. enter customer information(Admin)
			System.out.println("Enter Password : ");
				int pass = scan.nextInt();
			if(pass == 0000){
				System.out.println("Enter   information   for   customer
session " + (i + 1));
			System.out.print("Enter customer name: ");
			String cn = scan.nextLine();
			scan.nextLine();
			System.out.print("Enter customer number phone: ");
			int cpn = scan.nextInt();
			System.out.print("Enter booking date dd/mm/yy: ");
			String dt = scan.nextLine();
			scan.nextLine();

			sessions[i] = new Customer(tps, cn, cpn, dt);

			//c. enter information about photo quality(Admin)
			//d. enter choose information about photo copy(Admin)
			System.out.print("Enter option for photo copy type [Hardcopy or
Softcopy]: ");
			String ty = scan.nextLine();

			if(ty.equalsIgnoreCase("Hardcopy")){
```

```
                        System.out.print("Enter quality of resolution [Low,
Medium, High]: ");
                        String qy = scan.nextLine();
                        System.out.print("Enter type of photo paper [Glossy or
Matte]: ");
                        String pp = scan.nextLine();

                        pq[i] = new photoQuality(tps, qy, pp);

                        System.out.print("Enter size of picture [4R,6R,A4,A3]: ");
                        String sz = scan.nextLine();
                        System.out.print("Enter quantity: ");
                        int qt = scan.nextInt();

                        pc[i] = new photoCopy(tps, ty, sz, qt);
                        //f. Admin Calculate and display the total purchase price
of photoshoot sessions
                        //manipulation
                        double totalPriceAd = 0;
                        double pricePc = 0;
                        double pricePq = 0;

                        for(int j=0; j<numSessions; j++){
                               if(pc[j] instanceof photoCopy){
                                      photoCopy phc = (photoCopy)pc[j];
                                      pricePc = phc.calculatePrice();
                               }
                        }
                        for(int j=0; j<numSessions; j++){
                               if(pq[j] instanceof photoQuality){
                                      photoQuality phq = (photoQuality)pq[j];
                                      pricePq = phq.calculatePrice();
                               }
                        }
                        totalPriceAd = pricePc + pricePq;
                        System.out.println("Total purchase price of photoshoot
sessions: RM" + totalPriceAd);
                    }
                    else{
                        System.out.print("Enter quality of resolution [Low,
Medium, High]: ");
                        String qy = scan.nextLine();

                        double totalPriceAds = 0;
                        double pricePc = 0;
                        double pricePq = 0;

                        for(int j=0; j<numSessions; j++){
                               if(pc[j] instanceof photoCopy){
                                      photoCopy phc = (photoCopy)pc[j];
                                      pricePc = phc.calculatePrice();
                               }
                        }
                        for(int j=0; j<numSessions; j++){
                               if(pq[j] instanceof photoQuality){
                                      photoQuality phq = (photoQuality)pq[j];
                                      pricePq = phq.calculatePrice();
                               }
                        }
                        totalPriceAds = pricePc + pricePq;
```

```
                        System.out.println("Total purchase price of photoshoot
sessions: RM" + totalPriceAds);
                    }


            //e. Determine the photoshoot type with the highest demand
            System.out.print("HIGHEST DEMAND!!: ");

            int numGroupSessions = 0;
            int numSingleSessions = 0;

            if(sessions[i] instanceof photoShoot){
                        photoShoot ps = (photoShoot)sessions[i];
                        if (ps.getTypeOfPhotoShoot() == 1) {
                        numGroupSessions++;
                        }
                        else{
                        numSingleSessions++;
                        }
            }
            if (numGroupSessions > numSingleSessions) {
            System.out.println("The photoshoot type with the highest demand is
Group.");
            }
            else if (numSingleSessions > numGroupSessions) {
            System.out.println("The photoshoot type with the highest demand is
Single.");
            }
                    else {
            System.out.println("The demand for Group and Single photoshoot types
are equal.");
            }

               }
               else{
                   System.out.println("Wrong password, please try again.");
                  i--;
               }
          }
          else{
            //g. enter customer information(customer)
             System.out.println("Enter information for customer session " + (i +
1));
            System.out.print("Enter customer name: ");
            String cn = scan.nextLine();
            scan.nextLine();
            System.out.print("Enter customer number phone: ");
            int cpn = scan.nextInt();
            System.out.print("Enter booking date dd/mm/yy: ");
            String dt = scan.nextLine();
            scan.nextLine();

            sessions[i] = new Customer(tps, cn, cpn, dt);

            //i. enter information about photo quality(Customer)
            //j. enter information about photocopy(Customer)
            System.out.print("Enter option for photo copy type [Hardcopy or
Softcopy]: ");
            String ty = scan.nextLine();

            if(ty.equalsIgnoreCase("Hardcopy")){
```

```
            System.out.print("Enter quality of resolution [Low, Medium, High]: ");
            String qy = scan.nextLine();
            System.out.print("Enter type of photo paper [Glossy or Matte]: ");
            String pp = scan.nextLine();

            pq[i] = new photoQuality(tps, qy, pp);

            System.out.print("Enter size of picture [4R,6R,A4,A3]: ");
            String sz = scan.nextLine();
            System.out.print("Enter quantity: ");
            int qt = scan.nextInt();

            pc[i] = new photoCopy(tps, ty, sz, qt);

            //k. calculate and display the total purchase price
            double totalPriceCs = 0;
            double pricePc = 0;
            double pricePq = 0;

            for(int j=0; j<numSessions; j++){
                  if(pc[j] instanceof photoCopy){
                        photoCopy phc = (photoCopy)pc[j];
                        pricePc = phc.calculatePrice();
                  }
                }
            for(int j=0; j<numSessions; j++){
                        if(pq[j] instanceof photoQuality){
                        photoQuality phq = (photoQuality)pq[j];
                        pricePq = phq.calculatePrice();
                  }
            }
            totalPriceCs = pricePc + pricePq;
            System.out.println("Total purchase price of photoshoot sessions: RM" +
totalPriceCs);
            }
             else{
            System.out.print("Enter quality of resolution [Low, Medium, High]: ");
            String qy = scan.nextLine();

            double totalPriceCss = 0;
            double pricePc = 8.0;
            double pricePq = 0;

            for(int j=0; j<numSessions; j++){
                  if(pc[j] instanceof photoCopy){
                        photoCopy phc = (photoCopy)pc[j];
                        pricePc = phc.calculatePrice();
                  }
            }
            for(int j=0; j<numSessions; j++){
                  if(pq[j] instanceof photoQuality){
                        photoQuality phq = (photoQuality)pq[j];
                        pricePq = phq.calculatePrice();
                  }
            }
            totalPriceCss = pricePc + pricePq;
            System.out.println("Total purchase price of photoshoot sessions: RM" +
totalPriceCss);
            }
          }
      }
```

```
        }
}
```

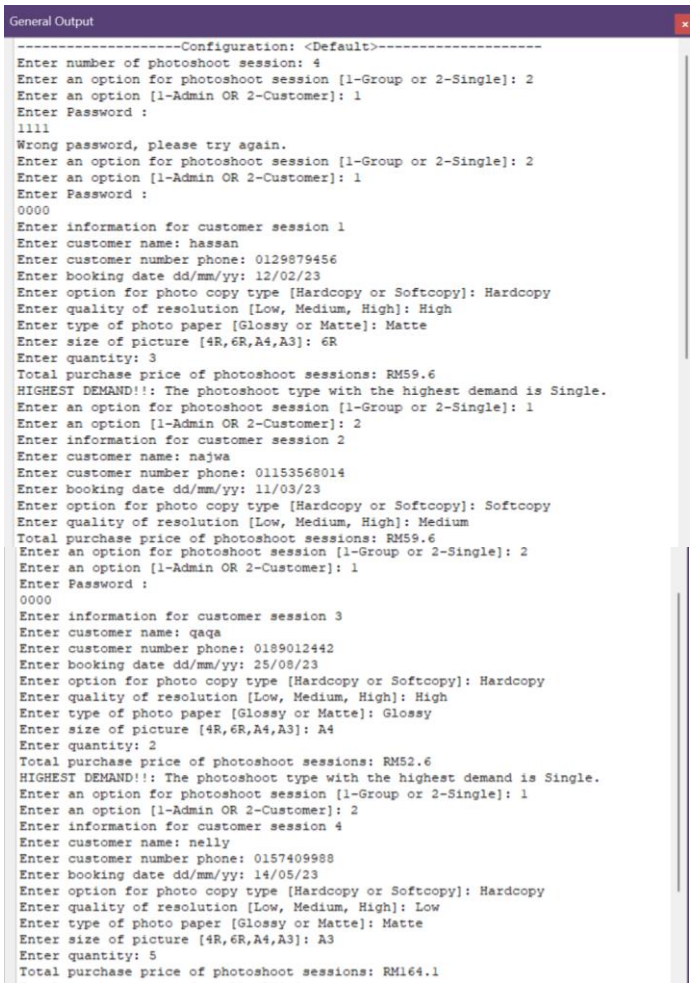
Main file input and output : customerPsApp

```
import java.io.*;
import java.util.*;

public class customerPsApp {
  public static void main (String[] args) {
   int cnt = 0;
   //Step 1: Exception handling (block try)
   try{

    //step 2 Open all files
    BufferedReader br = new BufferedReader (new
   FileReader("D:\\project\\CustPs.txt"));
    PrintWriter sg = new PrintWriter (new BufferedWriter(new
   FileWriter("D:\\project\\Single.txt")));
    PrintWriter gr = new PrintWriter (new BufferedWriter(new
   FileWriter("D:\\project\\Group.txt")));

    //step 3: declare array of object
    Customer[] custList = new Customer[100];

    //step 4: read data from input file
    String ls = null;
    while((ls = br.readLine()) != null){
       //step 5: tokenize the record into field/attribute
       StringTokenizer st = new StringTokenizer (ls,":");
       int tps = Integer.parseInt(st.nextToken());
       String cn = st.nextToken();
       int cpn = Integer.parseInt(st.nextToken());
       String dt = st.nextToken();

       //step 6: store data onto object
       custList[cnt] = new Customer(tps,cn,cpn,dt);

       //step 7: update cnt record
       cnt++;
    }
     //Step 8: Manipulation
    sg.println("Customer List For Single[2] Photoshoot");
    sg.println("Customer Name\t\tPhone Number\t\tDate");
    sg.println("-------------\t\t------------\t\t----");

    int singleShoot = 0;

    for (int i = 0; i < cnt; i++) {
                 if (custList[i].getTypeOfPhotoShoot() == 2) {
                    sg.println(custList[i].getCustName() + "\t\t" +
   custList[i].getCustPhoneNumber() + "\t\t" + custList[i].getDate());

            singleShoot++;
                 }
    }
    sg.println("Number of customer:"+singleShoot);

    gr.println("Customer List For Group[1] Photoshoot");
    gr.println("Customer Name\t\tPhone Number\t\tDate");
    gr.println("-------------\t\t------------\t\t----");

    int groupShoot = 0;
```

```
    for (int i = 0; i < cnt; i++) {
                  if (custList[i].getTypeOfPhotoShoot() == 1) {
                     gr.println(custList[i].getCustName() + "\t\t" +
   custList[i].getCustPhoneNumber() + "\t\t" + custList[i].getDate());

             groupShoot++;
                  }
    }
    gr.println("Number of customer:"+groupShoot);

    //step 9: close all files
    br.close();
    sg.close();
    gr.close();
   }//step 10: END TRY

   //Step 11: Exception Handling (catch block)
   catch(FileNotFoundException fe) {
System.out.println(fe.getMessage());
   }

   catch(IOException iox) {
System.out.println(iox.getMessage());
   }

   catch(Exception e) {
System.out.println("Problem: "+e.getMessage());
e.printStackTrace();
   }
 }
}
```

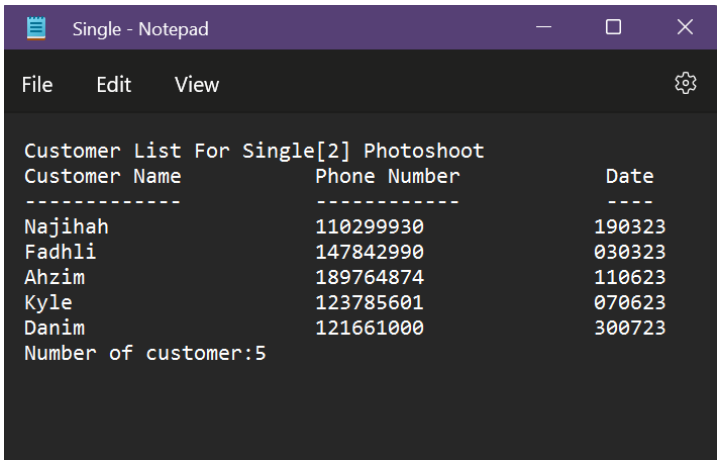
9.0 OUTPUT FILE OR/AND SAMPLE INTERFACES

Sample output main : photoShootApp

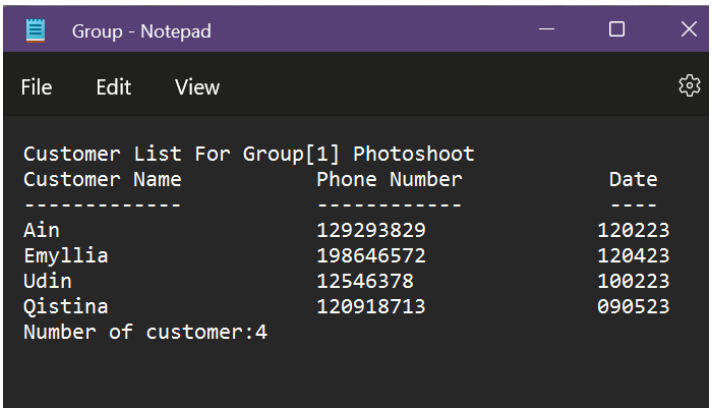


Sample file input and output : customerPsApp

Single.txt



Group.txt



10.0 REFERENCES

- references on sample group project example given by lecturer.

- https://www.studocu.com/my/n/19294123?sid=184202371675279264

- https://www.studocu.com/my/document/universiti-teknologi-mara/introduction-to-java/coffee-bean-management-system-proposal-report/27889448?origin=home-recent-5